

NEW VENTURE
STRATEGIES AND
GROWTH PATTERNS
IN A DEVELOPING
COUNTRY: TYPOLOGY
AND CASE STUDIES

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**EXECUTIVE
SUMMARY**

This study focuses on static and dynamic patterns of new ventures strategy and growth. The purposes of this study are i) to develop an integrative framework to classify competitive strategies of new ventures in a developing country, ii) to examine differences of characteristics among new venture strategic types in terms of market characteristics, technological capabilities, and performance and iii) to identify growth patterns of strategic types for new ventures from a dynamic perspective.

First of all, based on the literature review and preliminary observations on Korean new ventures, three-dimensional integrative framework and seven strategic types to classify new venture strategy in a developing country are presented. Target market (local vs. global), product/market maturity (existing vs. emerging), and level of technological capability (follower vs. pioneer) are identified as key dimensions to classify competitive strategies of new ventures in terms of opportunity pursuing behavior. Eventually seven meaningful types of new venture strategy are identified such as i) reactive imitation, ii) proactive localization, iii) import substitution, iv) creative imitation, v) early market-entry,

vi) global niche, vii) global innovation.

Second, based on the case studies of five successful Korean venture firms, the characteristics and performance of each strategic type are investigated. As a result, comparisons of strategic types (static analysis) and growth patterns (dynamic analysis) are made. Firms of different strategic types show different behavioral patterns in marketing and technology strategies and face different difficulties and managerial issues. From the analysis, this study suggests desirable competitive strategies to seek attractive business opportunities for start-ups from a global perspective.

Third, different patterns of strategic evolution are identified. Successful new ventures can grow in the local market or into global market. From case studies, this study observes two different growth patterns – ‘growth through strategic replication’ and ‘growth through strategic change.’ These differences come from whether they are pursuing similar strategy over time or different strategy within framework. The growth patterns and the speed of changes of successful new ventures vary according to i) initial conditions of the firms such as domestic market size, ii) entrepreneur’s management ability and iii) the degree of technological efforts of the firms for capability accumulation.

Fourth, the importance of ‘creative imitation’ type as a stepping-stone and a milestone for globalization is emphasized. When new ventures in a developing country grow through strategic change, the preliminary results show two-step growth pattern – i) from migration to ‘creative imitation’ in the local market and ii) transition from ‘creative imitation’ to the global player in the global market – is the most reasonable growth strategy to become a global venture.

Although this study is exploratory and needs more empirical studies in different settings to enhance external validity of the results, it gives several managerial and policy implications. Especially, competitive strategy framework can help new ventures to choose right strategies among different business opportunity sets in a given situation and to find an appropriate growth pattern. This study shows several patterns of globalization for new ventures in developing countries. It can provide new ventures with meaningful guidelines for growth and globalization with a dynamic perspective.

INTRODUCTION

Knowledge-based economy in the new millennium has been characterized and accelerated by entrepreneurship and the creation of new ventures, the central forces of technological innovations to create new industries and change existing business environments. Witnessed the recovery of US economy from the economic decline during the 1980s and the value creation of start-ups, especially in the information and communication technology (ICT) sectors in the Silicon Valley, policy makers have set a variety of policies to foster entrepreneurship in their countries. There are some successful emerging regions, such as Taiwan, Israel, and India, where entrepreneurship

is flourished and they have contributed to the regions' development. The Korean government also has tries to promote entrepreneurship to change Korean economic structure dominated by large conglomerates, known as *Chaebols* like Samsung, Hyundai, LG, and SK, since the late 1997 when economic crisis had shaken in some Asia countries. Under the supportive policies of the Korean government and extensive restructuring of large and small existing firms, many new ventures have been created by entrepreneurs who are motivated by the financial and non-financial factors (Bae et al. 2000; Lee 2000).

To identify and pursue promising business opportunities is one of the key entrepreneurial processes both for entrepreneurs and managers of incumbents to gain higher performance and grow continuously in the competitive environment. Entrepreneurs have been seeking business opportunities for great success and also incumbents have searched and diversified into the new promising businesses for the continuous growth.

While there is increasing interest in entrepreneurship, there are relatively little studies investigated the different patterns of the new ventures' strategies to seek business opportunities related to performance and growth, especially opportunity pursuing behavior of new ventures in developing countries. Also there are little researches on the different strategies of new ventures in advanced countries and developing countries. Historically new ventures in the advanced countries have been recognized as sources of innovation to move technological frontiers and fundamentally influence on the competitive environment by creating new industries and disrupting existing ones. Also new venture in developing countries have a disproportionate importance to the national job creation and economic development. Despite the significant roles and contribution to their local economies, new ventures in developing countries have pursued different business opportunities of new ventures in advanced countries because of the differences in technological capabilities of new ventures and the characteristics of environmental and market where new ventures are located in.

The key research questions in this paper are as follows. What types of new ventures strategy, especially in the high-tech industries of developing countries, exist when they seek and pursue business opportunities? Are there any differences in venture strategies between developing and developed countries? Are there any relationships between strategic types in pursuing business opportunities and growth patterns of local new ventures?

Therefore, the purposes of this study can be summarized as follows: i) to develop an integrative framework to classify competitive strategies of new ventures in a developing country, ii) to examine differences of characteristics among new venture strategic types in terms of market characteristics, technological capabilities, and performance and iii) to identify growth patterns of strategic types for new ventures from a dynamic perspective.

This paper is composed of six sections. Following introduction (section 1), section 2 deals with literature reviews on new venture strategy

from previous studies. A conceptual framework is followed in section 3, by an integration of existing researches on entrepreneurship and the application of framework to growth of new ventures. While section 4 focuses on the exploratory case studies to address new venture strategies and growth patterns from five successful Korean new venture cases, sections 5 analyses and discusses the cases based on the research framework and questions. Finally this paper concludes with summary and suggests managerial implications for the new ventures to pursue opportunity-focus strategies in the global competition.

