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When marketing and innovation interact: The case of born-global firms

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ABSTRACT

Previous research on born-global firms (BGs) has emphasized their strong dependency on establishing a competitive positioning from the early days of their existence. While many researchers emphasized BGs' innovativeness as a driver of their competitiveness, the capabilities underlying BGs' innovativeness are still under-researched, specifically, marketing, and innovation-related capabilities. Based on a preliminary stage of in-depth interviews with senior managers, we identified three capabilities, market intelligence generation, marketing adaptability, and team cohesion, that underscore the interaction between innovation and marketing. We then performed a SEM analysis based on data collected from 127 BGs. Our findings indicate that marketing intelligence and team cohesion directly and positively impact BGs' innovativeness. Marketing adaptability was found to be moderated by environmental conditions—economic development and technological development. When economic development is high, salesforce adaptability enhances BGs' innovativeness, while product adaptability or communication adaptability decreases BGs' innovativeness. When technological development is high, product adaptability enhances BGs' innovativeness, while salesforce adaptability decreases BGs' innovativeness.

1. Introduction

Globalization has grown significantly since the mid-twentieth century, leading to the growing interconnectedness of markets. These changes have resulted in intensified competition leading firms in general and small and medium-sized enterprises (SMEs) in particular to devote more attention to their competitiveness (Carvalho & Costa, 2014) as means of achieving international success (Sok & O'Cass, 2011). The role of innovativeness as a facilitator of firms' competitiveness (Augusto & Coelho, 2009; Dibrell, Craig, & Neubaum, 2014), as well as of performance (Gebauer, Gustafsson, & Witell, 2011; Hult, Hurley, & Knight, 2004; Rhee, Park & Lee, 2010; Rubera and Kirca, 2012), has long been established. In line with the growing recognition of the role of innovativeness in firms' success, substantial research attention has been given to the drivers of innovativeness in various types of industries, economies and firms (Hult et al., 2004; Kyrgidou & Spyropoulou, 2013; Radas & Božić, 2009; Rhee et al., 2010). When it comes to smaller firms, however, most research has focused on SMEs in general, neglecting to acknowledge a growing subcategory of SMEs known as born-global firms (BGs), which include small, niche-targeted, technology-oriented firms. BGs are considered entrepreneurial by nature and international by orientation. It is reported that in industrial countries they are responsible for a large portion of export growth (Cavusgil & Knight, 2015). Due to the central role of innovativeness in the international arena in general (Dai, Maksimov, Gilbert, & Fernhaber, 2014) and in BGs' formation in particular (Knight & Cavusgil, 2004), the gap in research regarding the antecedents of innovativeness for BGs calls for further investigation (Cannone & Ughetto, 2014; Kim, Basu, Naidu, & Cavusgil, 2011; Knight & Cavusgil, 2004).

Innovativeness in general has been defined as "a firm's openness to new ideas and new ways of meeting customers' needs" (Kim et al., 2011, p. 881). Innovativeness has been noted as crucial to the survival of BGs, either from the organizational culture perspective (Freeman & Cavusgil, 2007; Knight & Cavusgil, 2004; Knight, Madsen, & Servais, 2004), or in terms of the end product or solution (Kim et al., 2011; Kocak & Abimbola, 2009;Weerawardena, Mort, Liesch, & Knight, 2007).

Innovativeness stems from organizational capabilities (Hurley & Hult, 1998), of which marketing capabilities represent a central element (Perks, 2000; Shang, Yildirim,Tadikamalla. Mittal, & Brown, 2009). This links well with earlier studies on BGs, which characterize marketing-related processes as the core of BGs' innovativeness (Knight & Cavusgil, 2004). Though marketing capabilities have received substantial research attention, most previous research addressed the impact of these capabilities on

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BGs' performance (Efrat & Shoham, 2012; Hallbäck & Gabrielsson, 2013; Ripollés & Blesa, 2012; Zhou, Wu, & Barnes, 2012), leaving uncharted ground when it comes to the impact of such capabilities on innovativeness. Research connecting marketing to BGs' innovativeness may therefore shed important light on the contributors to BGs' innovativeness, and hence to their long-term survival.

