



Born global firms: The differences between their short- and long-term performance drivers

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ABSTRACT

Globalization has triggered the emergence of a new breed of firms called “Born Globals” (BGs), firms that become international soon after inception. Unlike previous research, the present study distinguishes between BGs’ short- and long-term performance and argues that different drivers affect each type of performance. Data from 107 Israeli BGs shows that their short-term performance is impacted mostly by environmental (external) factors. In contrast, over the long run, internal factors become more crucial to BGs’ survival and success. These time-based differences have important theoretical and practical implications.

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1. Introduction

Forces of globalization have changed the global arena by reducing the advantages formerly restricted to multinational enterprises (MNEs), thereby enabling young and relatively inexperienced firms to enter the marketplace (Oviatt & McDougall, 1994). Changes in different aspects of the global environment have presented firms with both business opportunities and threats, which have influenced their operations and their survival (Mudambi & Zahra, 2007). One major phenomenon arising from these changes is that of the International New Venture (INV). The four generic types of INVs are based on a matrix. These types are differentiated by the coordination of value chain activities and by the number of countries involved. The most radical of the four types is the global start-up, a firm that coordinates many value chain activities across many countries (Oviatt & McDougall, 1994). The description of global start-ups closely matches another type of firm, Born Globals (BGs). BGs have received increased attention in the literature, especially with respect to the high level of risk embodied in their operations (Gabrielsson, Kirpalani, Dimitratos, Solberg, & Zucchella, 2008). Due to their dynamic environments, BGs must internationalize rapidly. Such rapid internationalization does not allow BGs to enjoy the advantages of accumulating market knowledge, which underlies stage models, therefore differentiating BGs from other types

of internationalizing firms (Chetty & Campbell-Hunt, 2004; Mudambi & Zahra, 2007).

The core characteristic embodied in the definition of BGs is the brief time that elapses between their inception and their first foreign activity (Knight & Cavusgil, 1996, p. 11). The brevity of this period creates a number of difficulties in internationalization for BGs. These are manifested through the risks associated with the process and their impact on BGs’ performance. While the relationship between gradually globalizing firms (GGs) and their environment and the impact of external and internal factors on their performance have been discussed (Sarkar & Cavusgil, 1996; Sousa, Martínez-López, & Coelho, 2008), similar efforts in the BG context are scarce (Almor & Hashai, 2004; Knight & Cavusgil, 2004).

Rennie (1993) was the first to identify and label this new breed of firms that respond to environmental changes through rapid internationalization. Further investigations have highlighted the role that several environmental changes play in the emergence of such firms. Developments in processing and communication technologies, accompanied by a growing trend of niche markets, have created a fruitful background for BGs’ appearance (Knight & Cavusgil, 1996). These trends, coupled with BGs’ relatively small size and inherent flexibility, have contributed to BGs’ growing presence in the marketplace (Knight & Cavusgil, 1996; Knight, Madsen, & Servais, 2004; Madsen & Servais, 1997).

The close resemblance between BGs and INV global start-ups led to the conjunction of both types in several studies. These studies focused mainly on understanding how such firms confront the risks associated with the internationalization process (Kuivalainen, Sundqvist, & Servais, 2007; Madsen & Servais, 1997; Moen & Servais, 2002; Rialp, Rialp, & Knight,

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2005; Svensson, 2006; Weerawardena, Mort, Liesch, & Knight, 2007). The main conclusion of these investigations is that BGs' unique knowledge creation is crucial. Specifically, it acts to minimize uncertainty *and* to provide added value for customers (Rennie, 1993).

A third recent research stream has addressed the subject of knowledge-intensive firms operating in a high technology environment (Bell, 1995; Burgel & Murray, 2000; Crick & Jones, 2000; Lee, Lee, & Pennings, 2001; McNaughton, 2001). The main characteristic of knowledge-intensive firms is their dependency on knowledge for creating competitive advantage (Nummela, Puumalainen, & Saarenketo, 2005). This research stream focuses mainly on relatively young and small firms operating under dynamic conditions. The similarity between these firms and BGs is based mainly on the environmental factors, which serve as triggers for the formation of both types (Knight & Cavusgil, 1996). Although BGs can be found across industries (Knight et al., 2004), they tend to originate more rapidly in high technology ones. Indeed, most empirical studies on BGs have sampled high technology firms (Almor & Hashai, 2004; Knight & Cavusgil, 2004; Laanti, Gabrielsson, & Gabrielsson, 2007; Mort & Weerawardena, 2006; Oviatt & McDougall, 1994). Nevertheless, while knowledge-intensive firms *and* BGs base their operations on the use of knowledge, they differ in the aim of that use. BGs' knowledge creation facilitates their rapid internationalization and enables them to manage the risks associated with foreign operations while creating competitive advantage (Knight & Cavusgil, 2004; Weerawardena et al., 2007). Therefore, BGs can be viewed as a sub-group of knowledge-intensive firms.

Compared to gradually globalizing firms (GGs), BGs are young firms lacking tangible and intangible resources, including the crucial resource of experience (Knight & Cavusgil, 1996; Rennie, 1993; Rialp et al., 2005). BGs have to confront risks and uncertainties associated with the foreignness of their target markets without having accumulated the experience and resources needed for internationalization (Zaheer, 1995).

Notably, previous research claimed that *prior* international experience of BGs' founders (i.e., from previous positions) can be used as a substitute for firm-level experience (Chetty & Campbell-Hunt, 2004). Nevertheless, while such experience can be used to reduce the liability of foreignness associated with internationalization (Zaheer, 1995), it cannot completely substitute for organizational experience. Given that such experiences were developed in different management, company, and environmental contexts, they can only be used in the new BG context to a limited extent (Freeman, Hutchings, Lazaris, & Zyngier, 2010). We found it useful to distinguish prior founders' *personal* experience from BGs' *organizational* knowledge (Nordman & Melen, 2008). Accordingly, we claim that BGs' more limited organizational experience and knowledge makes their internationalization process more uncertain and riskier than that of other types of firms. These added risks impact their performance and survival (Mudambi & Zahra, 2007).

