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# **A Conceptual Framework for E-Commerce Innovation in Chinese SMES**

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## **ABSTRACT**

*As E-Commerce (EC) is rapidly gaining popularity in China, EC innovation becomes a major growth strategy for many SMEs. Meanwhile, problems and challenges are hindering proliferation of EC innovation. The need exists for a theoretical model to forge EC innovation: a dynamic process with progressive stages of both internal and external e-readiness. Derived from theories and evidenced by the case studies from Hangzhou, China, our conceptual framework reveals top management, organizational learning, government support, market forces, and technology readiness as essential in each development stage, but with different emphasis. Implications of the framework are discussed.*

## **INTRODUCTION**

Electronic commerce (EC) innovation in China provides new blood to the small and medium-sized enterprises (SMEs) which primarily involve traditional manufacturing business. EC innovation and development in China has gone through initial exploration and is now experiencing a rapid growth, paving the path for substantial development in the future (Boston Consulting Group, 2012). Recently a large number of studies have analyzed determinants of EC and MC (mobile commerce) in China mostly from the technology acceptance perspective (Lu, Yang, Chau, & Cao, 2011; Tan, Tyler, & Manica, 2007; Zhou & Lu, 2011). However, EC is not only a technology innovation, but more of a business innovation from firms within a highly dynamic economic, social and regulatory environment. Thus, EC SMEs (e-SMEs) should regard developing innovativeness as a precondition for their competitiveness (Potočan & Mulej, 2009). However, no research clearly pointed out any direction as how e-SMEs in China can move beyond simple duplication of established western e-models and renovate to grow healthily in the local soil, and in the end, become an indispensable part in the global digital economy.

The purpose of this research is to propose a conceptual framework to forge innovations in the e-SMEs in China, from the perspective of innovation management using a multi-disciplinary approach. From history and innovation management literature we learn that innovation plays a critical role in positive business changes (Baregheh, Rowley, & Sambrook, 2009; Damanpour, 1996; Su, Tsang & Peng, 2009). Making positive business changes sustainable depends on effective innovation management. In the age of globalization and digitization, EC innovation is a multi-disciplinary process that requires the involvement of all individual functions in order to deliver products and services to completely satisfy the online customers (Huizingh & Brand,

2009). Our argument is that major problems with EC development in China can be solved by encouraging healthy expansion of the e-SMEs with an emphasis on EC model innovation and business process innovation based on best practices. This emphasis will enable the provision of services and products needed by domestic users and the creation of an indispensable link in the global supply chain.

This paper will review the relevant theories, propose a conceptual framework on EC innovation management, and discuss EC development in China with a focus on two cases from Hangzhou area, eastern China, followed by a discussion of the research and practical implications. Finally, we conclude this paper with suggestions for further research.

## THEORETICAL BACKGROUND

### *Innovation Research: Exploitation and Exploration*

Innovation refers to the generation, development, and adaptation of new processes, products or services aiming at increasing competitiveness of organizations (Damanpour, 1996). In innovation research, two approaches once dominated -- a firm's internal capabilities as the primary drivers of innovation (Dosi, 1982) and the effect of the demanding environment as the major drivers (von Hippel, 1988). The first approach believed that a firm's knowledge to innovate is usually drawn from exploitation of internal sources and existing capabilities. The second approach holds that innovation is the response to the demand in environment and enabled through exploration of external sources (Su, Tsang, & Peng, 2009). Using the theoretical framework of exploitation and exploration (March, 1991), the integrative model argued that a balanced attention be given to both internal capabilities and external partnerships to provide a comprehensive picture of what determines innovation performance. Since knowledge creation, transmission, and relocation is partly determined by the institutional infrastructure in some emerging markets, more attention should be drawn toward the role played by the national and local governments in promoting knowledge transfer and innovation when studying the external factors. As technologies become more sophisticated and the institutional transition gets deeper, a firm's innovation requires the collaboration with others and becomes a collective effort (Su, Tsang & Peng, 2008; Zhang & Li, 2008).

The integrative view to firm level innovativeness that emphasizes both internal capabilities and external partnerships (Laursen & Salter, 2006; Lu, Tsang, & Peng, 2008; Su, Tsang, & Peng, 2009) is similar to the balanced approach revealed in the perceived e-readiness model (PERM) developed by Molla and Licker (2005a; 2005b). Molla and Licker (2005a; 2005b) argued that EC implementation in developing countries is a dynamic process which experiences different stages, and each stage is in need of both internal and external e-readiness. Specifically, the success of EC in an organization depends on the company's perceived e-readiness in e-commerce, managerial, organizational, and environmental contexts. These four contexts are covered by two major constructs in their PERM: perceived organizational e-readiness (POER) of awareness, commitment, resources and governance, and perceived external e-readiness (PEER) in the form of EC support by government and other support-giving agencies and the readiness of market forces to conduct EC. Further, the importance of e-readiness in a specific context may vary with each level of EC sophistication. One important implication is that investment in

infrastructure development by governments and other agencies should go hand-in-hand with schemes for business development and managerial improvement at the organizational level. The PERM model enables horizontal comparison across firms and industries and is believed to be most suitable for EC analysis in developing countries (Tan, Tyler, & Manica, 2007). However, this model lacks of innovative element, weak in its power to provide practical guidance in a context under special social, cultural, and economic impacts. Further, connections and relationships as a critical business resource in China are not covered, either.

### ***Institutional Transition Models***

It is impossible to understand the EC development in China without proper comprehension of China as a transitioning economy. Focusing on the relationships between environmental institutional transitions and internal strategic choices for companies, Peng (2003) developed a two-stage model of market-oriented institutional transitions with a focus on the longitudinal process to move from a relationship-based, personalized transaction structure calling for a network-centered strategy to a rule-based, impersonal exchange regime suggesting a market-centered strategy. Peng's theory points out that the emerging economies moving from central planning to market competition including China are experiencing a period of incremental evolution full of uncertainties since old institutions or the rules of the game were gradually giving way and new market-oriented institutions are not in place. Peng (2003) divided such institutional transitions into early and late phases. Uncertainties during the early phase of transitions were believed to force managers to rely on informal, interpersonal relationships with managers at other firms and with government officials (Peng & Heath, 1996). Such an informal network-centered strategy tended to cause barriers to entry, difficult to acquire desired coordination, and resulted in a hotbed of corruption and favoritism. As the scale, scope, and specificity of transactions raise exponentially, an increasing need for the emergence of third-party enforcement through formal legal and regulatory regimes to ensure fair competition would be a typical feature of the late phase of transitions. A market-based strategy, concentrating on competitive resources and capabilities independent of a firm's networks, relationships, and connections (Barney, 1991), is supposed to take the dominating position of the relationship-based strategy. However, relationships often have been found "necessary but insufficient for good performance" (Peng & Luo, 2000: 487). As a result, strengths in market-based capabilities might become more important, but not drive out relational assets in order to survive and prosper.