LITERATURE REVIEW

Researchers have regarded entrepreneurship as 'processes to pursue opportunity without regard to resources currently controlled' (Stevenson et al. 1994) and as 'organizational behavior based on strategic posture for pursuing opportunities' (Covin and Slevin 1991; Lumpkin and Dess 1996; Zahra 1993). In the entrepreneurial process, the creation of new organization and entry into new or existing product market are essential processes for recognizing where business opportunities are existed or created by entrepreneurs and thereby adopting appropriate competitive strategies to gain higher performance (Katz and Gartner 1988; Vesper 1990). In this paper, we reviewed the previous researches on technological innovation and internationalization from the viewpoint of new ventures. These two factors are important in recent business environment. Successive technological innovation accelerated by new ventures have generated numerous business opportunities and changed rapidly competitive environment.

Following Schumpeter's (1934) view of new ventures as sources of innovation and engines of creative destruction, researchers have investigated the characteristics of innovations and dynamic competition between new ventures and incumbents. Historically new ventures have pioneered new industries and displace incumbent firms with technologically superior products (Cooper and Schendel 1976; Tushman and Anderson 1986; Henderson and Clark 1990; Utterback 1994). Despite the elusive definition of pioneers, a pioneer is the first company to introduce a product or technology to a market or a group of firms to entry into the early stage of product market development. The decision to be pioneers or followers is emphasized by the first-mover or pioneer advantages that pioneer can get many advantages that followers hardly have.

The most comprehensive theoretical framework on first-mover advantages and disadvantages came from Lieberman and Montgomery (1988). They proposed that first-movers advantages are derived from three sources: (1) technological leadership, (2) preemption of assets, and (3) buyer switching costs. They also suggested that late-movers may have advantages, first-mover disadvantages: (1) free-riding on first-mover investment, (2) resolution of technological and market uncertainty, (3) shifts in technology or customer needs, and (4) incumbent inertia to adapt to environmental change. There have been a number of conceptual and empirical studies on the

pioneering advantages in the strategy, marketing literature, and entrepreneurship fields (Covin et al. 1999; Golder and Tellis 1993; Kerin et al. 1992; Lieberman and Montgomery 1998; Robinson and Fornell 1985; Robinson et al. 1992; Schnaars 1994; Teece 1986; Zahra 1996; Zahra and Bogner 1999).

However, most of knowledge on pioneering advantages and disadvantages is based on the advanced countries or specific regions without global perspective. Also theoretical and empirical work has focused less on the competitive strategy in technology-follower firms in the developing countries. There are few studies on technology strategies of technological followers in developing countries (Cho et al. 1998; Forbes and Wield 2000; Hobday 1995; Kim 1997). Previous studies have shown that technological followers in the developing countries have accumulated their technological capabilities from production or manufacturing-based capabilities to product or design-based capabilities (Kim 1997, Forbes and Wield 2000).

Recently a number of new ventures have identified and pursued business opportunities in the global market beyond the local home market where new ventures are located from their inception. Previous researches in international business have focused on established and large multinational companies. A number of theories have been developed to describe and explain key characteristics of firms in international business (Hymer 1976; Caves 1982; Vernon 1966). One of them is the stage theory of internalization (Johanson & Vahlne, 1977, 1990) that firms progress incrementally from local firms to international business. However, these generally prior theories on international business can not explain the globally increasing phenomenon, the emergence of new venture that are international from inception (McDougall et al. 1994).

In the academic fields, there are also increasing interests on international entrepreneurship to describe the existence of new ventures. McDougall and Oviatt (1997) defined international entrepreneurship as "new and innovative activities that have the goal of value creation and growth in business organizations across national borders". Oviatt and McDougall (1994) suggested a framework to describe and identify different types of international new ventures distinguished by the number of value chain activities that are coordinated and by the number of countries entered. In addition to the lack of conceptual and theoretical studies on international new ventures, there were little empirical studies examined the characteristics of international new ventures and investigated the relationship between internationalization and new venture performance. McDougall (1989) found that international new ventures were different from domestic new ventures based on their strategies and industry structure characteristics. International new ventures can be distinguished by an emphasis on the distribution and marketing strategy and grand entry strategy in the higher intensity of international competition, contrast to domestic new ventures differentiated by emphasis on production expansion strategy and customer specialization. McDougall and Oviatt (1996) empirically and longitudinally examined the relationship between new venture performance and internationalization. They found that higher levels of

internationalization, measured by the percentage of foreign sales to total venture sales, were associated with higher relative market share and were not significantly related to the return on investment. They concluded that successful internationalization in technology-based new ventures seems to require simultaneous strategic changes.

Another empirical study shed light on the relationship between internationalization and growth of new ventures. Under the knowledge-based and learning views of international expansion, Autio et al. (2000) found that earlier initiation of internationalization and greater knowledge intensity were associated with faster international growth by using panel data from the Finnish electronics industry. They found that the earlier in their development ventured into international competition and the greater their knowledge intensity, the more rapidly they grew internationally. According to results, early venturing across borders allows new ventures to quickly identify business opportunities in the global markets, learn the necessary knowledge and competences for higher performance, and build positive attitudes toward survival needs in the competitive global markets.

Preece et al. (1999) examined influence of new venture's resources on the internationalization and global diversity of the markets measured by the number of major regional areas from which they derive revenue. Their study shows that resources necessary to pursue international sales have an important impact on both foreign market intensity and diversity.

More researches on international entrepreneurship are required to explore the importance of internationalization of new ventures whether they are 'born-global' or they progress internationally. To process researches on international entrepreneurship, researchers should pay more attention to develop theoretical frameworks and to conduct empirical studies to investigate diverse aspects of international entrepreneurship. Additionally, it is required to investigate that how new ventures in the developing countries pursue international entrepreneurship in the global context. Also researchers need to pay more attention to examine diverse relationships between internationalization, new venture's performance, and the growth of new ventures in the developing countries.

AN INTEGRATIVE FRAMEWORK TO CLASSIFY STRATEGIC TYPES FOR NEW VENTURES

The main purpose of this paper is to provide a conceptual framework to identify and classify diverse strategies for new ventures in pursuing business opportunities. Especially, this framework addresses to classify strategies of new ventures 'in developing countries' those might be different from strategies in advanced countries, links new venture's strategies to performance and growth patterns of local new ventures, and provides a perspective on how local new ventures compete and grow into global markets.

This paper provides an overview of framework and then illustrates characteristics of each strategic type. The framework introduces three dimensions as bases to classify strategic types: i) technological capability (follower vs. pioneer), ii) product-market maturity (existing vs. emerging), and iii) target market (local vs. global). Each of three dimensions is derived from previous researches.