The present study derived from in-depth interviews conducted with 25 senior managers of BGs, followed by survey-based data collection from 127 BGs operating in various industries. The main purpose of both the exploratory (qualitative) and the main (quantitative) stages was to reveal what drives BGs' innovativeness. In the exploratory stage the managers were given leading questions, but no specific drivers of innovativeness were introduced, in order to avoid possible bias. The exploratory stage outcomes were incorporated into the survey used in the main stage to confirm the relationships between the different factors.

This study contributes to BGs' research in a number of ways. First, we elaborate on Knight and Cavusgil's (2004) seminal study by addressing innovation-related capabilities, thereby providing a better understanding of the core capabilities that drive innovativeness. Second, we explore the moderating impact of different environmental characteristics on the relationships between the different aspects of marketing adaptability and BGs' innovativeness, hence confronting the common assumption that BGs tend to use standardization strategy. Finally, we introduce the use of team cohesion in the business context while discussing its linkage to BGs' organizational culture and innovativeness.

In the next section we present the conceptual framework of innovativeness in the BGs' context, followed by a short description of the qualitative stage and a presentation of its main outcomes. We continue with a literature review of the different capabilities found in the qualitative stage, followed by our hypotheses regarding their direct and moderated impacts. We then present and discuss our findings.

2. Conceptual framework

2.1. Innovativeness and the born global firms

Previous research has shown that BGs strongly depend on innovativeness. These studies can be grouped with one of either two research streams. The first revolved around innovativeness outcomes and the second explored the factors associated with BGs' innovativeness in terms of capabilities, cultural aspects, and environmental conditions. Researchers from the first stream found that innovativeness has a positive relationship with BGs' internationalization (Cavusgil & Knight, 2015; Dib, da Rocha & da Silva, 2010). Hallbäck and Gabrielsson (2013) found that innovativeness and adaptation are key dimensions of the international entrepreneurial marketing strategies in BGs. The second stream of research found evidence that customer orientation, through the employment of CRM (customer relationship management) and customer information technologies, enables BGs' innovativeness (Kim et al., 2011). Cavusgil and Knight (2015) also found that innovative initiatives lay the foundation for new product development and opening of new markets, while serving their existing markets better. as a result of the need to reinvent different aspects of the firm's operations. Other findings indicate that BGs' innovation is also impacted by technological capabilities and intellectual property rights (Kylaheiko, Jantunen, Puumalainen, Saarenketo, & Tuppura, 2011). Finally, Glavas and Mathews's (2014) findings indicate that international innovativeness lead to increased 1–18development and integration of Internet capabilities within BGs, thereby supporting the view that international innovativeness promotes a sense of open-mindedness and organizational learning.

In light of the centrality of innovativeness to BGs' operation, we launched an exploratory study aimed at identifying the drivers of BGs' innovativeness.

2.2. Method – exploratory study

We conducted 25 in-depth interviews with senior managers in BGs. Most of our interviewees were CEOs (64%) and the remaining were marketing managers (16%), business development managers (16%), and CTOs (4%). We included various industries, all defined as high-tech, such as communications, IT, security, smart irrigation, and pharmaceuticals. We contacted each participant via phone, confirming their relevancy to the study. We explained the purpose of the interview and how it would be conducted and set a time for a face-to-face meeting. The interviews lasted about 30 min and were based on open-ended questions addressing aspects and drivers of innovativeness in BGs. The interviews were transcribed and analyzed using within-case and cross-case analysis methods (Miles & Huberman, 1994).

2.3. Findings – exploratory study

A careful review of the exploratory data analysis revealed a consensus that BGs' innovativeness was driven by three main capabilities—marketing intelligence, marketing adaptability, and R&D team cohesion.

Marketing intelligence was defined as the ability to screen customer needs, future demands, and competitors' offerings. The interviewees claimed that such intelligence enables the firms to improve their offerings by rethinking and redesigning their products to better match the changing demands of the market.

Small high-tech companies often think that they need to invent everything from scratch. I think that's wrong. We can learn things from bigger, more mature companies that can help us in leveraging our advantage. For example, market research. We spent a lot of money on gathering information on our customers. This information enabled us to create better solutions and to reach a market share previously controlled by more established competitors. Doing things differently can also mean differentiating yourself from similar firms in your industry by adopting routines that are out of the ordinary. (Marketing manager at a pharmaceuticals firm).

