

The Early Internationalization Effects of the Korean High-tech Born Globals*

Soon-Kwean CHA** · Bo-Yeon MIN*** · Yoon-Sik SHIN**** · Min-Ho KIM*****

Abstract

This paper provides evidence on the born global phenomenon with the high-tech firms originating in Korea, which is characterized as a small open economy with limited domestic market. We survey 37 high-tech born global firm and show that the entrepreneur factor, which is considered important for the early internationalization of ventures, has little impact for the high-tech firms in a small domestic market. Only the enterprise factor has a meaningful influence for the international performance of these firms. Thus, the government policy to support the venture firms should be made to sharpen the competitive advantages of these firms. We also confirms that the speed of internationalized has brought a positive influence on the performance of the high-tech born globals in Korea.

Key Words : born global firm, high-tech, speed, performance, internationalization

* 논문접수일 2011년 3월 10일, 게재확정일 2011년 4월 12일

본 연구는 학술연구재단과 한국산업경제저널에서 정한 연구윤리규정을 준수함

** Adjunct Professor, Department of International Trade, Chonbuk National University

*** Adjunct Professor, Department of International Trade, Chonbuk National University

**** Doctoral Candidate, Department of International Trade, Chonbuk National University

***** Professor, Department of International Trade, Chonbuk National University

I. Introduction

Recent decades have witnessed the rapid development of communication and information technologies which have contributed to reduce the international transactions costs and subsequently to synchronize the international markets. This has paved the road for new genre of firms called, 'born globals', which are pursuing rapid internationalization of their markets (Rennie, 1993; Oviatt and McDougall, 1994; Knight and Cavusgil, 1996, among others). While the traditional multinational enterprises (MNEs) have operated in home country for many years and gradually sought overseas business opportunities, born globals view the world as one market and develop the strategies that needed to conduct international business at or near their founding. The emergence of large number of born globals across different countries and different industries has been reforming the traditional way of international business and propelling the global economic growth (McNaughton, 2003; Knight and Cavusgil, 2004; Zucchella, et al., 2007).

Many of the previous born global studies have focused on the determinants of early internationalization and the superior performance in overseas business (Chang et al., 2007; Lee et al. 2007; Rhee and Park, 2009, Gabrielsson and Gabrielsson, 2011, among others)* Recently, a few studies have begun to consider the industry-specific and country-specific factors in exploring the drivers of early internationalization by born globals. For example, Fernhaber, McDougall, and Oviatt (2007) argue that young firms operating under the rapidly growing, knowledge-intensity, and highly internationalized industries are more likely to venture abroad at or near their founding. In a study of high-tech UK born globals Kudina, Yip, and Barkema (2008) report that they are forced to go international early due to the small UK market for their products. That is, the decision to be born global is their survival strategy, not a matter of choice. With these findings they argue that the rationale for the born global phenomenon might be different for firms originating in large market (such as the United States and Japan), medium sized market (such as UK), and small markets (such as New Zealand and Belgium).

Based on this rationale this paper analyzes the born global phenomenon with the high-tech firms in a small open economy with limited domestic market. Specifically, we

* See Cavusgil and Knight (2009) for a comprehensive literature review on born global firms.

survey high-tech born globals originating in Korea. We are particularly interested in observing whether the previously reported important drivers of early internationalization and international performance can still hold for the high-tech born global firms originating in a limited domestic market. Given they are forced to be born globals due to the industry-specific and country-specific factors, it would be possible that the previously reported factors might be less important. Therefore, the results of this study would provide further evidence on the determinants of early internationalization and accompanying international performance.

II. Research Design

1. Derivation of Hypotheses

Because born globals speed up their internationalization they strongly depend on the prior entrepreneurial experience in their internationalization process. (Oviatt and McDougall, 1994; Autio et al., 2000; Onetti et al., 2008). Mort and Weerawardena (2006) argue that the networking capability of entrepreneurs has made them identify and exploit the market opportunities, and facilitated the development of knowledge-intensive products in the international markets. They also find that the CEO's network ability of the born globals plays a central role to overcome the lack of resource, to facilitate the early internationalization, and to achieve higher international performance. Accordingly, it is hypothesized that the characteristic of entrepreneur is one of the main factors to influence the speed and performance of internationalization. The items to measure the characteristics of entrepreneur are CEO's overseas experience and/or education, networking ability, overseas-oriented mind, and risk perception.