Peng (2003) specifically predicted that entrepreneurs, such as better trained younger professionals with little or no previous experience, might find it easier to accept a new norm centered on market competition. Only a few entrepreneurial start-ups were more likely than other types of firms to compete primarily on the basis of both (1) networks and relationships and (2) competitive resources and capabilities in the early phase. Startups during the late phase were more likely to compete primarily on the basis of both (1) networks and relationships and (2) competitive resources and capabilities.

Peng's (2003) model provided a better perspective to understand the changing competitive dynamics in emerging economies. This analytical framework integrated the convergent insights of institutional and strategic choice perspectives, which enabled us to better understand how strategic choices formed and changed during fundamental institutional transitions. This model

has a clear emphasis on both the recognition of uncertainties in the external environment and formation of strategies as the firm responds. The predictions on entrepreneurial responses in different phases of the transitions serve as a helpful theoretical base for studying the Internet start-ups in China primarily initiated and promoted by entrepreneurs and professionals. This model, however, tends to emphasize the power of institutional transitions as an evolution process and underplay the role by business firms and entrepreneurs in the evolution. Thus, the model provides little hint as how to enable the desired changes by using proper management and policy interventions. The influences of EC, a business innovation transplanted from ruled-based economies in a transitioning economy, were not recognized, either.

Yang and Li (2008), after an extensive review of the English literature, extended Peng's (2003) two-stage model to a three-stage model that better explains the nature of entrepreneurship development and market transitions in China and their dynamic influences for transition economies. Their model stage one indicates the "beginning of market transition" where the relationship-based and personalized transaction mode dominates in China's economy. This coincides with Martinsons' relationship-based commerce theory (2008). Their model stage two, the intermediate stage, refers to the "early stage of market transition." In this phase, the institutional infrastructures, customer sophistication, and home-based supporting industries are still in transition and will take time to be fully developed. Stage three is defined as the "completion of market transition," a period when a rule-based and impersonalized transaction mode begins to dominate the market, similar to those in the more advanced economies. This model recognizes the problems existed in China and the positive changes taking place in more developed regions. This model adopts a more positive attitude that the problems in China can only be solved by promoting institutional transition toward a rule-based and impersonalized transaction mode. EC startups mostly emerge from the private sector of China's economy where the most energetic and better educated young entrepreneurs are. This three-stage model of market transitions provides a critical element to our conceptual framework.

### ***Relationship-based Commerce Theory***

Martinsons (2008) proposed his relationship-based theory to illustrate the issues in EC development in China by qualitatively examining two B2C cases and one B2B marketplace before 2007. He believed that, different from the rule-based commerce in developed countries, commerce in China is largely relationship-based (guanxi-based). Relationship-based commerce is characterized by personal trust, private and contextual information, and lack of separation between economic and political actors. Such features could only result in a limited infrastructure and services to EC, difficulty in achieving a profitable scale and scope of EC, and restrictions to EC development in China. It is naïve to relate Internet usage to EC and equally naïve to believe that EC models and prescriptions from rule-based market economies like the United States are applicable in emerging markets. In the face of the substantial and distinctive challenges, the point is not to transplant but to develop models that will make China an efficient and effective link in the global value chain.

Martinsons' relationship-based commerce theory (2008) is good at pointing out the problems in the early stage of China's EC development. To Martinsons, China is at a much lower level in terms of sophistication of EC technology infrastructure, wealth of information regarding

competition between suppliers, dependability and convenience of online payment systems and delivery services, and even worse, the effectiveness and health of the regulatory foundation. On the other hand, Martinsons recognized the rapid progress of EC, especially in the more economically developed southeast coastal area in China, as having the potential for letting go of the narrow-minded, long existing pattern of relationship-based business practices and forging a trustworthy rule-based digital economy in China. However, Martinsons never pointed out a clear direction as to how EC innovation can emerge and grow healthily in China. And, as compared with recent EC developments in Hangzhou, Martinsons' description of EC in China seemed to over emphasize the problems while neglecting the advances in the field.

## CONCEPTUAL FRAMEWORK

The theories and models above provided a useful theoretical foundation and perspective in building our conceptual framework for innovation management in e-SMEs. Using the longitudinal transitional process perspective (Peng, 2003; Yang & Li, 2008) based on institution theory, and a balanced attention to both internal and external e-readiness (Molla & Licker, 2005a, 2005b) during the process, we propose our conceptual framework for EC innovation in Chinese e-SMEs (Figure 1). Our framework argues that EC innovation in a transitional economy should follow a mixed pattern of balanced exploitation of internal capabilities (internal e-readiness) and exploration of external resources (external e-readiness) and incremental and radical innovations with different emphasis in each stage. This framework assumes a dynamic process of EC innovation comprising three stages: Initial adoption stage, modification stage, and innovation stage. The external environment is as important as internal readiness in each stage for ultimate EC innovation at the firm level.

**Figure 1: Conceptual framework for EC innovation.**

|                      | Adoption Stage | Modification Stage | Innovation Stage |
|----------------------|----------------|--------------------|------------------|
| External E-readiness | More Important | Balanced           | Important        |
| Internal E-readiness | Important      | Balanced           | More Important   |

### *Adoption: The Initial Innovation Stage*

When EC was introduced as an innovative business strategy in China, it was already prevalent in the United States. In a small EC startup, imitating and adopting an existing EC model from another country should be regarded as a sound business strategy and realistic approach toward innovation in a context with limited e-readiness both internally and externally (Huizingh & Brand, 2009). Thus, adoption is recognized as the first stage of the EC innovation process.

*Internal e-readiness.* EC innovation at this stage is mostly promoted by willingness and commitment from entrepreneurs or chief executive officers (CEOs) (Fink & Kraus, 2009). It is the entrepreneurs (individually or in teams) that define the goals and operations within e-SMEs, and their pioneer influences directly contribute to the efficiency, effectiveness, and success of their e-firms (Fink & Kraus, 2009). However, there is no guarantee that the entrepreneurial efforts will be allocated in a way that matches the expected innovative and constructive image. Entrepreneurship is mostly aimed at innovation but can also be unproductive or destructive

(Baumol, 2001). The typical features of the firm-level innovations may be similar to those of the entrepreneurial regional innovation system as described by Cooke and Leydesdorff (2006) -- decisions and actions from a small group of entrepreneurs teamed together based on personal trust, fuzzy vision combined with step-by-step action, emergent strategies and action-oriented experimental learning, with an ambiguous market image.