Being small, our firm forces itself to follow the changes in the market. We do that by listening to customers. Since our biggest competitor ignored the smaller customers for a long time, we started listening to these customers; they always had some special request or else some new information about our competitors. This information is used to improve our operations. In our field, the more you talk to customers the more innovative you are. (Marketing manager of computer hardware).

Team cohesion refers to the relationships, at work and outside of work, between the team members in the R&D department. Most interviewees stated that the R&D team formed the core of a BG firm.

The social connections between the different team members were the reason this team succeeded in producing such high quality solutions. All the team members backed each other and so each one felt able to try new things and explore new ways of doing things. . The team members not only give each other support but also help each other make progress. (CTO, satellite communication industry).

After our first product reached the formal production process, there was a decrease in innovativeness at the firm. So I took the CTO out of the R&D team and built a different one for him. Now, after this change, they all work together to come up with new ideas

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and new inventions. They have a different team spirit than before. (CEO in the security industry).

Marketing adaptability refers to the willingness of the firm to adapt different aspects of its marketing strategy to the target market.

Our main innovativeness is in the area of marketing. This is the stage when we offer the customer solutions. While our R&D often doesn't know what the task ahead is, I can already tell if we can offer what the customer wants by knowing what we can produce and what others can produce. times we need to finalize the product we offer through collaborating with others, due to lack of capabilities. In such case I would engage with whom I should collaborate in order to maintain our solution at the highest level. (Business development manager, smart irrigation systems).

The meaning of innovativeness for us is any operation that's different from the conventional strategy—in marketing or sales, for example. Adapting an existing product for a new customer is an innovative operation. An innovative product for us is one that meets an existing need, a need that already had previous solutions, but were all very different from the new one. (International marketing manager, plastic solutions).

An additional finding highlighted the relevancy of different environmental aspects and their potential impact on the tendency of the firms to adapt their marketing strategy and to what extent this adaptation should take place.

Our market is very global; this means there are threats and opportunities on a large scale. Changing economic and political factors can force us to change our strategy. This demands creativity and innovation. (CEO, defense).

In the next section we will review previous literature linking the three capabilities identified with innovativeness and formulate our hypotheses.

3. Hypotheses development

To explain our qualitative findings, we turn to the theory of market orientation. Market orientation comprises aspects of organizational culture aimed at creating better solutions for a firm's customers and then delivering them (Jaworski & Kohli, 1993) by maintaining a set of processes associated with market intelligence (Slater & Narver, 1995). Market orientation rests on three main pillars: intelligence generation, intelligence dissemination, and responsiveness. While all three are linked with market information, the first two have to do with the knowledge created from information and the third with the knowledge-based response addressing market needs and characteristics (Jaworski & Kohli, 1993). Previous research established a strong link between market orientation and innovativeness by showing their strong dependency on market knowledge (Kibbeling, Bij, & Weele, 2013).

Hult, Ketchen, and Slater (2005) incorporated both versions of market orientation into one model and addressed similarities between the two. On close examination, Hult and colleagues' constructs resemble the capabilities identified in the exploratory stage of the study. Marketing intelligence shares many similarities with the market intelligence generation construct, and marketing adaptability is strongly associated with the responsiveness construct (Jaworski & Kohli, 1993). As for team cohesion, here we can find linkage to the market information process introduced in our later discussion of market orientation (Hult et al., 2005). While team cohesion per se does not embody information processing, it can facilitate such a process by creating the appropriate inner-team climate.

While many of the managers who participated in our qualitative stage claimed that marketing intelligence and marketing adaptability are crucial elements of innovativeness, they did not mention the third component of market orientation—coordination, or formal dissemination of intelligence; previous findings shows that small firms are less likely to use formal planning procedures (Raju, Lonial, & Crum, 2011).

3.1. Market intelligence generation and BGs

Being small and resource-constrained, BGs face greater challenges with respect to market intelligence generation, mainly because they seldom operate on a solo basis. Most BGs internationalize via export and hence rely on local business partners for both downstream (e.g., sales and service) and upstream (e.g., market information) activities (Knight & Cavusgil, 2004). Therefore, the market intelligence generation which refers to the information gathering process performed by firms to increase their competitiveness,21 requires the willingness and collaboration of the local business partners. Intelligence impacts the BG's decision-making process (Freeman et al., 2006), hence BG's must devote particular attention to it.