H1-1: The characteristics of entrepreneur would affect the speed of internationalization of the born globals.

H1-2: The characteristics of entrepreneur would affect the international performance of the born globals.

Born globals lack tangible assets like manpower, capital, and equipment. Thus,

intangible assets like technology and knowledge would play more important roles in capturing international competitive advantage (Kundsen and Madsen, 2002). Especially, the born globals of high-tech industry would try to recover the costs including R&D expenses because their target markets are limited (DeneKemp, 1995). In addition, the abilities to procure resources (Ruzzier, et al., 2007) and to adopt proper strategies for allocating the resources to the specific situation (Besanko et al., 2000) are also critical factors that might affect the speed and performance of born globals' internationalization. Following the previous studies the enterprise characteristics are measured by the technology, R&D ability, resource procurement ability, and corporate strategy, and it is hypothesized as follows:

H2-1: The characteristics of enterprise would affect the speed of internationalization of born globals.

H2-2: The characteristics of enterprise would affect the international performance of born globals.

Even though every enterprise is affected by the external environments, the born globals may be more sensitively influenced because of their limited corporate resources, limited market size, and small numbers of products and/or services. One of the important external environment factors for the born globals is the host government's policy about ventures and overseas investments (Bell et al., 2003). Another key external factor for the born globals to seek the rapid internationalization is the condition of domestic market such as excessive competition and diminution of domestic market (Moen, 2002 Fan and Phan, 2007). Cultural and social difference between the home and host is another important factor for the venture internationalization (Mudambi and Zahra, 2007). Based on these prior studies, the external-environments are measured by the political factor, market size, trade barrier, cultural difference, industrial structure and location, and it is hypothesized as follows:

H3-1: The external-environment would affect the speed of internationalization of born globals.

H3-2: The external-environment would affect the international performance of born globals.

In relation to the performance debates Jolly et al. (1992) found that internationalized firms exhibit higher growth rates than do the domestic firms. The early internationalized firms show a positive association with higher profit (Bloodgood et al., 1996) and higher sales share (Autio et al., 2000) than their later internationalized counterparts. Stray et al. (2001) and Mort and Weerawardena (2006) also find that younger firms internationalize sooner than older firms and rapidly reach higher international performance. Accordingly, it is hypothesized that the speed of internationalization would have positive influence on the international performance of born globals.

H4: The speed of internationalization will positively affect the international performance of born globals.

2. Measurement of Variables

Existing studies on the born globals have attempted to measure the internationalization speed based on time. However, the length of time for internationalization from the inception of a firm differs depending on authors. In general, studies have defined the born global firms as the ones that have achieved internationalization within three to six years after the establishment (Oviatt & McDougall, 1997; Knight and Cavusgil, 2004; Zucchella, et al., 2007). Base on these studies born globals in this paper are defined as the ones that initiated overseas activities within six years from their establishments.

In the studies on the internationalization of organizations, corporate performance has been defined by the financial and non-financial outcomes such as sales volume, profit, and market share increases from abroad (Pickering and Sheldon, 1984). The export share to overall sales is one of the often-used methods to measure performance of internationalization (Gourlay and Seaton, 2003 Aspelund et al., 2007). Following the previous studies, the international performance of born global firms is measured by the financial and non-financial outcomes such as the sales volume, revenue, and market share increases which have been achieved from the international markets.

3. Data

To achieve homogeneous groups of born-global firms we confine our sample by the following criteria. First we obtain list of 448 IT (Information Technology) venture firms listed in KOSDAQ from the KisValue published by the Korea Information Service, Inc. The KisValue contains financial as well as general information about the firms so that we can obtain each firm's foundation year, first year of overseas activities, and types of overseas activities (export, FDI, and strategic alliance). Based on the information we select the firms that have any forms overseas activities within 6 years of the foundation.