The promotion of systematic organizational learning is critical at this stage to influence behaviors and improve a firm's innovative capabilities. This process includes acquisition and interpretation of information and existing knowledge from both the internal and external environment of the organization, its distribution within the company, and storage for future use in organizational memory (Jimenez, Valle, & Hernandez, 2008). The small and organic organizational structure may help entrepreneurs to orchestrate leadership styles and strategies and consolidate EC innovation. To overcome the limitations of internal resources and to maximize learning and creativity within the firm, innovation teams must be organized and external partnering arrangements should be completed (formal or informal) to gain a platform for organizational learning and access to new knowledge in external environment (Inkpen & Tsang, 2005; Kale & Singh, 2007). Model duplication should be viewed as basic learning, with a goal of identifying opportunities for modification. A understanding of the potential benefits and risks of EC innovation is greatly appreciated at this stage. E-SMEs differ significantly in the stock, uniqueness, durability, specificity, heterogeneity, and nonimitability of their resources; such differences could lead to variations in the level of EC adoption (Mohamad & Ismail, 2009). As a result, their human, technological, cultural, and structural readiness could become crucial to whether to promote the initial EC adoption to the next stage, modification of the EC model.

*External e-readiness.* Adoption supportive environment is vital at this stage in China, since the rules for legitimacy, knowledge, and incentives and resources for innovation are all from outside the firm (Su, Tsang & Peng, 2009). EC support from government and other support-giving agencies, preparedness of market forces, and preparedness of support industries together constitute the critical aspects of external e-readiness at this stage (Molla & Licker, 2005b). In China, because of its typical social and political system, central and local governments play a more active role, such as providing direct investments, building science parks, and promoting venture capital initiatives, in facilitating the creation and diffusion of technological knowledge (Li & Atuahene-Gima, 2001).

The key drivers for EC adoption and the subsequent level of EC innovation tend to be more likely from business clients and customers from countries where doing business online is prevalent and less likely from domestic clients and customers. Of the three support-giving industries – the IT industry, the banking and financial sector, and the logistics and transportation facilities (Humphrey, Mansell, Pare, & Schmitz, 2003) -- the IT industry was more valuable by making available efficient EC technology and networking infrastructure. The lagging of online services from the financial sector and unreliable logistics, to a great extent, constrained the growth of e-SMEs and their innovation capabilities. These are typical consequences of lacking needed institutions.

The e-SMEs in China are mostly private and mushroomed in the second stage of transition dated from the late 1990s to the present, during which privately owned SMEs grew rapidly and were

granted full legal rights (Tan, 2007). Nevertheless, during the early years of the interim period, institutions in China still remained underdeveloped. Entrepreneurs and managers were compelled to rely more on personal trust than on system trust (Tan, Yang, & Veliyath, 2009) to build their online firms. And the EC adoption is more strongly influenced by the relationship between businesses and the governments than by market forces. The e-SMEs founded during this stage paid a great deal of attention to building *guanxi* with governmental officials as a means to acquire necessary resources and business opportunities.

### ***Modification: The Intermediate Stage***

Global competition no longer allows for routinism which ensures a long-term stability (Porter & Kramer, 2006). With the initial experience of adopting an EC strategy and the information gained through constant environmental scanning, an EC startup must recognize the necessity to adjust its technology, online business functions, and processes continuously to the actual needs of both suppliers and buyers (Nasierowski, 2010). Innovations at this stage are incremental in nature using the reactive customer orientation approach, with an emphasis on known processes and products, to make operations more effective, both improving quality and decreasing costs. Such innovations produce a lesser degree of change for prevailing practices (Damanpour, 1996). The existing EC model is continuously being modified by accumulating small changes to gradually differentiate from a simple duplication. In another word, the model is under continuous reexamination to incorporate novelties and needs with the goal of making it a real innovation. If a firm cannot move into this modification stage, it is not far from the end of its business life since duplication is the lowest barrier to new market entrants. Internal and external e-readinesses are equally important in this stage.

*Internal e-readiness.* The weakness of the entrepreneurial regional innovation system in ensuring continuous innovations and competitiveness emerges gradually. There is a growing need for management capability to complement entrepreneurial spirit. This modification stage of EC innovation also suits well to the organizational culture in private SMEs which usually value conformity, for being at the disadvantageous position as latecomers in the global EC market. Studies repeatedly found private firms in Asian countries more successful in the modification, improvement, and application of innovations, rather than development of original proprietary technologies (Carney, 2003; Carney, 2008; Huang, Davison, & Gu, 2008). At this stage, sustained senior management commitment and employees empowerment should be valued to apply what they learn, inspire continued organizational learning, and provide time/opportunity to improve EC skills and capabilities (Dobni, 2008). Appropriate balance between exploitation of internal capabilities and exploration of external new knowledge should be a new focus of organizational learning (Gupta, Smith, & Shalley, 2006; O'Reilly & Tushman, 2004). To ensure correctness in management decision making, innovation teams should combine different specialist knowledge sets, conflict polarity (Kratzer, Leenders, & van Engelen, 2006), and interdisciplinarity (Henneke & Luthje, 2007) to build upon different ideas and perspectives. A consulting team of experts and professors with an open-minded approach to adopting new ideas, should be appropriate to identify the needs and trends.

Another critical task for managers is to coordinate these complementary assets and activities to make contributions to a firm's innovativeness (Stieglitz & Heine, 2007). The emphasis is to build

direct links with the organization's end users and to learn about both the market changes and the consequences of its actions in time. Adaptive and double-loop learning featured with acquisition and assimilation suit the development of incremental innovations as modifications to the existing models and selected path move closer to prevailing practices (Argyris & Schön, 1978; Bessant, 2005; Senge, 1990). E-SMEs must create a set of new goals, practices, and innovative behaviors for their own work (Potočan & Mulej, 2009). Managerialism (Johannisson, 2000) and the institutional regional innovation system approach (Cooke & Leydesdorff, 2006) featured as long-term oriented strategies and innovation process is based on need and risk minimization, long-termed cooperation, and a clearer vision of the present and future should be much more valued.

*External e-readiness.* The global and domestic business competitions, online and offline, rise to a level that expects more novelty and effectiveness in EC. The regulatory environment is also improving toward a more rational and healthy level. In comparison to those in the adoption stage, the government policies should favor more innovative models and those with noticeable performance outcomes. As the central government pays more attention to the structural transition to a digital economy, more attention, in turn, will be given to enhancing supportive infrastructure and services and encouraging a more loosely regulated and relaxed economic environment to forge creativity and innovativeness. Local governments, though still regulate and control important business projects and resources, will adopt a more rational approach to the allocation of financial and other public resources. EC business performance, customer satisfaction, and revenues will become more important indexes in evaluating e-SMEs.