Market intelligence generation is also an important source of innovativeness. Lukas and Ferrell (2000) linked knowledge related to customer orientation with the tendency to introduce new and innovative products. Keskin (2006) built on these findings by introducing learning orientation as a mediator between market intelligence generation and innovativeness, emphasizing the relevance of the knowledge creation process. In the BG context, Kocak and Abimbola (2009) established the linkage between different aspects of marketing orientation, including market intelligence generation, with BGs' innovativeness. Hence our first hypothesis,

H1. Higher levels of market intelligence generation will enhance BGs' innovativeness

3.2. Team cohesion and innovativeness

Our second construct, team cohesion, derived mainly from the in-depth interviews we conducted. Several managers mentioned the importance of the R&D team within their firm, claiming that aside from the knowledge brought by each individual team member, the team's work quality was also significantly affected by the type and nature of the members' collaboration. This element is referred to in the literature as team cohesion (Castaño et al., 2013Castaño, Watts & Tekleab, 2013; Chiocchio & Essiembre, 2009) Team cohesion did not receive attention in regard to BGs. As our exploratory findings show its importance to BGs' innovativeness, we decided to incorporate it into our study model.

The importance of team cohesion to the effectiveness of R&D teams carries special importance in the present study, which strives to elaborate on the predictors of BGs' innovativeness. Because BGs have a strong technological orientation, the knowledge created by their R&D teams is often described as tacit knowledge (Knight & Cavusgil, 2004). Due to its uniqueness, tacit knowledge serves as a core capability and is tightly linked to the firm's competitiveness (Grant, 1996). The relationships between R&D team members bear potential impact on their ability to create tacit knowledge, and thus impact their ability to perform their tasks effectively (Berman, Down, & Hill, 2002).

Early definition of team cohesion defined it as the force tying group members together (Festinger, 1950). This definition is rather general and vague (Chiocchio & Essiembre, 2009). Carron, Brawley & Widmeyer (1998) have offered a more elaborate definition of team cohesion as "a dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of members' affective needs" (Carron, Brawley, & Widmeyer, 1998, p. 213). While older definitions treat cohesion as a unitary construct,

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a more recent definition has identified the construct as multidimensional (Carless & De Paola, 2000). Widmeyer, Brawley & Carron (1985) distinguish between the individual attraction to the group and the group perception as a whole. Following Widmeyer et al. (1985), Mullen and Copper (1994) describe two dimensions of team cohesion: social cohesion (team members' perception of the degree of closeness and bonding in the group), and task cohesion (team members' perception of the team's ability to accomplish tasks).

Team cohesion has been found to predict team performance (Castaño et al., 2013; Chiocchio & Essiembre, 2009). In their meta-analysis of team cohesion and performance, Castaño et al. (2013) found that both social and task cohesion were significant predictors of performance. A different meta-analysis of team cohesion and performance found that the social cohesion dimension was related mostly to behavioral performance, that is, to activities which are part of the job definitions or behaviors that contribute to organizational effectiveness. Additional findings indicate that both social cohesion and task cohesion are related to outcome performance, i.e., to the end results or products of the team (Chiocchio & Essiembre, 2009). The findings of Chiocchio and Essiembre (2009) indicate that the relationship between team cohesion and performance is most important in project teams.

Innovativeness is one aspect of team performance (Liu, Chen & Tao, 2015). Strese, Meuer, Flatten & Brettel's (2016) review reveals conflicting findings about the relationship between cohesion and innovativeness. While some studies found that social cohesion has a positive impact on innovativeness and performance of new products, others found that high levels of social cohesion harm innovativeness due to suppression of creative tension. However it is suggested that the negative impact of team cohesion on performance is related only to social cohesion, not to task cohesion. In contrast, task cohesion has a positive impact on innovativeness as it promotes exchange of ideas (Hirunyawipada, Paswan & Blankson, 2015).

Recent research supports the opposing impacts of social and task cohesion on innovativeness. A study about new products and R&D teams found that social cohesion enhances exploitive innovation, which refers to expanding of new products and services based on existing knowledge, aimed at existing customers. However, social cohesion was found to harm exploratory innovation, referring to the invention of new products and services based on the acquiring of new knowledge and skills, aimed at new markets (Strese et al., 2016). Different studies on employees of high-technology firms found that task cohesion has a positive impact on the ideation of new products (Hirunyawipada et al., 2015). Following Castaño et al.'s (2013) recommendation to separately assess the impact of social and task cohesion, we formulated our second hypothesis.