The first dimension is the level of **technological capability** that a firm can improve and generate products and processes. Technological capability has been regarded as one of the most important factors on the performance of new ventures (Porter 1985). Innovators can generate new technological knowledge, and set global or industry standards by dominant designs, in contrast to the imitator that follow the technological trajectories initiated by innovators and improve the existing products. However, traditional categorization of firm into either innovator or imitator does not fully explain the dynamic situation of latecomers in developing countries, those are faced by more diverse business opportunities and follow more dynamic growth patterns to catch up global leaders.

The second dimension of the framework is the **product-market maturity**. Product-market maturity is related to the stage of product life cycle. Researchers conceptualized product-market life cycle stage as categorical variables that represent evolutionally characteristics of market (e.g., Levitt 1965; Rogers 1962). Prior researches have conventionally categorized the stage of product life cycle into four phases: introduction, growth, maturing, and decline (Anderson and Zeithaml 1984; Hambrick et al. 1982). These stages of product-market life cycle are associated with changes in competitive environment around the sources of competitive advantages (Anderson and Zeithaml 1984). New ventures with superior technological capabilities are apt to enter into early stages of life cycle that provide business opportunity to capture the new demand in fast-growing market. Many empirical studies consistently argued and supported that new ventures entered into the growing industries have higher performance than others into mature or decline stage (Covin and Slevin 1990; Eisenhardt and Schoonhoven 1990; Robinson 1999; Sandberg and Hofer 1987; Tsai et al. 1991).

One of important feature of technology-intensive industry is that the successive technological changes have shortened the product life cycles that existing products quickly become obsolete ones. Under these circumstances, it is needed to develop more appropriate schemes to classify product-market maturity. We divide product market into two markets according to the stages of development over time: emerging and existing market. Emerging markets used in this paper refer both introduction and growth stage of classic product life cycle and exiting markets indicate other stages, mature and decline.

To develop an integrative framework to classify strategic types, we had firstly developed a conceptual matrix of strategy in combination of the level of technological capabilities (follower vs. pioneer) and product-market maturity (existing vs. emerging). This strategic type matrix is similar to existing classification frameworks used in academic and practical fields. But this

matrix is useful to classify and assess the attractiveness of their businesses in 'one' geographical market. Even though a firm extends the boundary of market into global market, most of the competitors in the developing countries can be positioned in just one cell. It means that we cannot identify and provide different strategies by using this initial framework without considerations of geographical differences between local and global markets. Therefore, we added the third dimension.

The third dimension, **target market**, addresses where main customers of the new ventures are in and how many value chain activities are coordinated across different countries. The target market can be defined as the geographical scope of market that new ventures are willing to enter into. The boundary of target market competition can be simply divided into two geographical markets, i.e., local (or domestic) market and global (or international) market. Accelerating to the globalization and convergence of demand for high-tech products and services, new ventures have launched their businesses targeted for the global market from the inception. Empirical studies on entrepreneurship support that internationalization has positively related to the new venture's performance (McDougall and Oviatt 1996; Preece et al. 1999).

Figure 1 shows the research framework and strategic types of new ventures in a developing country. As shown in Figure 1, we put two matrices representing local (L) and global (G) markets respectively on the different heights. For example, 'L-I' means a local follower focusing on the 'locally' existing market while 'G-IV' means a global pioneer in the 'globally' emerging market.

FIGURE 1: Strategic Types of New Ventures: Projection of Two Different Competitive Markets

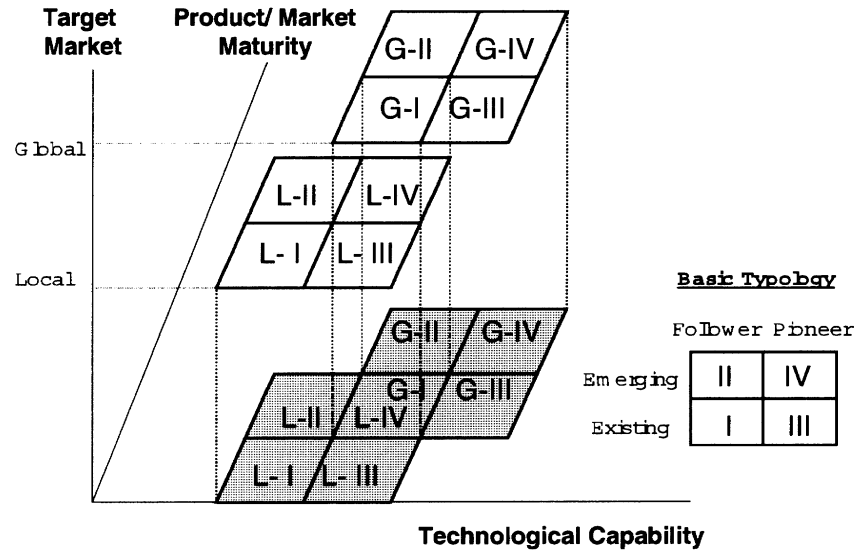


FIGURE 2: A Framework of Strategic Type Classification for New Ventures

		Level of Technological Capability			
		Global Follower		Global Pioneer	
		Local Follower	Local Pioneer		
Product/Market Maturity	Global Emerging		Early Market Entry	Global Innovation	
	Global Existing	Local Emerging	Proactive Localization	Creative Imitation	Global Niche
		Local Existing	Reactive Imitation	Import Substitution	

———— This indicates boundaries of the local market

———— This indicates boundaries of the global market

But these two matrices are not completely separated at a long distance because of the acceleration of internationalization and high-speed diffusion of new products in technology-intensive industries. As a result, the differences between global market and local market have reduced especially in terms of the introduction time of new products and technological capabilities. When we project two basic matrices along with target market dimension, as shown in Figure 1, we can develop seven grayed cells on the plane of technological capability and product-market maturity. Finally we can build an integrative matrix with three dimensions - technological capabilities, product-market maturity, and target market.

We assume that business opportunities exist in each cell and entrepreneurial processes for new ventures are to identify and pursue these opportunities in each cell. Figure 2 shows that there are seven different strategic types (cells) to seek and pursue business opportunities, such as i) *reactive imitation*, ii) *proactive localization*, iii) *import substitution*, iv) *creative imitation*, v) *global niche*, vi) *early market entry*, and vii) *global innovation*. To identify and assess business opportunities, we should consider the relevance among three elements of the framework to build new venture's strategies.