Pressure from market forces will become a key driver for model adjustment and enhancement. Such pressures may still be stronger from foreign clients and customers. However, pressures from domestic users, partners, and competitors grow quickly. Many traditional businesses and suppliers may become hybrids or e-firms. Learned EC models without proper adjustments can hardly satisfy specific, varying, and sophisticated needs for more rule-based business processes, services, and products.

The EC supporting industries should show substantial improvements in their capabilities to support online transactions. However, the networking infrastructure may not be sophisticated enough to play the desired roles. The financial sector of the country is not mature enough to handle online payment effectively, and transportation and express delivery facilities are still young. Meanwhile, desired protections from the legal sector and specific rules may still not be in place.

Constrained by the overall development and the institutional issues, e-SMEs will result in the simultaneous use of both personal trust and system trust in securing needed resources and supports (Tan, Yang, & Veliyath, 2009). This dynamic and improved policy and regulatory environment, however, will drive EC innovation to move beyond initial adoption. At the same time, we should see the role and importance of personal trust as evolutionary. It mainly serves as a backup to the (still evolving) system trust, as a risk reduction mechanism. As a market-based system trust gets more important, the effect of guanxi progressively diminishes in importance. While the overall resource management capability rises in importance, relationship management evolves to adopt a healthier and balanced approach to all the business relations.

### ***Innovation: The Ultimate Stage***

Similar to what Yang and Li (2008) imagined for the emergence of real entrepreneurship in China, this is a period of time when a rule-based and impersonalized market gradually gets the upper hand. In transition countries, the issues of sustainability and ownership are critical (Potočan & Mulej, 2009). Making radical innovations should be the strategy for firm-level innovation to challenge dominant designs and question the existing competencies and customer needs, making space for the creation of new competencies and the take-over of unserved markets (Herrmann, Gassmann, & Eisert, 2007). An innovative e-SME will focus on its model renovation by providing online customers with new and innovative products that are radical in nature (Herrmann *et al.*, 2007), and the institutional regional innovation system becomes the major innovation approach, building on representatives of different sectors of society and close collaboration between structures for knowledge development and innovation management. It is highly possible that some innovative EC models will evolve through time, while others are being created as the consequence of prevailing needs in the market. A real innovative EC model is strong enough to cope with the actual needs and comparable to any innovative models in the world. In the age of global and digital competition, the overall goal should be to develop the capability to create an operation globally and act locally. With external e-readiness being continuously enhanced, e-SMEs with stronger internal e-readiness will be more innovative.

*Internal e-readiness.* EC entrepreneurs must innovate their management styles to support creativity and innovativeness, including applying the ethics of interdependence within the organization, implementing flattened organizational structure, and encouraging employee partnerships at all decision levels (Shahin & Zeinali, 2010). The high power distance prevailing in the private sector encourages centralized decision making, and thus limits the opportunity to integrate creative ideas and free information flow. Efforts to impose IT-based solutions that do not fit the decentralized culture can produce negative outcomes such as enslavement rather than empowerment (Davison & Martinsons, 2002). For e-SMEs in China, a good move will be to incorporate the firm to delineate the power of the owner and to strengthen the power of managers and employees. Management regards innovativeness as proportional to motivation (Amabile, 1983). Recognition acts as a synergistic extrinsic motivator for creativity in addition to cognitive stimulation (Amabile, 1997). In this stage, enhancing the capability to motivate creativity and innovativeness, creating a more favorable organizational structure, refocusing organizational learning onto radical innovations, and managing standardized business relationships should be more important. To go beyond modification, exploitation of stronger internal capabilities and the exploration of emerging resources via partnerships with various players should probe deeper into their combined impact on radical innovation. The proactive, market-orientedness will dominate as the approach to identify future markets and new potential customers and their latent needs for creating radical innovations (Herrmann *et al.*, 2007). The innovation team pays more attention to combining interdisciplinary and multi-disciplinary skills and capabilities to create a synergetic effect in innovation. Generative learning featured with transformation and exploitation is emphasized (Herrmann *et al.*, 2007; Zahra & George, 2002). Fresh ideas and previously unidentified opportunities should be regarded as the most crucial for innovation development (O'Connor & Rice, 2001). Meanwhile, we have to remember that adaptive and generative learning are complementary approaches and are key elements of innovation capability creation (Bessant, 2005). There is a need to balance between them to develop both radical and

incremental innovations to satisfy expressed and unexpressed customer needs (Forsman, 2009). Resource management will follow a more rational approach, since the firm is no longer relying on any external favors for business survival and success. Relationship management gets impersonal and more sophisticated in coordinating with suppliers, customers, business partners, and other agents and utilizes digital channels.

*External e-readiness.* While central and local governments are still important in providing guidance with policies and regulations, the legal and regulatory institutions are more developed. Enforcement of intellectual property and patent protections helps to ensure digital product innovation, service innovation, and model innovation as highly profitable and less risky, and thus encourages e-SMEs to undertake more radical product, service, and model innovations (Awokuse & Yin, 2010). The support-giving industries such as the IT industry, the banking and financial sectors, and the logistics and transportation facilities create further advantages by making available efficient, rapid, and sometimes preferential services. The general digitization and networking reaches to the level that government guidelines, industry self-regulation, and social supervision become possible (Porter & Kramer, 2006). Leading domestic EC players would have developed strong technological capabilities, and the technical gap between local and multinational players would have been considerably narrowed. Online customers in China will become sophisticated and diversified, requiring innovative and differentiated products and services to meet their upgraded needs. Drawing on the strategic management literature, we argue that under such circumstances competitive advantages and opportunities for online products, service, and model innovations will be more likely to materialize.

This stage of innovation can only occur during the later transitional stage when system trust based on market institutions becomes more established. Once system trust based on the market economy was completely established, it took over the dominant role in reducing transaction risks. Relationships with government officials could no longer ensure the availability of necessary but scarce resources (Tan, Yang, & Veliyath, 2009). On the other hand, e-SMEs surviving or doing well through the stage of modification, are growing financially strong and do not care as much for the government subsidiary. As a result, *guanxi* with governmental officials lost its importance. Instead, desirable business partners instead of governmental officials will rise in importance for the underdeveloped state of formal market institutions (Tan, Yang, & Veliyath, 2009). E-SMEs in relatively well-developed economic areas will rely, to a greater extent, on contracts and legal protections as a means of doing business, both with strangers and with familiar partners.