H2a. Higher levels of social cohesion will reduce BGs' innovativeness

H2b. Higher levels of task cohesion will enhance BGs' innovativeness

3.3. Marketing adaptability and BGs' innovativeness under the moderation of the environment

A significant aspect of marketing strategy, discussed at length in the literature, is marketing adaptability (Schmid & Kotulla, 2011). Marketing adaptability refers to the degree to which firms are willing to differentiate marketing strategy variables across national markets (Schilke, Reimann, & Thomas, 2009). In other words, marketing adaptability is measured by the firm's willingness to adapt its marketing activities to the local market's demands, with the options ranging from full standardization to full adaptation. Marketing adaptability is a capability that interact with market intelligence generation as a means to creating value (Magnusson et al., 2013). Marketing adaptability in its most common form—as the dilemma of standardization vs. adaptation—has been a subject of much research over the last five decades (Schilke, Reimann, & Thomas, 2009).

Since the set of decisions associated with marketing adaptability are not the sole responsibility of the marketing department but rather affect different units of the firm (such as R&D and production), they are intertwined into the firm's strategy, making marketing adaptability an overall strategic issue (Vorhies & Morgan, 2003). Nevertheless, despite the involvement of different departments, whether in decision-making or in implementation, marketing adaptability has significant implications for marketing strategy and marketing performance (Schilke, Reimann, & Thomas, 2009) and should therefore be addressed from the marketing angle.

The decision whether to adapt the firm's marketing mix is affected by two conflicting considerations. The first has to do with the degree of consumer homogeneity, that is, with the degree to which consumers' wants and needs are taken to be similar across markets. This type of consideration is culture-dependent. The second consideration is an internal one and is driven by economies of scale: firms employ standardization in order to lower costs and achieve greater profit margins (Ryans Jr., Griffith, & White, 2003). (Solberg, 2000) describes the dilemma in terms of the question "To what extent do markets lend themselves to standardized marketing strategy?" (p.78). The term "lend" captures the essence of the conflict. Markets cannot be forced to accept foreign firms' standardized marketing strategy, but rather should be persuaded to do so, based on mutual interests. Due to cultural differences, firms often discover that standardization jeopardizes their performance. However, the sheer volume of research on this dilemma has so far yielded contradictory findings (Schmid & Kotulla, 2011), calling for further investigation of the core rationale behind marketing mix adaptation. While marketing mix adaptation is considered a component in the firm's strategy, the actual ability to adapt to the target market's dynamics—to understand customers' needs and incorporate them into the firm's solutions—can be conceptualized as a *capability*. That is, in order for the marketing mix adaptation process to happen, the firm must develop a market knowledge-based capability. By turning this information into organizational knowledge, firms can implement the marketing mix adaptations needed.

Since the marketing mix is central to marketing strategy, especially in the global arena, much research has been devoted to the relationship between marketing adaptability and firms' international performance (Schilke, Reimann, & Thomas, 2009). In the BG context, however, we still lack concrete knowledge. Previous research refers to the subject in passing, either on the organizational performance level (Shneor and Efrat, 2015), or by focusing on specific parts of the marketing strategy (Bell, McNaughton, & Young, 2001; Freeman, Edwards, & Schroder, 2006; Svensson, 2006). For the most part, these prior studies support the initial thought that due to their highly homogeneous target niches, BGs tend to use a standardized marketing mix across markets (Gabrielsson & Gabrielsson, 2003).

But while the impact of adaptability on firms' performance received some attention, the adaptability-innovativeness linkage was barely investigated although some findings hint in this direction. Freeman et al. (2010) conclude that competitiveness is achieved through quicker responsiveness to market opportunities. Moen and Servais (2002) describe competitive products as those that provide added value for the customers. Kocak and Abimbola (2009) link competitiveness and market orientation, claiming that

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by producing new products when entering new markets, BGs build strong relationships with their customers. Tuominen et al. (2004) addressed marketing adaptability more generally, concluding that it significantly impacts firms' innovativeness. We therefore formulate

H3. Higher levels of marketing adaptability will enhance BGs' innovativeness

Teng and Cummings (2002) addressed the issue of inward- vs. outward-oriented capabilities. According to their definition, both market intelligence generation and team cohesion are inward-oriented capabilities, that is, capabilities which serve to improve internal processes: the former helps improve information gathering processes, while the latter helps translate this information more efficiently into knowledge. Marketing adaptability, on the other hand, is defined as the ability to bridge the differences between the firm's home and target markets in terms of environmental and competitive forces, as well as between the two markets' consumer characteristics and demands (Leonidou, Katsikeas, & Samiee, 2002); it is therefore regarded outward-oriented.