Some researchers have suggested the existence of many different strategic types of new ventures in diverse context (Birley and Westhead 1990; Carter et al. 1994; Covin et al. 1990; Gartner et al. 1989; McDougall and Robinson 1990; Sandberg and Hofer 1987). However, they mainly focused on strategic types in a single industry or the context of a specific country, which confines applicability to other situations in a global setting.

Also previous studies on strategic types adopted the cross-sectional approaches that have many implications for comparisons among different strategic types in terms of organizational characteristics, environmental contexts, and performances of new ventures. But it cannot explain the dynamic characteristics of new ventures, especially the patterns and paths of growth.

The framework suggested in this paper can overcome these limitations, and provides comprehensive perspective on strategic type for both local and global market. Using the framework, we can compare new ventures' strategic types within a single industry, among multiple industries, or furthermore between countries. Most importantly, we can explain the dynamic growth patterns of new ventures over time.

Seven Types of New Venture Strategy in a Developing Country

New ventures pursue different strategies and business opportunities in different competitive environment. Seven strategic types in terms of opportunity pursuing behavior, as shown in Figure 2, can be very helpful to explain how new ventures in different competitive market set strategies to develop organizational capabilities and get higher performance. Different characteristics among new venture strategies are summarized in Table 1.

1. Reactive Imitator

(local followers in the local existing market): Reactive imitators are representatives of traditional small and medium-sized enterprises (SMEs) that focus on the already existing market in maturity or decline stage of market development. They are very reluctant to invest their resources into R&D activities rather than mimic other competitor's products and services so that they do not have technological capabilities to improve and make innovations. Major profits are derived from low-cost productions.

2. Import Substitution

(local pioneers in the local existing market): The market is already established and customer's needs are explicit. However, multinational corporations (MNCs) with higher technological capabilities have most of the local market demands and traditional SMEs could neither produce the technologically sophisticated products nor have exiting knowledge base to imitate the products with similar qualities. Some local user firms and other potential customers of the existing imported products (or parts) may want to source low-price products, especially when they are competing in the global market based on cost advantages. The opportunity of import substitution exists in where local firms demand local suppliers with low-priced and comparably functioning products. For example, import substitution has traditionally been one of the key stages in the industrialization and development processes of high-tech industries in Korea. Government-supported research institutes have invested resources to acquire key technologies with major impacts on technological and economic development of the nation. Competitive advantage, when new technology-based firms (NTBFs) pursue import substitution, depends on unusual technological abilities to make products with the at least similar quality and lower than competitors and the ability to attract and maintain reliable customers to be benefited from reducing costs.

3. Proactive Localization

(local followers in the local emerging market): Technological and market uncertainty are the common and unavoidable risks that all of firms would like to reduce. If a firm can reduce one of the two risks in business, the business opportunity is more attractive than others. When new ventures rely on the import of key products and technologies from the foreign firms through formal channels such as licensing, some local firms might try to localize them. These local firms adjust the core products and technologies to meet the needs of local customers. Because core technological capabilities are relied on foreign suppliers, these firms cannot change the key features of products. To enter into the emerging and early stage of market development, however, they would take market risks that none could guarantee the demands of such products and services in the local market, even though the global market already exists and is growing in the global market. The performance and growth of new venture in these opportunities depends on the potential demands and growth of local market. Also the timing of entry of other firms

into same market can affect on the performance of new ventures.

4. Creative Imitation

(local pioneers / global followers in the local emerging / global existing market): One of the distinctive characteristics of strategic type matrix is that there are business opportunities on the interaction of different geographical competitive market. Firms of creative imitation type can participate in both geographical markets – global and local markets, contrast to other local new ventures focusing on the local market. We can divide creative imitation into two phases according to the target market of new ventures. Creative imitation I (local pioneers in the local emerging market) just focuses on the local market, contrast to creative imitation II (global followers in the global existing market). The criteria to classify new ventures depend on the internationalization status of new ventures.

New ventures to pursue creative imitation have technological capabilities in the emerging industries in the local market. Also they are global followers in the globally existing market, although other local new ventures hardly to enter into global market. Creative imitators differ from import substitution because they are in the emerging industries and boundary of competition is the global market. They have similar technological capabilities to those of import substitution type in the locally existing market, and face higher market uncertainty because they pursue globally existing but locally emerging market. The competitive advantages of creative imitation type generally count on the first-mover advantages and technological capabilities in the local market and follower advantages in the global market.

5. Global Niche

(global pioneers in the global existing market): The typical pattern of industry evolution for competition is to shift from nonprice to price competition (Utterback 1994). As product becomes more standardized and the market comes to saturate, small number of firms survived from the intensified competition dominate in the market through high volume and low cost based on the mass production and sustain their positions protected by the higher entry barriers due to increasing capital requirement and complementary assets. But these firms cannot satisfy with all of needs of in demands. The key feature of specialization business is technological differentiation. In addition to the supply of key components to incumbents, new ventures can serve and satisfy small and segmented niche markets very well and command a price premium. The focus of competitive activities of global market players is enhancing technological capability needed to serve the products in the particular areas. There are business opportunities for new ventures with unique technological capabilities, because other global leaders neither have incentives to enter into these markets where the slow growth rates and small size are unattractive nor have technological capabilities to supply specialized products satisfied with customers specific requirements.

6. Early Market Entry

(global followers in the global emerging market): Technological changes have been accelerated by successive innovations and the shortened product cycles. In the emerging industries, the introductory and growth stage of life cycle, there are a number of competing technologies developed by global innovators and variety products with different functionality. Although these firms may not have the highest level of technological capabilities, they can understand the trends of technological and market changes in the future and implement business strategies quickly. Their technology strategies focus on the timely commercialization of products in combination with the existing knowledge base and new ones without regard to the boundary of firms and geographical markets. Only new ventures with significant technological capabilities can follow up the rapid technological changes in the global market. The competitive advantages of this type are derived from the timing based on the global market. As market development progress, the opportunities in the emerging market will be reduced.