## CASE STUDY

To illustrate and to somehow empirically test the relevance of our conceptual framework suggested in Figure 1, we decided to use multiple-case design to study e-SMEs in the Hangzhou Area where EC development is commonly believed to be the best in China. Fifty firms were first randomly selected from the e-SMEs list offered by the Hangzhou Electronic Commerce Association. Twelve of them accepted our study requests after initial contacts. The twelve e-SMEs comprised three B2B vertical portals, four service providers, two storefronts, and three hybrids. The level of development is highly varied. All twelve firms are located in Hangzhou, capital of Zhejiang Province, China. Following the case study methodology (Yin, 2003), we

studied the twelve SMEs mainly by repeated interviews with the owners or CEOs, accompanied by field visits, and a close study of the company profiles, white papers, news releases and relevant publications. Data (both first-hand and secondary) has been continuously collected from July 2008 to July 2010. To enhance the reliability of the results, cross-examinations were performed on the primary and secondary data. If data inconsistency was spotted, the data was verified with interviewees again to increase the validity of the research findings. We found strong supporting evidence for our conceptual framework from such qualitative study. Here we'd share two cases -- Fortune Chemical and Fortune Gardening. Pseudo names are used to protect the real companies.

Our study seems to support that the external readiness at the stage of EC adoption is critical. It is always the government to define the institutional environment within which businesses operate and influences their confidence and level of EC aspirations (Oxley & Yeung, 2001). While the central government points out the direction by issuing a long-term strategic plan and developing the supportive legal and regulatory frameworks, local governments then take charge of interpreting the policies, controlling EC development projects, and allocating financial resources to more desired EC startups as a result of power delegation. Fortune Chemical and Fortune Gardening are among those highly recommended ones.

Mr. J, owner of Fortune Chemical and currently Chairman of the Board of Directors, had years of experience working in an aroma chemical plant and experience in developing and maintaining business relations with International Flavors & Fragrances Inc. (IFF). Mr. J was clear that China has rich natural aromatic resources and the technical strength in chemical refining to prepare the resources for further integration into a variety of consumer products including cosmetics, fragrances, food flavors, and cigarettes. The fragrance and flavor industry is characterized by highly scattered markets and products, a good variety of brands, procurement difficulty, different standards, poor information flow and the consequential low trust level between the buyers and the sellers. Further, growth and preparation of many aroma resources are constrained by regional differences in climate, soil, water, and economic development. Those restrictions have resulted in high cost and long lead times on the value chain. In his lengthy experience in the fragrance and flavor industry, Mr. J perceived a strong need from numerous aroma suppliers in China to build direct relationships with their business clients and especially those from other countries. The popularity of EC in western countries opened his eyes to the huge opportunity of riding on the digital bandwagon to realize his dream – owner of a digital Wal-Mart in China.

In 2002, Mr. J moved to Hangzhou with 100 thousand Chinese yuan (about \$12,000 at that time) in his pocket to plan for his dream business. In 2003 China was hit by the SARS epidemic. Many firms cancelled or postponed their business visits to China. This, however, brought an unexpected opportunity to EC development in China. After a year's preparation, Mr. J's Fortune Chemical went online in 2003 with three employees. The first day the website went public, he received a phone call and got his first business deal of ¥300 thousand for aroma resources. By the end of that year, Fortune Chemical made the gross revenue of ¥800 thousand with the initial investment of ¥200 thousand in EC business. From then on, Fortune Chemical has been committed to connecting aroma suppliers in China to business clients from different countries. In 2004, Fortune Chemical invested over ¥600 thousand in fixed assets and ¥400 thousand in web technology. By the end of 2004, the employee body grew from three to 12, the effective hit rate

of purchase intention reached 234 per day, and volume of online transactions reached ¥2.6 million that year the annual gross income grew to over ¥1.2 million.

Mr. J fully understands the need for a strong team of professionals with the desired combination of knowledge and skills in a number of areas such as the aroma business, English language, foreign trade, law, accounting, and logistics. Ever since the year 2003, Mr. J has started building a strong team of young and well-educated professionals, each with interdisciplinary knowledge and skills. This team was expected to use the website and the call center to identify customer service needs from all over the world and provide assistance and consultation in business negotiations, order fulfillment, aroma chemical production, standardization and criteria issuance, logistics, and the entire online business transaction process.

Gardening and landscaping regained its popularity in China as a consequence of the fast growing national economy in the 1980s and experienced a rapid expansion during the 1990s. Under the government's pressure for environmental protection, organizations of all types, especially real estate businesses and construction companies invested substantially in trees, flowers, and landscaping products. The urbanization trend asked for an effective network to connect the scattered tree and flower suppliers with customers in big cities and in other countries. Fortune Gardening, the online startup headed by Mr. C., was established in November 2004 as a regional portal of gardening and landscaping with 50 employees. Fortune Gardening carefully analyzed the special needs and weaknesses of the industry in the beginning. First, the nursery centers were highly scattered, with most located in the southeast and southwest of the country. Many big cities in the north and west have strong demands for trees, flowers, and other landscaping products but are obviously under-supplied. The nursery and gardening supply information was never shared adequately, accurately, or in a timely manner. There had been a few regional portals in Beijing and Shanghai but these mostly served local needs. Second, plantations and flowers are highly varied, scattered, and location-based. Yet, many flower and tree growers were doing export business. There was a strong need for standardization and classification to compare and contrast the home-grown with the same or similar products from abroad. Third, there were also explosive domestic needs for trading nursery products, for garden designing and engineering, and for quality enhancement of gardening and landscaping with more cultural elements. Seizing the opportunity to proliferate, this new startup upgraded its website and uploaded it for nationwide public registration in May 2005. The offer of free registration was warmly received, and in the first week, the business members rose to 2,000.

*Comment 1: Obviously, both startups at their adoption stage merely duplicated established online models and practices – one B2B website allowed customers to simply pick orders from foreign customers; one implemented a usual vertical portal model. For internal readiness, both Mr. J and Mr. C are strong in entrepreneurial spirit; both did a thorough environmental scan, stressed on active organizational learning, and were good at relationship management to secure needed external support and recognition. For external readiness, without the trend of EC, without foreign customers accustomed to online ordering, and without the proliferation of the fundamental supporting IT services in Hangzhou Area, neither Fortune Chemical nor Fortune Gardening would fly.*

Mr. J of Fortune Chemical realized that his business could only survive by providing quality services through every step of the entire business transaction online. The hardest part was online payment. Up until 2004, there was no effective third-party online payment system or online banking services in China, and trust toward online transaction was low as well. Many EC startups in China were still using the payment upon delivery strategy. Under such circumstances, Fortune Chemical decided to be one of the earliest business customers of 8848.com, the only online shopping engine linking to 19 banks and several domestic and international credit card services at that time. Fortune Chemical switched to AliPay recently, a Chinese equivalent to PayPal created by Alibaba.com.