Our research seeks to fill the gap regarding the potential influences of these factors by illustrating a model based on the organizational capabilities (OC) paradigm. The OC is considered most suitable since it emphasizes the linkage between firms' operations and their environmental conditions, a central aspect of BGs' operations (Knight & Cavusgil, 2004). The model explains the influence of several internal and external factors as a set of performance drivers affecting short- and longer-term international performance.

The paper begins with a literature review and presentation of our research hypotheses. We then describe the study designed to test these hypotheses and present its findings. A discussion of the findings and implications concludes the paper.

2. Theory and hypotheses

Sousa et al. (2008), in their extensive review of export performance determinants, describe the broad use of the resource-based view (RBV) and the contingency paradigm as bases for classifying external and internal determinants of export performance. These approaches differ in what they view as the key determinants of competitive advantage. While RBV claims that superior performance results from acquiring and exploiting the unique resources of the firm, the contingency approach focuses on environmental factors (Sousa et al., 2008). Both approaches have drawn criticism for being too narrow in their focus. Notably, RBV has been criticized for its "stickiness" – that is, its emphasis on *creating and sustaining* capabilities regardless of ongoing changes in market conditions (Knight & Cavusgil, 2004). Recognition that external factors influence firms' operations, thus impacting their internal factors, led to calls for a broader view that would encompass both aspects and created the foundation for the organizational capabilities (OC) paradigm.

OC, like RBV, recognizes the centrality of firms' internal capabilities in creating and maintaining competitive advantage en route to superior performance (Dierickx & Cool, 1989; Teece, Pisano, & Shuen, 1997).

The OC paradigm is innovative in the way it views firms' accumulated knowledge as a foundation for development of capabilities (Zander & Kogut, 1995). Stage internationalization models refer to internationalization as a *push* process according to which internal forces drive firms to engage in the global arena. In contrast, OC views this process as an interaction between internal *and* external factors, which makes internationalization a *push–pull* process (Mathews & Zander, 2007). According to the OC paradigm, firms can achieve performance-enhancing advantages by strategically managing their capabilities in terms of adaptation, integration, and re-configuration, in light of a changing environment (Teece et al., 1997). Since OC is based on the knowledge developed within firms, it has greater relevance in firms where such knowledge is created on a regular basis, such as BGs. Being small and flexible, BGs lack the bureaucracies that tend to hinder innovation within firms. Given their strong technological orientation, which encourages the development of new products based on innovation, and the unique dynamic conditions associated with their environment, Knight and Cavusgil (2004) concluded that OC is more appropriate for studying BGs.

BGs and international performance

Studies exploring BGs' performance have relied primarily on measures developed for the international operations of GGs. These have ignored BGs' unique characteristics (Gleason, Madura, & Wiggenhorn, 2006; Kuivalainen et al., 2007; Sapienza, Autio, George, & Zahra, 2006). First, BGs confront greater financial and operational risks than GGs, because they face both the traditional risks of internationalization *and* the uncertainty embodied in the introduction of new products (Knight & Cavusgil, 2004). Second, BGs need to achieve rapid growth in key national markets while facing constraints of low resources and limited previous experience (Knight & Cavusgil, 1996; Rennie, 1993). We aver BGs' international performance should be assessed in terms of survival and growth. These are especially crucial in the first stage of internationalization. Hence, many researchers advocate using measures to assess BGs' strategic outcomes (Aspelund, Madsen, & Moen, 2007; Gabrielsson et al., 2008).

Although BGs tend to approach several countries during the early years of their existence, the choice of the first target market can have a crucial impact on their strategic performance. This initial internationalism foray serves to create the knowledge base

and accumulation of experience which helps in enhancing performance in sequential markets (Gabrielsson et al., 2008; Moen, 2002; Moen & Servais, 2002). Accordingly, our study assessed BGs' short-term international performance through the strategic outcomes of their initial international operations.

Another performance aspect concerns the post-entry period and involves mid- to long-term international performance. Success in internationalization is influenced by the length of time needed for the process to develop. Post-entry performance should be measured after sufficient time has elapsed since the initial entry. In a review on INVs, Aspelund et al. (2007) claimed that firms should add a time perspective to address the speed of internationalization in their performance assessment. The time aspect takes on added importance for BGs since they rely on high technology and innovation to develop new products (Knight & Cavusgil, 2004). In measuring the performance of new products, a time-to-market frame of two to three years should be taken into consideration (Chandy & Tellis, 1998). Since BGs approach target markets early, usually within three years from inception, they might encounter a time gap between initial entry and product adoption in their target markets. Therefore, beyond short-term strategic outcomes at one point in time, BGs' performance should also be assessed by survival at a later point in time, ideally two years. We assessed survival two years after the original data were collected, a time frame which enabled all responding firms to have mature product lines well adopted in the marketplace.

Survival refers to firms' ability to maintain independent operations (Agarwal, 1998; Audretsch, 1995; Segarra & Callejón, 2002). Notably, being acquired by another firm does not necessarily mean failure. However, we view such acquisitions as reflecting acquired firms' inability to maintain independent operations due to a lack of the capabilities needed to confront

hostile market conditions (Fontana & Nesta, 2007). We view survival as continued *independent* operation.

Below, we develop hypotheses for the relationships between internal and external factors and BGs' short- and long-term performance.

External and internal drivers of performance

Based on the OC paradigm, firms' ability to achieve and maintain superior performance is influenced by how well they adapt their capabilities to dynamic environmental changes. Both internal and external performance drivers have been studied previously with regard to GGs (Cavusgil & Zou, 1994; Root, 1994; Sarkar & Cavusgil, 1996; Styles & Ambler, 1994; Zou & Stan, 1998). We address both aspects in the context of BGs. Fig. 1 shows their hypothesized impact on performance.