7. Global Innovator

(global pioneers in the global emerging market): New industries are created through the invention and commercialization of new technology and through the application of existing technology to the new products. New ventures have played a central role to create new markets and sources of innovations. The early stages of technological development typically involve competition between different technologies and different design configurations. In a new industry, the essential condition for being able to compete is to possess the technology and knowledge necessary to produce the products or services. The distinguishing characteristic of technology-intensive industries, especially information technology sectors, is the importance of technological standards to compete with other products, firms, and technological community. The global innovator can set their technological specification as platforms, dominant designs, and industry standards through active participation in the international technological community. The success of pioneers depends on the (i) sustainability of first-mover advantages, (ii) emergence of competing technologies, (iii) complementary assets, and (iv) entry timing of competitors.

TABLE 1: Characteristics of strategic types in a developing country

Strategic Types Characteristics		Reactive Imitation	Proactive Localization	Import Substitution	Creative Imitation	Early Market Entry	Global Niche	Global Innovation
		Product-Market	Market attractiveness - Growth potential - Market size	Low Moderate	Moderate Small	Low Moderate	High (Moderate) Small (Large)	Very high Small
Market uncertainty	Low		Moderate	Low	Moderate	High	Moderate	Very High
Technological Capability	Level of technological capabilities	Low	Low	Moderate	Moderate	Moderate	High	High
	Level of R&D investment	Low	Low	Moderate	Moderate	Moderate	High	High
	Technological cooperation partners	-	License from global firms	Local Partners	Local partners Some global partners	Global partner	Global partner	Global partner
	Priority of R&D	-	-	Cost reduction	Quality Cost reduction	Entry Timing NPD	Quality	Entry Timing
Boundary of Target Markets								

Notes: 1) NPD means new product development.

2) The parentheses explain the characteristic of the second phase of Creative Imitation.

CASE STUDIES OF FIVE SUCCESSFUL NEW VENTURES

To identify meaningful venture strategies in seeking and pursuing business opportunities and investigate relationship among strategic types, performance, and growth patterns of new ventures, we conducted case studies on five successful Korean new ventures in diverse product/market sectors and traced their growth histories from the inception to recent years. Firms were chosen to represent different strategies and growth paths to pursue business opportunities across different product/market sectors over their histories. Case studies in diverse sectors can be useful in investigating how each firm has grown in other context and in comparing similar strategies in the different competitive environments.

Samples and Research Methods

All case firms are publicly held and listed on either the Korea Stock Exchange (KSE) market or the Korean Securities Dealers Automated Quotation System (KOSDAQ) market similar to NASDAQ in the United States. All firms are

hardware-based manufacturers in extremely competitive technology-intensive industries characterized by the high rates of technological changes.

Each case was developed by in-depth interviews with founders and top-level managers involved from its early stage and the analysis of archival data, such as articles in specialized magazines and prospectus for investors. We focused on the patterns of pursuing business opportunities, internationalization processes, and the performance of new ventures over time.

All of five cases in this paper are technology-based Korean new ventures that are less than 15 years from their inceptions. Although ages are older than eighth years generally used in prior empirical studies, it is appropriate period to examine new venture's growth longitudinally. All firms have established and pursued business opportunities when Korean economy was dominated by large conglomerate, known as *Chaebols*, in the late 1980s and early 1990s. It was before the explosive creation of new ventures since the late 1990s. The history and growth strategy of these firms have shown how local new ventures have succeeded and grown in the extremely competitive technology-intensive markets.

This exploratory case study investigated based on the framework of three dimensions: technological capabilities, product/market maturity, and target market. Technological capabilities are measured by the intensity of R&D in terms of human resources and investment in last three years. Product/market maturity refers to the stage in product life cycle. Target market is measured by the intensity of internationalization (ratio of export to total sales) and the number of foreign subsidiaries. Finally, venture performance was measured by total sales, average sales growth rate and return on assets (ROA) in last three years. Also growth strategies were classified based on the business history of each firm, considering time periods that each firm was in business and the technology and market conditions at that time.

Case 1: Firm P (PCS)

The development history of Firm P founded by an entrepreneur and four team members in 1992 shows that how local new venture has seized business opportunities in the emerging markets, especially from pager to CDMA-based mobile handset. The mobile telecommunication market of Korea has explosively grown in the 1990s and now become one of important global markets. Under the process of liberalization and reforms in Korea telecommunication market in 1990s, the Korean governments licensed new telecommunication services providers to enter into these markets in 1992, including wireless paging service and personal communication service (PCS) based on the commercialization of digital mobile technologies.

With the entry of newly licensed paging service providers, the number of subscribers to these services was dramatically increased from 1.45 millions in 1992 to 15 millions in 1997. In addition, the competitive environment was

attractive for start-ups to gain high performance in the market because of late entry of large and other firms. Firm P has developed many pagers with diverse functions with modern design favored by young customers in the market. They have served rapidly changing customer's needs into new products. During these periods, Firm P has also rapidly grown into one of successful pager producers and also exported their pagers.

However, the prospect of pager market was not long due to the introduction of PCS services launched in the second half of 1997. Many Korean customers started to change mobile telecom service from wireless paging for one-way communication to cellular and PCS services for real time communication. At that time, all Korean handset manufacturers have to pay royalties for the usage of key technologies and components to QUALQUAM, the US-based global pioneer in digital mobile telecommunication market with patents on CDMA technologies. Firm P entered into PCS mobile handset market and supplied their products to PCS service providers. However, it was difficult for new venture to enter into domestic mobile handset market dominated by large firms like Samsung, LG, and Hyundai. In 1998, Firm P established a strategic partnership with Motorola, one of global leaders in the telecommunication market, in order to supply CDMA mobile handset for local and global market.

Case 2: Firm T (Telecom)

Firm T was founded in New York by an entrepreneur with an MBA degree from MIT in order to offer simple business system integration services to Korean clients in 1990, and has grown to the leader of computer telephony integration (CTI) market in Korea. The first business opportunity of Firm T was influenced by the Jewish neighbors in New York who have been developing information technology (IT) solutions. For the first few years, Firm T introduced fax information searches and the auto-editing of fax message into Korea but had little growth as the Korean economy dominated by large conglomerates.

Gradually, Firm T has provided advanced hardware and software solutions to telecom and banking giants in Korea. They initially customized emerging products in the advanced countries for the Korean customers. Their main products were voice and fax messaging systems for large firms, including telecommunication firms, in order to satisfy their customer's needs with the advanced tools.