We first tried to contact the export or overseas manager of each firm, and explained the brief purpose of this research, and then sent postal as well as electronic mails. About 2 weeks after the first mailing, we interviewed the managers by telephone for the firms that did not answer. Initially 95 completed responses were obtained, but 29 samples were dropped due to their insincere nature of answers. We also sort out the firm with less than 50% of export sales in order to analysis firms with similar nature in terms of internationalization. Finally 37 samples were used for the hypotheses tests as shown in Table 1. Most firms (25) are in electronic devices and semiconductor industries and the overall internationalization level as measured by foreign sales is about 65.75%.

<Table 1> Sample firms

<i>Industry</i>	<i># of firms</i>	<i>% of Internationalization</i>
Electronic devices	10	67
Semiconductor	15	75
Internet & Information	7	65
Telecommunication	5	56
Total/Average	37	65.75

III. Empirical Results

1. Factor and Reliability Tests

We first utilize the factor analysis for the five multi-item measures by the principal

component extraction process with Varimax rotation. A suggested measure of factor loading of 0.5 or greater is adopted as a criterion to examine the item reliabilities of all measures (Hair et al, 1995). As shown in Table 2, the measurement items are classified into the five independent variables as in the research model described in the previous section. The eigenvalues of all factors exceed 1.0, and about 80.24 percent of total variance is explained by these five factors.

The internal consistency reliability of the six factors is examined by the Cronbach's alphas. The alpha values of for all factors vary from 0.651 to 0.945 which are considered acceptable for this type of study (Nunnally, 1978). This reveals that the variables load properly on these five factors. The values KMO value and the sphericity of Bartlett also indicate the measurement items fit the suggested model.

<Table 2> Factor and reliability tests

variables	factors				
	external environments	enterprise	entrepreneur	performance	speed
political factor	.881				
market size	.781				
trade barriers	.712				
cultural difference	.702				
industrial structure	.628				
overseas networks		.892			
strategic capability		.837			
resource procurement		.812			
technology ability		.799			
R&D		.719			
abroad orientation			.817		
foreign experience			.623		
networking ability			.621		
financial performance				.819	
non-fin. performance				.748	
FDI					.812
export					.713
eigenvalue	6.312	2.290	1.204	1.114	1.091
% of variance	49.278	9.821	7.021	7.321	6.801
cumulative %	49.278	59.099	66.120	73.441	80.242
Cronbach's alpha	0.891	0.945	0.651	0.710	0.812
KMO				.891	
Bartlett's Test of Sphericity				718.234	

2. Hypotheses Tests

With the five factors a multiple regression analysis is utilized to test the hypotheses. The results are presented in <Table 1>. As shown in Table 1, the entrepreneur factor has little impact on the speed of internationalization (H1-1), and the same is true for the international performance (H1-2). The results contradict previous studies which have suggested one of the important drivers of born globals' early internationalization is the entrepreneur's overseas experience and/or overseas-oriented mind. The results support the conjecture that the high-tech venture firms operating in a limited domestic market are forced to be born globals, and thus the entrepreneur factor is less important as a driver of early internationalization and accompanying international performance.

<Table 3> Factors affecting speed and performance of internationalization

<i>Variables</i>		<i>Coefficients</i>	<i>SE</i>	<i>t</i>	<i>R</i> ²
<i>Dependent</i>	<i>Independent</i>				
H1-1	Entrepreneur	0.115	0.099	1.161	
H2-1	Speed	Enterprise	0.276	0.098	2.816***
H3-1		External Environment	0.255	0.096	2.656***
H1-2		Entrepreneur	0.163	0.106	1.536
H2-2	Performance	Enterprise	0.257	0.097	2.649***
H3-2		External Environment	0.141	0.110	1.282
H4	Speed	Performance	0.348	0.104	3.337***

Notes: ***stand for significance at 1%.