Environmental factors and BGs

Target market factors as environmental drivers of performance have been studied extensively. The risk associated with such markets is correlated with the degree of uncertainty they represent (Hill, Hwang, & Kim, 1990; Whitelock, 2002), based on the factors described here.

Market growth refers to the future size of a target market. Market growth has a positive impact on firms' international performance (Whitelock, 2002). Previous research has found that market growth has a cumulative effect on new product performance. It is a dominant driver of product success (Henard & Szymanski, 2001; Song & Parry, 1997). In the context of BGs, *future* market size as an aspect of market potential has received some attention. Although market growth has not been studied previously in the context of BGs,

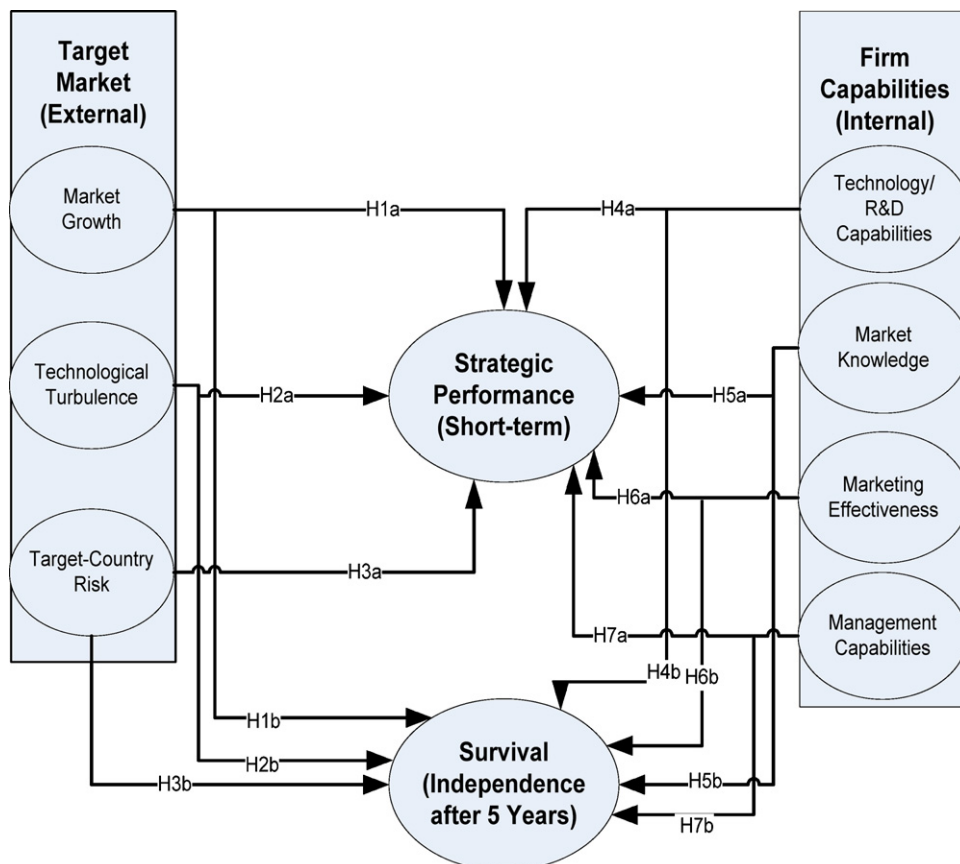


Fig. 1. The proposed model.

we draw from research concerning small firms. Researches have concluded that such firms tend to target lead markets (Jolly & Bechler, 1992), and that they should select target markets based on their growth opportunities (Crick & Jones, 2000).

BGs tend to approach niche markets due to their unique characteristics (Knight & Cavusgil, 1996). Niche markets, by definition, are relatively small and therefore less competitive (Porter, 1980). By establishing a competitive position within such markets, BGs should be able to reap the full benefits of their niche's growth potential (Knight & Cavusgil, 2004). Hence, future growth, rather than current size, should be considered as an indication of market potential and should affect BGs' performance:

H1a. BGs initially entering high-growth markets have stronger short-term strategic performance.

The longer-term relationship between market growth and post-entry performance, conceptualized as BGs' survival probability, is based on the argument presented for the short term. Maintaining strong competitive positioning in niche markets with high future growth potential enables BGs to benefit from the market growth rate, which should help their post-entry performance (Jolly & Bechler, 1992). Hence:

H1b. BGs operating in high-growth markets have a higher probability of survival, than BGs operating in low-growth markets.

Technological turbulence refers to rapidly changing technological environments. Frequent changes force firms to constantly keep up with and adapt to technological trends. Technological turbulence can be viewed as a threat to firms' operations in that it is disruptive and creates unstable environments. Such environments contribute to a sense of uncertainty, eventually reducing firms' performance (Audretsch, 1995; Dierickx & Cool, 1989; Segarra & Callejón, 2002).

Technological turbulence however, is presumed to have a different impact on the performance of BGs. BGs operate in dynamic environments and *exploit* technological trends and changes as springboards for redefining their products and markets (Knight & Cavusgil, 2004). By doing so they create niche markets (Rennie, 1993) – markets that do not require the high resources which BGs lack. Additionally, technological turbulence helps firms achieve competitive advantage by decreasing the likelihood that their services and products will be imitated by other firms. Both aspects increase BGs' chances of surviving the initial steps of internationalization, as well as their post-entry performance. Hence:

H2a. BGs initially entering highly technologically turbulent markets show stronger short-term strategic performance than BGs entering stable markets.

H2b. BGs operating in highly technologically turbulent markets have a higher probability of survival than BGs operating in stable markets.