Since the mid 1990s, there were increasing demands of advanced telecom solutions for customer satisfaction in many sectors, such as telecom, bank, and insurance, and retailing sectors. In the emerging market, Firm T could grow rapidly in this market where competition was intensified by the late entry of numerous start-ups and large firms. Along conducting many projects with advanced imported products, Firm T continuously developed their own solutions, for example, voice messaging solution (VMS), faxing messaging solution (FMS), and other business intelligence systems, based on computer

telephony integration (CTI) technologies.

The total sales of Firm T surged more than tenfold just in three years from 5 billion won in 1996 to 55 billion won in 1999. Firm T also established its first foreign subsidiary in Thailand to grow into global market.

Case 3: Firm C (CNC Controller)

Firm C was found in 1988 by spin-off of engineers who earned Ph.D. in mechanical and electronics engineering from Korea Advanced Institute of Science and Technology (KAIST), the research-oriented graduate school of applied science and engineering, in order to substitute key industrial products imported from advanced countries. They started up the company with the ambition to localize of CNC machine tools. At that time, FANUC in Japan, a global leader in CNC controller market, dominated more than 60% of global market and about 90% of Korea's CNC controller market. There were no firms with technological capability to support the needs of domestic customers and compete with global giants.

The entrepreneurial teams aimed to localize and substitute products mainly imported from advanced countries by the commercialization of technologies that they had learned at KAIST. Firm T first developed a CNC Index Controller and concentrated on CNC controllers. It was hard for local new ventures to penetrate domestic and global market. Turbo-tech succeeded in manufacturing this item and grew in the domestic market.

In 1999, Firm T has grown to 248 employees with sales of 41 million. Recently the company diversified into information technology sector based on accumulated technology on precision and mechanical engineering. Also it served as a leading firm in domestic market to localize key component of mechanical fields cooperated with other companies and academic universities.

Case 4: Firm A (ASIC)

Firm A was founded in 1989 and has become a very successful new venture by timely adapting technological and market changes. It was also founded by an entrepreneur and other six graduate colleagues majored in electronic engineering from the Seoul Nation University, one of best universities in Korea. The entrepreneur of Firm A started a new venture to utilize technological knowledge learned from university in the market and to build technology-based new ventures in Korea.

These teams had confidence of their technological capabilities but they could hardly make money in the early stage of operation. Its first product was factory automation systems and industrial products, like microprocessor development system (MDS). In the early stage of development, Firm A conducted many R&D projects to experience their technological capabilities and finance for operation. Because venture capital market was

underdeveloped at those times in Korea, they had problems to finance sufficient funds for product development and operation.

In 1992, Firm A developed a technologically advanced new product to recognize matters and gauge the precision by using imaging process technologies. It was an innovative product and was awarded several prizes by its technological achievement. Contrast to the technological superiority, they did not succeed in the market and faced a number of problems such as, difficulty to penetrate into local market dominated by large local firms, insufficient R&D and operating funds. Entrepreneurial team were unsatisfied with the deepen gap between the knowledge of academy and the needs of industry. They learned that technological superiority does not automatically bring market performance and the understanding customer needs are very important for success.

By the way, digital technologies have been emergent and related markets have been gradually emerged since the early of 1990s. Firm A noticed that its core technologies could be applied to these emerging markets. They introduced first product based on the ASIC technologies, karaoke machine for home in 1992, and selected digital home appliances as its core businesses. It also developed the world's first CD-karaoke products in 1994 and video CD players in 1995, applying its CD-Rom technology and exporting video CD players to China in 1995.

Again, Firm A decided digital set-top boxes for digital satellite broadcasting as the next key product related to digital multimedia. Digital set-top boxes have been very popular in the Europe, while no markets in Korea. Firm A developed and shipped its set-top box in 1996 and established its first foreign subsidiaries, a manufacturing factory in the United Kingdom for targeting markets in the Europe in 1997. It expanded its foreign subsidiaries into the Germany and established a joint venture with Samsung Electronics, global leader in the DRAM industries, in the Silicon Valley in 2000.

The performance of the Firm A has increased skyrocketed since it entered into and focused on the globally emerging digital set-top markets. It also grown to sales of 140 billion Korean won (about 123 million US dollar), most of sales (99%) from foreign markets, especially in the Europe. Its sales have recorded a explosive growth rate just within 3 years from 14 billion won in 1997 to 140 billion Korean won in 2000 when most of large firms and general SMEs have been in problems from the economic crisis in Korea since 1997. Export of Firm A reached \$100 thousand in 2000, and Firm A became No. 1 leader in terms of export volume among all Korean venture firms.

Case 5: Firm M (Medical) ¹

Firm M spun off from KAIST is one of the most successful high-tech ventures in Korea. Firm M was established by seven graduate students and technicians

¹ The growth history of Firm M was also developed on other studies (e.g. Kim 1997; Lee 2000).

involved with a research project to develop ultrasonic scanner technology funded jointly by the government and a local medical equipment manufacturer for the purpose of substituting imported high-priced foreign products and serving growing demands in the local market. When the local medical equipment company decided to pull out of the project, the research team hardly found an alternative industry partner to provide more research fund and commercialized the result of projects.

In 1985, the team led by a key founder decided to start a new venture to commercialize their research projects into the market where domestic market is small, approximately 13 million US dollar size with about 20% growth rate and all ultrasound products in Korea were imported from Japanese firms. There were 15-20 firms mostly in advanced countries competed in global market, about 700 million US dollar size and growing at the rate of 15%.

The first generation products, in spite of technical unreliability, were largely linear-only types to meet the growing needs of the domestic market. The quality of successive products was gradually improved and Firm M's technological capabilities were accumulated from heavily R&D investment and continuous technological cooperation with local universities and other foreign research institutes to acquire state-of-art technologies. Also it acquired the ownership of *Kretztechnik*, an Austrian ultrasonic producer and one of the first firms to introduce ultrasonic devices. Based on the intensive efforts on technology development, Firm M progressively moved from linear-only models to more complex and sophisticated product markets and recently developed 3D and 4D digital ultrasound equipment first in the world.