Another critical link was logistics management. Fortune Chemical developed business alliances with domestic logistics companies such as Railway Express, Global Freight, EMS, Huayu Logistics, jj56.cn from Shanghai, and the world famous UPS, FedEx, DHL over the years.

Aroma oil and concrete, herbal extracts, aromatic chemicals, and food additives are directly related to human health and safety. It is sometimes a matter of life or death. Therefore, the success of Fortune Chemical also depends on how well it can guarantee the safety and quality of the products through its online platform. For this purpose, Fortune Chemical provides two layers of protections: (1) recommending professional inspectors to its business clients to conduct sample inspections at the time of supplier sourcing, and issuing quality certification to an aroma supplier; (2) recommending Zhejiang Food Quality Inspection Bureau, a government agency, to perform the third-party inspections whenever a buyer has any doubt over the product quality. Because of Fortune Chemical's dependable online services and their capability for quality control, without any venture capital and financial support from the government, Fortune Chemical has made its name brand known in the country and in the world.

Fortune Chemical has been working hard to increase the number of trustworthy SMEs who can provide standard neutral semi-products. The easiest way was to get popular on search engines. In 2004 the average investment in search engines was a little over ¥2,300 by enterprises in China. Fortune Chemical invested over ¥200 thousand into the popular search engine businesses. The number of their products registered at Baidu.com (the most popular search engine in China) exceeded that of Taobao.com and was recognized as the first in Zhejiang Province. In 2006, 106 domestic aroma resource suppliers registered with Fortune Chemical, and 92 firms from abroad became its customers. The yearly revenue from both domestic and international transactions rose from roughly ¥3 million in 2006 to almost ¥8 million in 2007. From 2006 to 2008, the number of its domestic suppliers and customers experienced a growth of 515%. The number of foreign customers increased almost 20 times the number in 2006.

The latest long-term plan of China is to achieve over the 30% of green coverage in over 2,000 cities (NDRC, 2009). Hangzhou, known for its strength in landscaping and scenery business, is ahead of many others in this aspect. The city government spent ¥3 billion (equivalent to \$375 million) in the fiscal year of 2006-2007 supporting local gardening and landscaping businesses. Many suburban towns in the Hangzhou Area spent over ¥1 billion to develop landscaping businesses (Zhou & He, 2007). To cope with those identified needs, Fortune Gardening gave up the simple revenue model of membership fees plus advertising charges as adopted by many industrial portals. Instead, Fortune Gardening modified its portal model to provide a B2B service

platform, focusing on offering specialized and in-depth services to the upper stream of the entire industrial value chain. In China, many nursery suppliers are weak in educational background, and some do not even own a computer. Most of them access Fortune Gardening's website through Web bars popular in the countryside. Fortune Gardening's free media center has helped those ordinary flower and seedling providers become updated with the information, services, and changing trends in the market on a 24/7 basis. Fortune Gardening also maintained a business alliance with the Agricultural Bank of China (ABC) to settle online payment, since most flower and seedling growers have accounts at that bank. Payment settlement becomes a simple within-bank account transfer. Thanks to this business alliance, few business disputes and frauds concerning credit and payment happened at Fortune Gardening. According to the official statistics, the transaction volume in nursery, gardening and landscaping rose to 1.2 billion in 2007, and increased to 3 billion in 2008 from ¥250 million in 2006 because of the needs of Beijing Olympic Games (*National Bureau of Statistics of China*, 2009). Promoted by the green revolution in the external environment, the number of registered members of Fortune Gardening reached 180,000 in November 2007, comprising 30% of its current online customer base.

*Comment 2: Both Fortune Chemical and Fortune Gardening went through the modification stage by changing their original business models. Their experiences illustrate the importance of strong leadership, organizational learning, relationship and resource management in internalizing the results of environmental scan, and in model modification and coordinating among business partners to enable further growth. Their experiences also demonstrate that in China without government support, both startups can hardly go through this stage successfully.*

China's export business was badly hurt in the global economic recession in 2008. And because of the Olympic Games at Beijing, many flights carrying export goods were cancelled for security and safety reasons. The situation almost hit bottom in 2009. The traditional procurement approach was obviously costly, time consuming, and most unsuitable for a weak economic situation. EC again became a big apple in the eyes of the business people for its cost-saving capability and efficiency. Withstanding all the challenges and difficulties, Fortune Chemical managed a fast growth and increased the volume of transactions by ¥5 million in 2009. For the first 10 months of 2009, its business volume rose to ¥20 million. Fortune Chemical was officially recognized by the Electronic Commerce Association of China (ECAC) as an innovative SME most worthy of investment. President J was awarded for his significant contributions in the 10-year EC development in China.

Fortune Chemical is determined to become a world-class procurement and order fulfillment center in the aroma industry. Currently there are two bottlenecks hindering further expansion of his business -- the shortage of qualified professional and managerial personnel and the shortage of financial resources. Mr. J believed that a university graduate has to obtain three to five years' working experience in the aroma industry before he or she is able to take an important position in his company. However, because of the widespread impatience and short-sightedness during the time of sudden prosperity prevailing in east coastal cities, many young college graduates would rather go after getting rich quickly or earning good salaries in national civil services than concentrating on learning another subject to enhance their knowledge base. Nowadays, banks and local governments provide special loans and funds to support online businesses. As business people, it is important to keep good relationships with both. Mr. J told us that, in his circle, EC

entrepreneurs tended to impress government officials and the public by hosting EC forums and conferences, giving open speeches at professional conferences or via multi-media and giving presentations to university students. Inviting government officials to dinners is open and widely accepted. Bribery by cash and corruptions are nowadays regarded dangerous and useless in the Hangzhou Area. Quality performances are far more effective to ensure financial supports and healthy growth of business. Fortune Chemical actually needed more financial resources than what the banks and the local governments could provide. To attract private capital resources in the private sector in Zhejiang Province, last year, Mr. J. posted an open letter asking for bidders to invest in his online business. His plan was to make his online firm a publicly listed NASDAQ company in five years.