Unlike domestic activities, where firms operate in their home environment and needed knowledge is easily obtained, foreign activities often involve barriers associated with the distance between home and target markets (Mudambi & Zahra, 2007). In other words, the liability of foreignness increases the risk and costs associated with developing the capabilities necessary to compete internationally (Sapienza et al., 2006; Zaheer & Mosakowski, 1997).

Accordingly, the final factor represents the risk arising from aspects of the target country's political, economic, and social environments that may potentially reduce performance. This risk increases as the level of uncertainty represented by each element

grows (Meldrum, 2000). BGs lack the resources to accumulate the knowledge needed to reduce the impact of the liability of foreignness. Therefore, this risk factor might jeopardize BGs' international performance.

H3a. BGs initially entering high-risk target countries show weaker short-term strategic performance than BGs entering low-risk countries.

BGs depend on entering a relatively large number of countries within a short time frame (Oviatt & McDougall, 1994) as they attempt to exploit the favorable conditions that characterize niche markets. Although niche markets are attractive to BGs, their geographical spread across countries could also have a negative long-term impact on BGs' ability to cope and perform. Importantly, BGs' advantages, such as high flexibility, are less instrumental in dealing with the risks inherent in attempting to exploit geographically spread-out markets (Zaheer & Mosakowski, 1997). Thus, by approaching several target countries, BGs will inevitably increase the levels of country risk associated with their operations, which should negatively influence the long-term performance of BGs.

H3b. BGs operating in high-risk countries have a lower probability of survival than BGs operating in high-risk countries.

Competitive capabilities and BGs

BGs are defined by their actions and capabilities rather than by their tangible resources, which is the traditionally accepted view of internationalization (Oviatt & McDougall, 1994). Therefore, their best option for survival is to create and maintain strong intangible resources (Mudambi & Zahra, 2007). Zou and Myers (1999) identified R&D/technology, marketing, and production capabilities as performance drivers. Two of these, R&D/technology and marketing, have been investigated with regard to BGs.

R&D/technology capabilities have been defined as "the ability of the firm to combine efficiently a number of resources to engage in productive activity and attain a certain objective" (Dutta, Narasimhan, & Rajiv, 1999, p. 278). These capabilities are needed to develop high-quality technological process and product innovations. BGs, by definition, base their operations on R&D/technology capabilities as a means to create innovation. Based on previous research, BGs use their expertise to create a competition-free niche, thereby reducing the risks associated with internationalization while expanding into new markets (Almor & Hashai, 2004; Knight & Cavusgil, 2004; Kuivalainen et al., 2007; McDougall, Shane, & Oviatt, 1994; Zahra, Ireland, & Hitt, 2000). Thus:

H4a. BGs with stronger technological/R&D capabilities show stronger short-term strategic performance than BGs with low technological capabilities.

H4b. BGs with stronger technological/R&D capabilities have a higher probability of survival than BGs with low technological capabilities.

Marketing capabilities were defined as "integrative processes designed to apply the collective knowledge, skills, and resources of the firm to the market-related needs of the business, enabling the business to add value to its goods and services and meet competitive demands" (Weerawardena et al., 2007, p. 301). As the core aspect of market orientation, marketing capabilities enhance performance (Droge, Vickery, & Markland, 1994; Hooley, Greenley, Cadogan, & Fahy, 2005; Narver & Slater, 1990). BGs' marketing capabilities have been discussed in a fragmented way, addressing only specific aspects (Chetty & Campbell-Hunt, 2004;

Knight & Cavusgil, 2004; Kocak & Abimbola, 2009; Madsen & Servais, 1997; Weerawardena et al., 2007), or in very general terms, encompassing all aspects of marketing capabilities under one factor (Knight et al., 2004). Both approaches make it difficult to evaluate the unique role of marketing capabilities for BGs. Narver and Slater (1990) identified three aspects of market orientation, namely customer orientation, competitor orientation, and cross-functional coordination. They claimed that all three should be encompassed in firms' marketing capabilities to create a solid foundation for competitive advantage.

Since BGs are unique in their characteristics and operations, we aimed at identifying this uniqueness in terms of their marketing capabilities. Based on Narver and Slater's (1990) reasoning about market orientation, we identified two major components of marketing capabilities. The first, *market knowledge*, is the accumulated information gathered by the firm about its customers and competitors. Such knowledge facilitates the development of a BG's strategy and operations, enabling the firm to confront the risks associated with the liability of foreignness and resulting in enhanced performance (DeSarbo, Di Benedetto, Song, & Sinha, 2005; Jaworski & Kohli, 1993; Narver & Slater, 1990; Zaheer, 1995). This knowledge also reduces the risks associated with the diversification of markets, an important aspect of internationalization in BGs, thereby enhancing their dynamic capabilities (Weerawardena et al., 2007; Zander & Kogut, 1995) and their ability to approach new markets rapidly.

H5a. BGs that base their marketing capabilities on developing market knowledge will show stronger short-term strategic performance than BGs without such knowledge.

H5b. BGs that base their marketing capabilities on developing market knowledge will have a higher probability of survival than BGs that do not develop such knowledge.

The second component of marketing capabilities relates to firms' use of active measurements to gauge the effectiveness of marketing operations, a subject encompassed under the cross-functional aspect of market orientation (Narver & Slater, 1990). BGs operate under dynamic conditions, which require them to maneuver rapidly. By activating measures to assess the effectiveness of their marketing mix, they can improve on their ongoing operations and enhance their customer approach (Jaworski & Kohli, 1993). Bearing in mind that BGs are relatively small and resource-poor, focusing on better addressing their customers' needs will enable them to gain market share and reduce the negative impact of competition (Knight & Cavusgil, 2004).

H6a. BGs that base their marketing capabilities on active measurements of marketing effectiveness will show a strong short-term strategic performance.

H6b. BGs that base their marketing capabilities on active measurements of marketing effectiveness have a higher probability of survival than those BGs who lack this.