The enterprise characteristics significantly affect not only the speed but also the international performance, adopting both H2-1 and H2-2. The external-environment characteristic of firm turns out to have a positive influence on the speed of internationalization (H3-1). The external-environment factor, however, does not significantly affect the international performance (H3-2). The results suggest that the high-tech born globals surveyed in this study are affected less sensitively to the

external-environment factors in terms of their performance. This is probably due to the fact that they already achieved certain level of corporate performance as they are exchange listed ones. In other words, they are the successful firms overcoming harsh environments and intense international competition, and thus are less sensitive to the external-environment factors. The final hypothesis that the speed of internationalization would have significant influence on the international performance is adopted (H4). This confirms the previous finding that the international performance of rapidly internationalized firms would be higher than that of their less speedy counterparts.

IV. Conclusion

This paper provides evidence on the born global phenomenon with the high-tech firms originating in Korea, which is characterized as a small open economy with limited domestic market. The results show that the entrepreneur factor, which is considered important for the early internationalization of ventures, has little impact for the high-tech firms in a small domestic market. For the international performance only the enterprise factor has a meaningful influence for these firms. This implies that the high-tech born globals need to improve their capability, namely, the competitive advantage to maximize the performance once they have penetrated overseas markets through speedy decision making to internationalize. Accordingly, the government policy toward the high-tech ventures should also be focused on the enhancement of competitive power of these ventures firms. We also confirm that the speed of internationalized has brought a positive influence on the performance of the high-tech born globals in Korea. This encourages the corporate policy to pursue rapid internationalization, and government policies to support these firms.

Reference

- Aspelund, A., Madsen, T., and Moen, O. (2007) A review of the foundation international marketing strategies, and performance of international new ventures, *European Journal of Marketing*, 41, 1423-1448.
- Autio, E., and Sapienza, H. J. and Almeida, J. G. (2000) Effects of age at entry, knowledge intensity, and imitability on international growth, *Academy of Management Journal*, 43, 909-924.
- Bell, J., McNaughton, R., Young, S., and Crick, D. (2003) Towards an integrative model of small firm internationalization. *Journal of International Entrepreneurship*, 1(4). 339-362.
- Besanko, D., Dranove, D., and Shanley, M.(2000) Economics of Strategy 2nd, New York: J. Wiley.
- Bloodgood, J. M., Sapienza, H. J., and Almeida, J. G. (1996) The international of new high-potential US ventures: antecedents and outcomes, *Entrepreneurship Theory and Practice*, 21, 61-76.
- Cavusgil, S. T., and Knight, G. (2009) Born global firms: A new international enterprise. New York, Business Expert Press, LLC.
- Chang, S. Y., Kim, S. J., Song J. (2007) Network externalities and born global strategy: Factors influencing the timing of foreign market entry and the entry strategy of Korean online game business, *Journal of Korean Management*, 36(6), 1389-1417.
- Denekamp, J. G. (1995) Intangible Assets, Internationalization and Foreign Direct Investment in Manufacturing, *Journal of International Business Studies*, 26, 493-504.
- Fan, T., and Phan, P. (2007) International new ventures: Revisiting the influences behind the "born-global" firm. *Journal of International Business Studies*, 38(7), 1113-1131.
- Fernharber, S., McDougall, P. and Oviatt, B. (2007) Exploring the role of industry structure in new venture internationalization. *Entrepreneurship Theory and Practice*, 31(4), 517-542.
- Gabrielsson, M. and P. Gabrielsson (2011). "Internet-based sales channel strategies of born global firms." *International Business Review*, 20(1): 88-99.
- Gourlay, A., and Seaton, J. (2003) Export intensity in UK firms, *Applied Economic Letters*, 10, 471-477.
- Hair Jr, J. F., R. E. Anderson, et al. (1995). Multivariate data analysis: with readings, Prentice-Hall, Inc.