To overcome the growth limitation of small local market, Firm M has expanded into the global market in the early stage of development. They exported first product to Turkey in 1987 when it was only two year later from inception. In addition, they continuously established foreign subsidiaries and exported their sophisticated products with lower prices to compete other global competitors. To penetrate into global market, they initially focused on the developing countries where there were customer needs for products with relatively low-prices products similar to Korea. Initially they focused on the developing countries and compete with global firms. Recently it has directly invested and expanded into global market from the establishment of its first foreign subsidiaries in the US in 1992. It aggressively established another ten foreign subsidiaries. Firm M have dramatically grown to 314 employees with sales of 212 billion Korean won (about 145 million US dollar), approximately 70% from exports. Although Firm M is still small company compared to the global competitors, it has successfully grown from a local high-tech venture to a global firm to pursue business opportunities continuously.

Summary of Cases

Table 2 shows that how five case firms could successfully grow in the local and global markets. Also it summarizes general characteristics of each firm,

strategies for business opportunities and performances, and growth patterns. In the following sections, we will describe competitive strategies and growth patterns of each case firm.

ANALYSIS AND DISCUSSIONS

Based on the framework and case studies, this paper identifies seven new venture strategic types and several growth patterns. These static and dynamic perspectives help us to understand how local venture firms become global venture firms.

Strategic Types and Performance of Local High-tech Venture Firms

One of the important problems faced by entrepreneurs and entrepreneurial teams is to find and assess the promising business opportunities. Three dimensions used in the framework are regarded as key determinants of new venture performance, as discussed on early section. It means that new ventures have chance to get higher performances by entering into emerging market rather than existing market, expanding their market to global market beyond local area, and building superior technological capabilities to competitors. When we apply above argument to a framework suggested on this paper, 'global pioneer' is the most attractive strategies in the global market if new venture have sufficient capabilities to compete and 'creative imitator' is another attractive one in the local market.

TABLE 2: Summary of Strategies and Growth of the Korean New Ventures Cases

	Firm P	Firm T	Firm C	Firm A	Firm M
Characteristics of Firms - Founding year - CEO	March 1991 Founder/Owner	July 1990 Founder/Owner	April 1988 Founder/Owner	February 1989 Founder/Owner	May 1985 Founder/Owner
Target Business Market	Mobile Handset Manufacturer	IT-based solution	CNC controller	Digital Set-top Box Manufacturer	Electronic Medical Equipments Manufacturer
Current Strategies for Business Opportunities	Creative Imitation	Creative Imitation	Import Substitution	Early-Market Entry	Global Niche
Growth Strategies & Major products	Creative Imitation (91~96) - Pager Creative Imitation (97~) - CDMA mobile handset	Proactive Localization (90-93) Creative Imitation (94-97) - VMS, CTI Creative Imitation (98-) - IT-based applied solutions	Import Substitution (88-) - CNC controller - Applied Industrial System	Import Substitution (89~91) - Industrial products Creative Imitation-I (92-94) - digital home appliances Creative Imitation-II (94~95) - digital home appliances Early-Market Entry (96~) - digital set-top box	Creative Imitation-I (85~86) - linear ultrasound scanner Creative Imitation-II (87~91) - linear/sector/ convex ultrasound scanner Global Niche (92~) - digital ultrasound scanner
Technological capabilities - Ratio of R&D employees - R&D investment	23% 6%	38% 6%	20% 17%	45% 11%	32% 9%
Internationalization - Export ratio - Growth rate of export sales - Foreign Subsidiaries	14% 62% None	12% 127% One in Thailand	None None None	69% 535% 4 subsidiaries	68 % 40% 11 subsidiaries
Performances - Sales (1999) - Sale growth - ROA - # of employees (1999)	227 billion Won (189 mil. US\$) 240% 4% 433 employees	55 billion Won (46 mil. US\$) 76% 17% 164 employees	41 billion Won (34 mil. US \$) 67% 10% 248 employees	54 billions Won (118 mil. US \$) 95% 3% 113 employees	212 billion Won (177 mil. US \$) 33 % 9% 314 employees

Note: The export ratio, sales growth, and ROA of new ventures are the average of last three years from 1997 to 1999.

All new ventures do not have same choice set of business opportunities, because new venture's strategy depends on its technological capabilities. It indicates that, while some product-market seems to be attractive, new ventures cannot pursue such business opportunities without relevant technological capabilities. When the firms in the position of local followers (such as *reactive imitation*, *proactive localization*) have accumulated continuously technological capabilities to sufficiently compete in the global market, these new ventures can pursue the strategic types of *import substitution*, *creative imitator*, or *early market entry* in the framework. Above three strategies are based on the similar level of technological capabilities but positioned on different maturity levels and target markets.

The performance of each strategic type differs each other depending on risks underlined on technologies and markets that new ventures are pursuing. The performance of new venture can be explained by the trade-off relationship between risks and returns from risk-taking. The higher risks the more returns, and the lower risks the less returns. If new ventures are taking higher risks, they are competing severely for more returns. New ventures in diverse international market countries should challenge higher risks that new ventures in local home market. Generally new venture focusing on only local market would have lower risk than global ventures with higher uncertainty. Also emerging market is more risky that existing market because of uncertainty on customer needs and unpredictable demands of new products.

Growth Patterns along Strategic Types of New Ventures

Based on the framework of the paper, we can understand dynamic growth patterns of new ventures. Growth pattern of new ventures can be understood as the process to search and pursue new opportunities continuously, in the different technology and market situations. In this paper, two types of growth patterns are identified through case studies. One pattern is the '*growth through strategic replication*' that seems to stay in a specific cell, such as Firm P and Firm C. The '*growth through strategic replication*' does not mean that new ventures do nothing to compete in the market because the technology and market conditions are changing. It means that new ventures pursue similar strategies even if they pursue new market that have similar characteristics of previous market in terms of three dimensions: technological capability, product-market maturity, and geographical target market. Firm P case shows this '*growth through strategic replication*' pattern that it moved from pager market to digital mobile handset market according to product maturity. Firm P has successfully grown into mobile handset manufacturer, while it seems to stay in '*creative imitator*'.