Management capabilities are defined as "complex bundles of skills and accumulated knowledge that enable firms to coordinate activities and make use of their assets" (Day, 1994, p. 38). Such bundles support firms in exploiting their capabilities. Two management capabilities of BGs have been researched: management experience (Moen, 2002) and the ability to create and maintain networks (Freeman, Edwards, & Schroder, 2006). BGs act proactively and identify opportunities to acquire resources and to sell outputs all over the world (McDougall et al., 1994). A strong aspect of their operations is their ability to create and maintain network alliances. Previous research suggests that management capabilities, influenced by the entrepreneurial orientation typical

of BGs, influence performance (Jones & Coviello, 2005; Knight & Cavusgil, 2004; Weerawardena et al., 2007). Thus:

H7a. BGs with stronger management capabilities show stronger short-term strategic performance than BGs that have low management capabilities.

H7b. BGs with stronger management capabilities have a higher probability of survival than those BGs with weaker management capabilities.

3. Method

Data were obtained from Israeli firms in the high-tech industry. Due to the dynamic environments they face, these firms tend to internationalize early. We concentrated on high-tech firms established in 1999–2003. We limited our focus to such a relatively recent period because high-tech firms are characterized by rapid turnover of managerial personnel, an issue raised by many respondents in our qualitative interviews. Because of this rapid turnover, we felt that managers in more mature firms might not know the answers to some of our questions that addressed the early stages of the firms' international operations. The sampling list was drawn from the database of the Israeli government's Industry Center for R&D (MATIMOP).²

Using Knight and Cavusgil (2004) operational definition for BGs, we approached firms from the list that entered foreign markets within three years of inception and obtained at least 25% of their sales from export markets. To confirm a firm's suitability for inclusion in the study, we conducted short phone interviews to assess the time elapsed between establishment and first foreign market activity, and the ratio of foreign to domestic sales. Managers were asked both for the ratio of export to non-export sales at the time of the interview, and for an assessment of this ratio throughout the firm's years of operation. Most respondents (87%) indicated that they operated abroad from the start. Exports had always exceeded 50% of their sales. The small number of firms whose first operations were local reached a minimum of 25% export sales within a year of operating abroad. The initial sampling frame included 375 firms. After excluding foreign firms' R&D centers and following the screening process, the usable list included 206 companies.

Data were gathered at two points in time. The first stage was performed in 2006 and involved field interviews with the CEO or the head of marketing/business development for each firm. These hour-long interviews were conducted by the first author. We approached every firm on the list, ending up with 103 firms that agreed to participate (50%). Of these, four had two separately managed Strategic Business Units (SBUs) serving different customer markets with differing strategies. Since our research was aimed at investigating coherent behaviors of firms, we considered each SBU separately. Thus, 107 SBUs from 103 (out of 206) firms were included in the research. Most responding firms were established during the 2000s (32%), performed their first foreign activity within two years of inception (80%), and most of their sales were international (85% of the firms indicated that exports accounted for over 78% of sales). The average number of employees was 32, with 50% of the firms having 21 employees or less.

To assess non-response bias, we compared year of establishment, number of employees, and location (dependent variables) between participants and non-participants. None of the dependent variables were statistically different, and so we concluded that the participants were representative of the sampling frame.

² MATIMOP is a government agency which focuses mainly on aiding the Israeli R&D industry. One of its functions is to document new high-tech start-ups.

Table 1

Descriptive statistics and correlations of the scales.

	Mean	s.d.	α	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Market growth	3.94	1.03	n.a.							
(2) Technological turbulence	2.14	0.78	0.55	-.26**						
(3) Target-country risk	1.28	0.67	0.95	-.11	-.01					
(4) Market knowledge	3.98	0.65	n.a.	.03	-.19*	-.04				
(5) Marketing effectiveness	3.82	0.85	n.a.	.13	-.07	-.17	.18			
(6) Technological capabilities	4.08	0.58	0.76	.25**	-.09	-.04	.38**	.21*		
(7) Management capabilities	3.92	0.70	0.66	.19	-.11	.02	.23*	.42**	.53**	
(8) Short-term strategic performance	4.26	1.12	0.82	.35**	.06	-.42**	.20*	.27**	.22**	.20*

* $p < .05$.** $p < .01$.

The second stage of the research involved 5-minute telephone follow-up interviews conducted by the first author two years after the first stage (i.e., in late 2008) to assess firms' longer-term performance. In over 90% of the cases, the respondent was the same person interviewed at the first stage. At this stage, we inquired whether participating firms were still in existence and, if so, whether they were still independent. At this point all participating firms had been operating longer than five years, validating the survival test.

4. Measures

Content validity. Data for the first wave were gathered using a questionnaire based on existing scales from several resources. The scales and items (Appendix A) were evaluated by an experienced international marketing researcher and several practicing managers. All items were measured on a 5-point Likert scale. Following a back-translation procedure, we pre-tested the questionnaire in three pilot BGs. Following the pre-test, a few minor language and style changes were incorporated into the questionnaire. Table 1 presents the descriptive statistics and correlations of the scales.

Market growth refers to the predicted future size of the target market (Song & Parry, 1997). We used a single item with an average of 3.94 (s.d. = 1.03).

Technological turbulence was measured by a scale developed by Jaworski and Kohli (1993). It included four items and referred to risks arising from technological turbulence in the high-tech environments of target markets. The scale's reliability ($\alpha = 0.55$) is lower than traditional cutoffs. This is much lower than the 0.88 reported in the original by Jaworski and Kohli (1993). We believe that the differences in reliability are due to the samples used in the original and in our study. The original was based on large, multi-billion-dollar corporations, versus small BGs in the current study. The items included in the scale should produce greater homogeneity in samples of large existing firms, compared to high-tech BGs. In light of this consideration and given the important role of this variable in the analyses, we retained it, an issue revisited in the limitations section of this paper.