- Jolly, V. K., Alahutha, M., and Jeannet, J. P. (1992) Challenging the incumbents: how high technology start-ups compete globally," *Journal of Strategic Change*, 1, 71-82.
- Knight, G. A., and Cavusgil, S. T. (1996) The born global firm: A challenge to traditional internationalization theory, *Advances in International Marketing*, 8, 11-26.
- Knight, G. A., and Cavusgil, S. T. (2004) Innovation, organizational capabilities, and the born-global firm", *Journal of International Business Studies*, 35, 124-141.
- Kudina, A., Yip, G., and Barkema, H. (2008) Born global, *Business Strategy Review*, 19, 38-44.
- Kundsen, T., and Madsen, T. K. (2002) Export Strategy: A Dynamic Capabilities Perspective", *Scandinavian Journal of Management*, 18, 475-502.
- Lee H., Park, J., and Choi, Y. (2007) The motives and strategies of global expansion in born-global firms: cases of firms in the culture & content industry, *International Business Studies*, 18(2), 103-139.
- Mudambi, R., and Zahra, S. (2007) The survival of international new ventures. *Journal of International Business Studies*, 38(2), 333-352.
- McNaughton, R. B. (2003) The Number of Export Markets that a Firm Serves: Process Models versus the Born-Global Phenomenon, *Journal of International Entrepreneurship*, 1, 297-311.
- Moen, O. (2002) The born globals -- a new generation of small European exporters, *International Marketing Review*, 19, 156-175.
- Mort, G. S., and Weerawardena, J. (2006) Networking capability and international entrepreneurship, *International Marketing Review*, 23 549-572.
- Nunnally, J.C.(1978), 「Psychometric Theory」, Second Edition, New York, McGraw-Hill.
- Onetti, A., Odorici, V., and Presutti, M. (2008) The Internationalization of Global Start-Ups: Understanding the Role of Serial Entrepreneurs, Working Paper, Conference of the Academy of Innovation and Entrepreneurship, Tsinghua University, Beijing, China.
- Oviatt, B. M. and McDougall, P. (1994) Toward a theory of international new ventures, *Journal of International Business Studies*, 25, 45-64.
- Oviatt, B. M. and McDougall, P. (1997) Challenges for internationalization process theory: The case of international new ventures, *Management International Review*, 37, 85-99.
- Pickering, J.F., and Sheldon, I.M. (1984) International trade performance and concentration in British industry, *Applied Economics*, 16, 421-443.
- Rennie, M. (1993) Born global, *McKinsey Quarterly*, 4, 45-62.
- Rhee, J. H., and Park, T. K. (2009) Born global, international orientation, network frequency, international scope, international intensity, *Venture Management*, 12(1), 1-26.

- Ruzzier, M., Antoncic, B., Hisrich, R. D., and Konecnik, M.(2007) Human Capital and SME Internationalization: A Structural Equation Modeling Study, *Canadian Journal of Administrative Science* 24, 15-29.
- Stray, S., Bridgewater, S., and Murray, G.(2001) The internationalization process of small technology-based firms: market selection, mode choice and degree of internationalization," *Journal of Global Marketing* 15, 7-29.
- Zucchella, A., Palamara, G., and Denicolai, S. (2007) The drivers of the early internationalization of the firm, *Journal of World Business*, 42, 268-280.

한국 하이테크 본글로벌 기업의 조기 국제화 효과

차순권* · 민보연** · 신윤식*** · 김민호****

Abstract

본 논문은 좁은 국내시장과 개방경제 하에서 운영되는 한국 하이테크 본글로벌 기업의 조기 국제화 효과를 분석하였다. 37개의 하이테크 본글로벌 기업을 대상으로 조사한 결과 기존의 벤처기업을 대상으로 한 연구에서 조기 국제화의 주요한 원인 중의 하나로 거론 되어 온 기업가요인이 이들 기업들에게서는 큰 영향이 없음을 발견하였다. 기업요인만이 이들 기업의 국제화 성과에 의미 있는 영향을 주는 것으로 나타났다. 본 논문 또한 국제화의 속도가 국제화 성과에 긍정적 영향을 미치고 있다는 기존 연구의 결과를 한국의 하이테크 본글로벌 기업을 대상으로 확인하였다. 이러한 연구결과를 통하여 이들 기업의 국제경쟁력 향상을 위한 정책적 시사점을 도출하였다.

핵심주제어 : 본글로벌 기업, 하이테크 기업, 국제화 속도, 국제화 성과

* 전북대학교 무역학과 겸임교수

** 전북대학교 무역학과 겸임교수

*** 전북대학교 무역학과 박사과정

**** 전북대학교 무역학과 교수