Currently, Fortune Gardening has permanent users in more than 30 metropolitan cities and provinces in China. Ninety percent are real estate businesses, construction companies, institutes of garden designing and engineering, business buyers, nursery suppliers, and even individuals attending flowers and trees in remote areas. Mr. C, the CEO of Fortune Gardening, was elected one of the ten most innovative entrepreneurs in 2009. The global economic recession started in 2008 has not caused major crisis in China's gardening and landscape industry because of the huge domestic needs. It did, however, draw Fortune Gardening's attention to some emerging problems: A structural surplus of flowers and seedling supply mostly caused by investors' greed after high profit and the blind entry by large numbers of individual farmers, too many identical nursery products and a shortage of variety and uniqueness in types, and the drop in seedling quality as the consequence of close planting of seedlings in pursuit of high profits. As the result, seedling sales in the market were stagnating and prices declining. On the other hand, evidence demonstrated that implementation of the macro level economic control from the central government has affected the flower and plant seedlings business. As the consequences of "Shrinking the Green Corridor Project" and "the Returning Farmland to Forest Project," a number of fundamental development projects were either cancelled or deferred. The demand for flowers and trees in the market dropped dramatically. The macro control also resulted in difficulty of land transfer, higher rentals of nursery fields, and slower payments for seedling sales and greening projects. Certain favors in financing and raw land rentals once promised by the government were impossible to meet. Many land contracts signed with the farmers could hardly be renewed either. Since farmers are highly dependent on land, the difficulty of land transfer became a bottleneck for the seedling industry. A good number of flower and seedling businesses were struggling to survive.

Management and service problems also hindered the healthy development of the flower and seedling industry. Despite a number of policies in favor of the industry, the level of government support and service lagged far behind. The problems were mainly sales difficulties and lack of seedling variety due to inadequate communication channels and poor information services, a shortage of risk-warning systems resulting in easy panic among SMEs, TVEs and price disorders, inadequate technology, lack of professional guidance and need of production standardization, and very little legal protection over the processes of seedling production and sales. The transportation of seedlings does not enjoy the same "green channel" as that for the agricultural products and is often met with many restrictions. Seedling and nursery businesses also suffered difficulties in winning loans and financing.

Fortune Gardening did its best to alleviate the losses. For example, the firm offered the seedling price quote platform and resource bidding platform online. Its customers can access the most updated prices every day. These platforms have become the weather vane for pricing in the industry. Fortune Gardening uses its online platform to pass expert opinions and updated sales models to the entrepreneurs and individuals to ease their way into the market. To enhance market forecast capability, Fortune Gardening allied with the Forestry Department of Zhejiang Province and Zhejiang Flower Association and introduced an early warning system to provide relevant risk analysis and trend analysis results online. This service has helped many farmers adjust their seedling prices and varieties in time to prevent losses. Besides updated forum discussions and reports, Fortune Gardening opened a virtual classroom, teaching concepts and knowledge on the business transition from a gross model to an integrated model or a boutique model and on strategic changes regarding the scale of development. To alleviate the online payment and other trust problems, Fortune Gardening established a business alliance with the Industrial and Commercial Bank of China (ICBC) and started promoting GardenPay on its own website, an online payment platform similar to AliPay owned by Taobao.com. GardenPay can now be accessed in both the nursery transaction center and resource transaction center and is currently in its trial operation. In 2009, GardenPay successfully handled ¥5 million in 357 online transactions. According to the business contracts with the two banks, Fortune Gardening also serves as a guarantee for loan applicants with excellent credit histories and assists in offering flexible settlement solutions and identifying financing channels. Fortune Gardening plans to connect online users' credit rankings with loan evaluations by the banks to let cash flow to support healthy online nursery product transactions.

Fortune Gardening currently has 200 employees mostly with college and above educational degrees. Many of them are experts in horticulture, botany, agriculture, architecture, and other related fields. The firm has over 60 thousand business members with daily web visits up to 30 thousand, including visits from Japan, Holland, the United States, Australia, and other countries. Alexa, the well-known web information company, ranked Fortune Gardening number one in the landscape industry in China for its integrated flow, percent of site traffic, and high PV views for the fiscal year of 2008-2009 ([www.alexa.com](http://www.alexa.com)). In the third quarter of 2009, the number of online transactions at Fortune Gardening had a substantial growth (about 1.4 million). This number was doubled in the 4<sup>th</sup> quarter. The company's revenue in 2009 also doubled that of 2008. Based on the achievements in 2009 and the promotion of new projects, its revenue rose another ¥10 million.

Mr. C told us that the firm's current goal is to become a real bench maker in the industry. The firm is strengthening the coordination with banks and the bricks-and-mortar nursery product trading centers to achieve bigger transaction volume. The virtual exhibition platform will also become a major cash cow in the near future. The exhibition platform currently is free, but it will collect fees in the future. Fortune Gardening will soon provide more channels to serve highly specified areas in the industry and help to settle disputes. It will also get closer to the regional nursery markets to provide for both nursery transactions and nursery auctions simultaneously.

In the eyes of Mr. C, all those born in the 90s who grew up surfing the World Wide Web will be in their 20s and 30s and become the mainstream of the Chinese net population in a few years. Though web use in the countryside still lags behind that in the metropolitan cities, it will not take

long for the computer systems and World Wide Web to be popular in the countryside once this younger generation comes into its own. There are 710 million people in rural areas, representing roughly 53% of the entire population in China (CIA, 2010). Fortune Gardening's chance to prosper is huge if it can prove to be practically valuable to grass-roots people.

As for the opportunities and constraints for Fortune Gardening, the CEO said proudly that the company has won substantial support from central and local governments to standardize products, procedures, and processes. Most online service providers in China get policy and regulation support from the government. Currently, Fortune Gardening is not a huge corporation and can still enjoy the flexibility to decide what to do next by itself. However, for a fast growing business, inadequate cash flow is always a constraint. Fortune Gardening has secured an investment of ¥20 million from the controlling group for the first five years. The next step is to issue IPOs to win financial support for further expansion.

*Comment 3: Both Fortune Chemical and Fortune Gardening seem to be in the innovation stage and striving to become industry leaders. Their current experiences and especially the dilemma they are facing seem to indicate that management capability, especially their resource and relationship management capabilities, has risen in significance while other internal readinesses remain in importance. While the overall resource management capability rises in importance, relationship management takes a new turn as well. As market forces get stronger and the social and economic environment values performance and outcomes, relationship management switches to adopt a healthier and balanced approach to all the business relations. External readiness remains in terms of growing competitive forces, supporting services, and government support.*

*Summary:* These two cases revealed some typical market-oriented e-business practices while showing great influences from governmental policies and uncertainties in the transitional economy. In the Hangzhou Area, information sharing via local business associations is greatly encouraged and become a routine. Various indexes and agencies evaluating performances and outcomes of e-firms have already come into existence. The supporting industries are also in much better shape and making substantial facilitations than in other regions, thus, making it easier for firm-based EC innovations. The balanced view on both internal readiness and external readiness of our framework is evidenced. Model modification seems a necessary stage of incremental innovations after the initial adoption of doing business online. The cases show the power of stronger long-term planning capabilities and management capabilities in the growth and evolution of the e-firm. Besides supporting the major structure and the approach of our conceptual framework, two factors emerged as the biggest drivers for EC innovation in Hangzhou Area: The continuous scan of environment – industrial and local demands to align EC business models to the changing needs and the capabilities to attract adequate financial resources. Based on the findings in our e-firm studies, a revised framework is given in Figure 2.