Country risk refers to the investment risk inherent in the target country. We used the five items developed by Agarwal and Ramaswami (1992). The scale's reliability was high ($\alpha = 0.95$).

Technological capabilities were measured with nine items (Day, 1994; DeSarbo et al., 2005; Gupta & Wilemon, 1986). The scale's reliability was satisfactory ($\alpha = 0.76$). The scale combined technological and R&D capabilities based on pre-study in-depth interviews with chief technology officers (CTOs) in the high-tech sector. They confirmed that technology and R&D are viewed as two aspects of the same core capability. Additionally, a factor analysis showed that all the items loaded on a single dimension.

As described earlier, we addressed **marketing capabilities** through two measures: market knowledge and the use of active measurements of marketing effectiveness. Both measures are

based on the original scale by DeSarbo et al. (2005). Each measure was comprised of two items.

The six-item scale for **management capabilities** was based on DeSarbo et al. (2005) and had a reasonable level of reliability ($\alpha = 0.66$).

Finally, **strategic performance** was measured using a subset of the scale developed by Zou, Taylor, and Osland (1998). Reliability of the scale was acceptable ($\alpha = 0.82$). For firms' longer-term performance, we used independent survival five years from inception.

Once the data were gathered, we tested for common method variance using CFA. The results showed no common method bias.

5. Findings

We tested our hypotheses in two steps. First, we used a multiple regression model to examine the impact of the external and internal factors on firms' short-term strategic performance. In the second step, we used discriminant analysis to examine the impact of the same factors on firms' longer-term performance, conceptualized as independent survival two years after initial data collection. The regression results are presented in Table 2.

The significant regression model ($p < 0.01$) explained 35% of the variance in strategic performance. Hence, we proceeded to examine the standardized regression coefficients.

Short-term drivers of performance. H1a, dealing with the impact of market potential on strategic performance, was confirmed ($\beta = 0.32$; $p \leq 0.01$). The data also supported H2a ($\beta = 0.17$; $p \leq 0.05$), predicting that BGs operating in highly technologically turbulent environments would perform better than those operating in more stable environments. Finally, the impact of entering a high-risk target country on BGs' performance was significant and negative (H3a; $\beta = -0.36$; $p \leq 0.00$), as expected.

The results for H4a, H6a, and H7a were not significant. Technology/R&D capabilities, marketing effectiveness, nor management capabilities have an impact on BGs' strategic performance. The results for H5a, which predicted that market knowledge would

Table 2

Standardized regression coefficients.

	β	$p \leq$ (two-tailed)
Market growth	0.32	0.00**
Technological turbulence	0.17	0.03*
Target-country risk level	-0.36	0.00**
Technological capabilities	0.06	0.58
Market knowledge	0.16	0.05*
Marketing effectiveness	0.08	0.40
Management capabilities	0.03	0.77

(Dependant variable: Short-term strategic performance); ($R^2 = .35$).* $p < 0.05$.** $p < 0.01$.

Table 3
Results of discriminant analysis.

Factor	Loadings	Weights	<i>p</i> =(two tailed)	Mean (independent)	Mean (not independent)
Management capabilities	0.88	0.93	0.00**	4.01	3.02
Marketing effectiveness	0.38	0.17	0.03*	3.88	3.35
Technology/R&D capabilities	0.37	0.05	0.03*	4.11	3.74
Target-country risk level	0.26	0.30	0.09*	1.31	1.00
Market growth	−0.10	−0.29	0.30	3.92	4.10
Market knowledge	0.04	−0.21	0.44	3.99	3.95
Technological turbulence	0.04	0.06	0.43	2.15	2.10

* *p* < 0.1.

* *p* < 0.05.

** *p* < 0.01.

impact BGs' strategic performance, were significant ($\beta = 0.16$; $p \leq 0.05$).

The second analysis used multiple discriminant analysis (MDA). Since survival was categorized as independence five years from inception, it was operationalized as whether the firm had remained or had ceased to be independent during the years between the first and second stages of data collection. The model was significant ($p \leq 0.01$) and substantiated the ability of the independent variables to predict independent survival. Additionally, classification accuracy (91.4%) exceeded C_{pro} (82.9%) in support of the model. Table 3 provides the discriminant loadings/weights for the MDA.

H1b regarding market potential was not confirmed (loading = −1.03; $p \leq 0.30$). A similar pattern emerged for technological turbulence (H2b; loading = 0.04; $p \leq 0.43$). As for H3b, the impact of target-country risk level was marginally significant (loading = 0.26; $p \leq 0.09$) but opposite expectations, indicating that it enhances BGs' independent survival.

As for capabilities, H4b, positing that technological/R&D capabilities should enhance firms' independent survival, was supported (loading = 0.37; $p \leq 0.03$). Similarly, management capabilities (H7b) had a positive impact on BGs' independence (loading = 0.88; $p \leq 0.00$). Finally, H5b was not supported, indicating that market knowledge has no impact on BGs' independent survival (loading = 0.04; $p \leq 0.42$), but H6b was supported, confirming the impact of marketing effectiveness on BGs' independent survival (loading = 0.38; $p \leq 0.03$). Table 4 summarizes the research hypotheses guiding this study and their support or lack thereof in our study.

Table 4
Summary of findings.