The other pattern is '*growth through strategic change*,' that can be found at Firm A, Firm T, and Firm M. New ventures can pursue more attractive

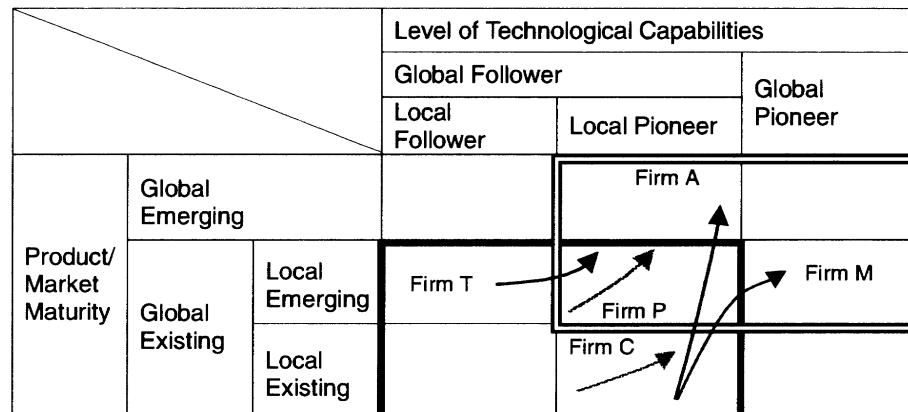
business opportunities by accumulating technological capabilities and changing their product and target markets. New ventures that are willing to grow generally change their product markets from saturating ones to prospering ones, accumulate more technological capabilities, and enter into other geographical markets beyond specific regions and countries. The firms of this growth pattern move along the cells in Figure 2. For example, local new ventures can grow from *import substitution*, through *creative imitation*, to *early market entry*.

Many different growth patterns of new ventures can be resulted from complex combinations of the initial strategy and current strategy within a framework. When a new venture grows through strategic change, the direction of growth may be related to the attractiveness and risk of business opportunities as mentioned above. This means that new ventures adopting the 'growth through strategic change' pattern may take more risk to move toward *creative imitation* in the local market and *global pioneer* in the global markets.

The growth pattern of new ventures is one of the interesting topics of entrepreneurship research. For example, if new ventures in local market grow into global market, it can follow two processes from local market to global market. By positioning there from inception or moving from other strategies. The first process is the migration to the 'Creative Imitation' that are stepping stone or a gateway between two different competitive markets. After first process, new venture basically become international new ventures to compete in the global market. These firms can pursue one of venture strategies in the global market, such as *creative imitation*, *early market entry*, *global niche*, or *global innovation*. These firms should change most of organizational characteristics to the global level including the coordination of productions process and sourcing of necessary resources like financial and technological resources.

Figure 3 depicts the dynamic patterns of strategic changes for five case firms. We can observe that some firms (Firm A, Firm P, and Firm T) move along the product/market dimension [*market-oriented growth pattern*], while others (Firm M and Firm C) move along the technology capability dimension [*technology-oriented growth pattern*].

FIGURE 3: Different Growth Paths of Case Venture Firms



There are many factors affecting on the growth patterns and the speed of change in new ventures. Based on case analyses, this paper derives following three factors as important determinants of growth patterns. First, ***the initial conditions of new ventures*** can affects on strategy selection and future growth directions. The firm will decide the initial strategy based on the market condition such as domestic and global market size and growth potential as well as its technological capabilities. As strategic change is hard to manage, growth strategy of new ventures can be affected by initial strategy and conditions.

Second, ***entrepreneur's management ability*** of the venture firm can affect on the choice of strategic types and growth pattern. According to existing entrepreneurship studies, the characteristics of founders and founding teams are very important in anticipating the success of new ventures. Founding teams' experiences in the related industries, educational and organizational background, the ability to understand market, and vision and other management capabilities can influence in deciding growth patterns of the firm.

The third factor is ***technology strategy and efforts to accumulate technological capabilities***. Contrast to the initial or founding conditions given from the inception, this dimension depends on the strategic choices and learning process of new ventures. There are numerous elements of technology strategy, like level of R&D investment, acquisition and implementation of core technologies.

Although these observations are based on the limited number of cases and need to more structured analysis, they give useful managerial implications for high-tech new ventures.

SUMMARY AND CONCLUSIONS

The main purpose of this paper is to provide a global framework for new venture strategies and growth patterns in pursuing different business opportunities. Different from previous research focused on an industry- or country-specific context, we developed comprehensive framework with an integrated viewpoint of local and global markets. Three factors were used to classify new venture strategies - technological capability (follower vs. pioneer), product-market maturity (existing vs. emerging), and target market (local vs. global market). We classified seven different strategic types and described the characteristics of each venture strategy. It provides that local new ventures with proper technological capabilities can pursue business opportunity in the global context as internationalization progresses.

We also analyzed five successful Korean new ventures to investigate their different competitive strategies and growth histories over time. Using a framework suggested on this paper, each case shows that how case firms have survived in the local market and grown into the global market. Also we identified two different growth patterns of strategy: strategic replication or strategic change within the framework. The growth patterns and the speed of changes of successful new ventures vary according to i) initial conditions of the firms such as domestic market size, ii) entrepreneur's management ability and iii) the degree of technological efforts of the firms for capability accumulation.

It is also found that 'creative imitation' type is very important as a stepping-stone and a milestone for globalization. When new ventures in a developing country grow through strategic change, the preliminary results show two-step growth pattern – i) from migration to 'creative imitation' in the local market and ii) transition from 'creative imitation' to the global player in the global market – is the most reasonable growth strategy to become a global venture.

As this study is an exploratory one, it has many limitations to develop more theoretical and practical framework. Most of all, we should develop more refined research models with hypotheses from the static and dynamic viewpoints. In addition, empirical studies with more samples on diverse settings are needed.

Future research could focus on the development of more extensive theories on new venture strategy and growth. The empirical test on the strategic types and performance will contribute to explain which competitive and growth strategies are attractive in a given local or global market. Also this study can be extended into the comparison among different countries. This study can serve as a starting point to compare and examine the differences of new venture strategies and growth patterns among countries.

Despite of limitations, this study gives several managerial and policy implications. The framework of new venture strategic type can help venture firms to formulate right strategies in a given situation and to find appropriate growth strategies. Especially, this study shows the some growth patterns into the global market for new ventures in a developing country. It can provide new

ventures in the local market with meaningful guidelines for growth and globalization. Also it can be useful to understand the characteristics of business opportunities for new ventures in developing countries, competitive environment when each firm seek its opportunities, build competitive strategies with performance, and set their growth direction and strategies. Finally policy makers should consider dynamic characteristics derived from this study when they build diverse policies to support and promote entrepreneurship in each country.

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