**Figure 2: Revised conceptual framework of EC innovation.**

|                           | <b>Adoption Stage</b><br>(Model Duplication)   | <b>Modification Stage</b><br>(Model Modification)  | <b>Innovation Stage</b><br>(Model Innovation)  |
|---------------------------|--|--|--|
| <b>Internal Readiness</b> | Entrepreneurial Spirit<br>Organizational Learning<br>Relationship Mgmt<br>Environmental Scan | Leadership<br>Organizational Learning<br>Relationship and<br>Resource Mgmt<br>Environmental Scan | Management<br>Organizational Learning<br>Resource and Relationship<br>Mgmt<br>Environmental Scan |
| <b>External Readiness</b> | Government Support<br>Competitive Forces<br>Supporting Services                              | Competitive Forces<br>Government Support<br>Supporting Services                                  | Competitive Forces<br>Supporting Services<br>Government Support                                  |

### CONTRIBUTIONS

This paper proposes a conceptual framework for EC innovation based on review of literature on EC implementation in developing countries, innovation research, and entrepreneurship development in China. This paper attempts to make valuable contributions to EC literature and practices, especially for explaining and guiding EC implementation in China.

#### *Theoretical Contributions*

In EC literature, most of the attention has been given to technology and business innovation adoption and acceptance. Our conceptual framework goes beyond acceptance and theoretically maps out the road to EC innovation in China. Integrating different perspectives in a longitudinal approach, the framework should be more explanatory of the real EC development in the private sector than other general models. Its potential for developing a theory model for guiding EC practices is also evident. This framework gives specific attention to entrepreneur preparation, active management interventions and nurture of creativity and innovation in EC startups, which is in great need for those who are already in the EC business.

Integrating different perspectives, our conceptual framework analyzes EC development in China against the big background of the country's typical position as a world manufacturing base and resource center going through institutional transitions. Our model implies that innovation is a must for healthy EC development in a transitional economy and that we need to expand our vision at a higher level to find out solutions of many issues hindering EC development.

This framework adopts a longitudinal approach and regards firm-based EC implementations as a process of incremental and radical innovation with adoption as the initial stage and the birth of an innovative e-model as the consequence of matured EC implementation. For the first time, it specifies three distinct stages of a dynamic process of EC innovation in China.

In innovation research, two approaches dominated -- a firm's internal capabilities as the primary drivers of innovation (Dosi, 1982) and a firm's external partnerships as the major drivers (von Hippel, 1988). A third approach holds an integrative view by joining these two approaches and argues that both internal capabilities and external partnerships affect a firm's innovativeness

(Laursen & Salter, 2006; Lu, Tsang, & Peng, 2008; Su, Tsang & Peng, 2009). Our framework supports the balanced view and argues that EC innovation in a transitional economy should follow a mixed pattern of balanced exploitation and exploration and incremental and radical innovation with different emphasis in each stage.

It is an early effort to use e-SMEs as the context for studying the validity of a number of innovation theories and models. This effort may especially be implicative for China that is lagging far behind in innovation management theory development. The framework promotes using a regional model as the prelude for developing any national model in China. The evolutionary approach to entrepreneurial and innovation development and the dual emphasis in both entrepreneurship and managerialism will also be suitable to nurturing innovations in the context of e-SMEs in China.

### ***Practical Implications***

This framework helps the e-SMEs in China to realize that the e-revolution is just beginning. The e-SMEs in China have been least impacted by the world-wide economic recession, mostly because of the advantages of growing domestic demands and the fast reach to the customers and business clients via web technology. EC in China is featured with fast proliferation of a few e-business gurus (i.e., Alibaba.com, Baidu.com, and Taobao.com) and highly imbalanced development across the huge span of homeland with great regional differences. It may take a long time for EC technology infrastructure, logistics and transportation facilities, and the financial sector to develop sufficiently to play a strong role in supporting EC innovations. However, active participation of numerous e-firms with a thorough grounding in innovation management is a must to be effective and successful in the next decade.

The conceptual framework suggests that EC innovation in e-SMEs depends critically on both external and internal readiness. Innovation is the strategic direction for all the EC startups in China. By following the conceptual framework, many e-SMEs may be able to create a highly integrated and innovative model to better combat the uncertainties in the dynamic environment and show competitiveness in the EC economy.

This framework points out specific aspects for nurturing EC innovations at the firm level in order to become a strong EC global player. The continuous growth and expansion of EC in China relies on state-owned corporations as well as e-SMEs in private sector. The rapid expansion of mobile networks and a huge mobile user base provide a vast opportunity for EC innovations, a new option of EC. However, the chance may slip by without balanced improvements in internal e-readiness in terms of leadership style, organizational learning, and management and in external readiness in terms of policy support and legal protection, matching banking and financial services and logistics and transportation systems.

Beyond China, a number of emerging markets are practicing EC and are going through similar economic transitions toward a rule-based digital society. EC startups in those economies may confront similar challenges and opportunities even in a different cultural context. This conceptual framework clearly demonstrates that the advantage from using the EC models and prescriptions from the United States will not last long in a different soil. Experience of running

e-businesses do not transfer readily to emerging markets. Successful EC implementation in another country largely depends on careful scan and correct understanding of the limitations and changes posed by the external environment. Balanced attention to institutional issues and development of internal innovative capacities may ensure growth in the long run.

## CONCLUSION

Integrating strategic management, innovation management, and entrepreneurship development perspectives, we propose a conceptual framework with descriptions of important internal and external factors for forging EC innovation in each stage. Our argument is that EC development can only be valuable when it is treated as a dynamic innovation process rather than implementation of western models. This conceptual framework, however, is mostly based on literature review and only qualitatively supported by the e-SMEs in Hangzhou Area. It will be worthwhile to improve the logic and value of our conceptual framework and validate it in other regional EC hubs in China.

China is undergoing a strategic transition from its long-time sole focus on traditional manufacturing businesses to a more service-oriented digital economy. The EC volume is only a small part of the entire domestic commerce and one third of the EC volume in the United States. Forging and facilitating EC model innovations is the only way out for e-SMEs to change the game and generate significant new value for customers and the firms (Shahin & Zeinali, 2010).

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