Hypothesis	Independent	Dependent	Findings
H1a	Market growth	Strategic performance	Confirmed
H1b	Market growth	Survival	Not confirmed
H2a	Technological turbulence	Strategic performance	Confirmed
H2b	Technological turbulence	Survival	Not confirmed
H3a	High risk country	Strategic performance	Confirmed
H3b	High risk country	Survival	Confirmed
H4a	Technological capability	Strategic performance	Not confirmed
H4b	Technological capability	Survival	Confirmed
H5a	Market knowledge	Strategic performance	Confirmed
H5b	Market knowledge	Survival	Not confirmed
H6a	Marketing effectiveness	Strategic performance	Not confirmed
H6b	Marketing effectiveness	Survival	Confirmed
H7a	Management capability	Strategic performance	Not confirmed
H7b	Management capability	Survival	Confirmed

6. Discussion

Drawing on the OC framework, we explored environmental conditions and BGs' capabilities as performance drivers at two points in time. The relevance of OC is rooted in previous work establishing its role in linking internal capabilities and firms' orientation to performance in the context of BGs (Jantunen, Nummela, Puumalainen, & Saarenketo, 2008; Knight & Cavusgil, 2004). Our findings also support the core OC concept in an internationalization context, namely the push–pull interaction between firms' capabilities and their environment. As described earlier, OC emphasizes the relationships between the dynamics of firms' environments and the adaptability of these firms' capabilities. This can be viewed as a dual process in which, at times, external changes encourage firms to respond while at other times, firms' actions create changes in their environments (Mathews & Zander, 2007). Our findings follow and support this duality. While during initial operations, all three external factors (market growth, technological turbulence, and target-country risk) influenced BGs' short-term strategic performance, in the long term, BGs' capabilities became crucial for survival.

The findings for market growth are in line with previous research showing that high market potential drives BGs' internationalization by enabling them to target unsupplied niches while encountering relatively low competitive intensity (Crick & Jones, 2000; Jolly & Bechler, 1992). As for technological turbulence, in line with Song, Hanvanich, and Calantone (2005), it had the expected positive impact due to the benefits for BGs created by an environment of rapid technological change. Finally, target-country risk level had a negative impact on BGs' strategic performance, as hypothesized. This supported our initial claim regarding the vulnerability of BGs under unfavorable country conditions, showing that these conditions expose BGs' weaknesses (Zaheer & Mosakowski, 1997).

These results emphasize the importance of identifying the potential influence of external factors prior to entering new markets. BGs' lack of organizational knowledge makes them more vulnerable to negative influences of external factors (Autio, Sapienza, & Almeida, 2000). Our findings suggest that BGs must be aware of these issues in order to have ready an appropriate strategic response.

In contrast, the internal factors explored in our study – managerial capabilities, technological capabilities, and marketing effectiveness – had no short-term impact. The only internal factor proven to be influential was market knowledge. A possible explanation for these findings arises from the particular nature of BGs. As young firms aiming at global market niches, BGs tend to focus their efforts and resources on creating viable product offerings (Knight & Cavusgil, 2004). By accumulating market knowledge, they are able to enhance their development of innovative products. Since the initial stage in BGs' operations tends to be opportunistic, most managerial attention centers on

the creation of innovation and finding markets for it (Nordman & Melen, 2008). The focus on this crucial capability overshadows other capabilities during internationalization (Hamel & Prahalad, 1994). This finding fits the limited organizational knowledge explanation referred to earlier. By developing marketing knowledge, BGs can reduce the uncertainties associated with further internationalization.

The impact of the various factors was altogether altered in the second stage of data collection, showing the complexity of performance drivers when short- versus longer-term performance is assessed. Of the three external factors, only target-country risk level affected BGs' survival rate, and the impact was in the opposite direction than expected. BGs showed higher rates of independent survival when they targeted riskier countries.

This pattern can be explained by considering the differences between these factors. The diminishing impact of market growth and technological turbulence can be explained by the nature of the markets approached by BGs. Initially, BGs use their market knowledge to carve out specialized niches, enjoying opportunities facilitated by the technologically turbulent environment. These niches are characterized by high market growth, which in turn enables BGs to maintain a favorable market position (Knight & Cavusgil, 2004). The impact of both factors declines over time, leaving BGs with a more stable environment. While market growth and technological turbulence are manageable strategically to some extent, a country's political, cultural, and economic risk factors are subject to less-certain changes (Miller, 1992). Therefore, they are more difficult to assess a priori and manage post-entry than the other two factors. As for the positive influence of target-country risk on long-term survival, we speculate that other firms might be intimidated from entering high-risk countries. In other words, the uncertainty of operations in such markets reduces other firms' incentives to enter, leading to lower competitive intensity for the focal BG and enhancing its long-term performance.

While the importance of BGs' capabilities is undisputed, the impact of their unique combination on performance changes over time. Our data suggest that while market knowledge is crucial in creating market positions and enabling growth during initial internationalization, once BGs begin to diversify geographically through new markets or market segments, their focus changes. Technological/R&D and management capabilities become important, as befitting global firms with a strong technological orientation. Continuous marketing effectiveness becomes important in BGs' ongoing efforts to better address their market needs, whereas market knowledge loses importance. During their initial international operations, BGs have to form a market position by creating their niche, which is facilitated by exploiting their market knowledge in their operations. In later stages, once their operations become more diversified, BGs turn to forming strategic alliances that enhance their operations in foreign markets. Their new allies take on the task of gathering market information as part of their marketing role, freeing the firms to focus on their core business (Almor & Hashai, 2004; Madsen & Servais, 1997; Weerawardena et al., 2007).

7. Managerial relevance

Our findings have several managerial implications. Our major finding involved the complex relationship between the different factors impacting the short- and long-term performance of BGs. These relationships behoove managers to carefully monitor environmental changes and needed internal resources, shifting their emphasis from the former to the latter as the firm gains international experience. In the short term, managers of BGs should focus their organization's resources on developing a better understanding of the risks associated with every target market.

This understanding and knowledge should be used to develop market risk profiles, which should be managed pro-actively due to their performance implications. During the time that BGs are managed to enhance short-term strategic performance, managers should also devote resources to developing internal capabilities. Our findings suggest that such a shift is needed as the internationalization process progresses. Internal capabilities will become a safety net, enabling BGs to reduce the long-term uncertainties associated with foreign operations. Consequently, managers aspiring to enhance the probability of independent survival of their BGs should invest in creating and maintaining technological and managerial capabilities.

Our findings show that there are two aspects to the availability and use of marketing capabilities. While market knowledge affects BGs' strategic performance during the initial stages of internationalization, its importance diminishes over time. During later stages of internationalization, the importance of another marketing capability, namely marketing effectiveness, becomes crucial. These findings imply that during the initial stages of internationalization, BGs should emphasize outward-directed marketing capabilities by developing processes and procedures aimed at accumulating the knowledge required for decision-making. Once the internationalization process progresses, the focus should change to emphasizing the importance of marketing effectiveness as the necessary capability for achieving survival.

Finally, as BGs become more global due to their rapid internationalization, they can focus on entering riskier countries. Based on our findings, although such countries represent a threat during the initial stages of internationalization, negatively impacting BGs' strategic performance, they enhance BGs' independent survival chances in the long run. By entering such countries, BGs can benefit from favorable conditions reflected in the relatively low market saturation.

8. Limitations and future research

Our research suffers from a number of limitations. First, the paucity of research on BGs means that this study must be considered exploratory. As the fragmented nature of the extant literature on BGs made it difficult to develop hypotheses, we had to rely on findings from research on MNEs. Future research can now build on our findings, rather than relying on research on other types of firms.

Second, some of the scales used here were developed in other research contexts, since no scales were found for the specific context of BGs. Thus, we used scales created to examine GGs, which might not be optimal for BGs. Future research on BGs is needed to develop contextualized scales. Alternatively, in the few cases where reliability levels were lower than commonly accepted, new items could be created to supplement the relevant scales. Such an approach is especially important for the technological turbulence scale.

Finally, we focused on high-tech firms because of the high proportion of BGs in the high-tech industry. Our choice here represents another tradeoff. On the one hand, a narrower sample increases the internal validity of the findings and eliminates potential alternative explanations for some of the findings. On the other, our focus limits the generalizability of the findings. Future research should include a more industry-heterogeneous sample of BGs.

9. Conclusion

The main purpose of the current study was to identify the external and internal factors impacting BGs' short-term strategic performance and long-term survival. Our findings indicate that

during the initial stages of internationalization, BGs' strategic performance is enhanced in growing markets facing technological turbulence and is reduced at high levels of target country risk. But while initial strategic performance depends on external factors, their long-run impact diminishes in importance and firms' capabilities become crucial. Management, marketing, and technological capabilities become BGs' major assets in enhancing their survival rates as independent entities. Unlike market characteristics, which should be assessed and accounted for reactively, internal capabilities are firm-controllable and should be managed pro-actively.

In sum, once BGs pass through the initial stages of internationalization, characterized by the dominance of external

factors, they face better chances of survival if they follow the dicta of successful international strategies. The theoretical implications of these findings are two-fold. First, future studies should include multiple time-based conceptualizations of performance. Second, both internal and external determinants of performance should be assessed, rather than either in isolation. Importantly, while the temporal distinction made here was based on BGs' operations, the same theoretical logic should be applicable for other forms of internationalization. In other words, we call for a re-examination of the role of performance drivers for international firms, which recognizes their differences across multiple time horizons.

Appendix A. Survey constructs

1. Market Growth (Source – Song & Parry, 1997; Mean = 3.94; s.d. = 1.03; α = n.a.)
 - a. The market for this product is growing very quickly.
2. Technological turbulence (Source – Jaworski & Kohli, 1993; Mean = 2.14; s.d. = 0.78; α = 0.55).
 - a. The technology in our industry is changing rapidly.
 - b. Technological changes provide big opportunities in our industry.
 - c. A large number of new product ideas have been made possible through technological breakthroughs in our industry.
 - d. Technological developments in our industry are rather minor.
3. Target-country risk (Source – Agarwal & Ramaswami, 1992; Mean = 1.28; s.d. = 0.67; α = 0.95).
 - a. What do you think about the general stability of the political conditions in (country)?
 - b. What do you think about the general stability of the social conditions in (country)?
 - c. What do you think about the general stability of the economic conditions in (country)?
 - d. What do you think is the risk of converting and repatriating your income in (country)?
 - e. What do you think is the risk of expropriation of firms from (country)?
4. Technology + R&D capabilities (Sources – DeSarbo et al., 2005; Gupta & Wilemon, 1986; Mean = 4.08; s.d. = 0.58; α = 0.76).
 - a. New product development capabilities.
 - b. Manufacturing processes.
 - c. Technology development capabilities.
 - d. Ability of predicting technological changes in the industry.
 - e. Production facilities.
 - f. Quality control skills.
 - g. Accelerating new product development.
 - h. Measuring R&D performance.
 - i. Monitoring science and technology developments.
5. Market knowledge (Source – DeSarbo et al., 2005; Mean = 3.98; s.d. = 0.65, α = n.a.).
 - a. Knowledge of customers.
 - b. Knowledge of competitors.
6. Marketing effectiveness (Source – DeSarbo et al., 2005; Mean = 3.82; s.d. = 0.85, α = n.a.).
 - a. Effectiveness of pricing programs.
 - b. Effectiveness of advertising programs.
7. Management capabilities (Source – DeSarbo et al., 2005; Mean = 3.92; s.d. = 0.70, α = 0.66).
 - a. Integrated logistics systems.
 - b. Cost control capabilities.
 - c. Financial management skills.
 - d. Human resource management capabilities.
 - e. Accuracy of profitability and revenue forecasting.
 - f. Marketing planning process.
8. Strategic performance (Source – Zou et al., 1998; Mean = 4.26; s.d. = 1.12, α = 0.82).
 “This export venture:”
 - a. Has improved our global competitiveness
 - b. Has strengthened our strategic position
 - c. Has significantly increased our global market share
9. Survival
 - a. Dependent/independent.

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