As such, marketing adaptability is bound to be influenced by the environment of the target market within which it operates. In other words, the target market environment bears significant potential impact on the firm's ability to meet its goals with respect to marketing adaptability.

Previous research argued that macro-level environments, specifically economic and technological environments, moderate the link between planning and performance in international ventures in general (Hultman, Robson, & Katsikeas, 2009). In addition, it appears that firms' performance is enhanced when there is a strategic fit between the target market's macro-level environments and the firms' strategic choices, implying that when the home and the target market environments are similar, standardization will enhance firms' performance (Katsikeas, Samiee, & Theodosiou, 2006). Macro-level environments also directly impact BGs' performance, especially in the first few years of operation (Efrat & Shoham, 2012).

Economic environments incorporate a set of economic conditions, all of which potentially bear on firms' operations. Previous research provided mixed results with respect to economic environments. On the one hand, it has been found that the greater the similarities between markets, the greater the use of standardized marketing activities. On the other hand, economically developed environments represent greater purchasing power and hence greater market potential; they therefore offer greater incentives for adaptation in order to maximize market potential (Hultman et al., 2009).

These two conflicting forces seem to behave differently, however, when it comes to BGs. Since BGs are young and relatively inexperienced, they tend to manifest a "chameleon effect"—that is, to adapt to their target market characteristics while ignoring their home market characteristics (Efrat & Shoham, 2012). In support of this, Hallbäck and Gabrielsson (2013) found that turbulent environments contributed to international new ventures' innovativeness and increased the level of marketing adaptation. We therefore hypothesized that the influence of the economic environment will overcome the tendency to use standardization. Hence,

H4a. Marketing adaptability's positive relationship with BGs' innovativeness grows stronger as level of economic development increases

The moderating impact of the technological environment is similar to that of the economic environment: the greater the similarities between the home and target markets, the more standardized the marketing mix (Hultman et al., 2009).Previous findings show that when the level of technological turbulence rises, SMEs become more innovative (Uzkurt et al., 2012) and in technology-intensive industries, firms tend to use the adaptation strategy (Powers & Loyka, 2010).

H4b. Marketing adaptability's positive relationship with BGs' innovativeness grows stronger when level of technological development increases

4. Method

4.1. Sample and data collection

In line with Knight et al.'s (2004) operational definition of BGs, the target participants of the study were firms that entered foreign markets within three years of inception and at least 25% of whose sales were from exports. We approached firms that are included in the Israeli Venture Capital (IVC) database. The sampling frame initially included 609 firms. After excluding R&D centers of foreign firms, the usable list comprised 426 relevant firms. We then approached each firm by phone, ending up with 294 firms that met our criteria. Based on the information received from the phone survey, we sent an online questionnaire to a member of the managerial team (CEO, chief of marketing, head of business development), using the Qualtrics application. This was followed by a phone reminder three weeks after the initial contact. We received 127 usable questionnaires (a 42.5% response rate). Among these, 25% of the companies were established between 1973 and 2000, 35% between 2000 and 2005, 29% between 2006 and 2010 and the rest were established after 2010. 25% of the companies have up to ten10 employees, 31% of them employed up to 25 people, 8.5% have up to 75, 16% employed up to 130 people, 15% have 300–750 employees, and additional 4.5% employ 2500–5000 employees. The companies have diverse products, in the fields of high-tech, bio-tech and clean-tech.

To check for non-response bias, we compared early to late respondents (Armstrong & Overton, 1977). No significant differences were found on sample characteristics. We also performed factor analysis to check for common method bias. The first factor accounted for less than 14% of the variance. We also performed a CFA analysis. Both tests showed very low likelihood for common method bias.

4.2. Measures

All of the measures were sourced from existing scales in marketing and management. Table 1 provides descriptive statistics, correlations and AVEs for the different constructs.

Market intelligence generation was measured based on eight items sourced from Jaworski and Kohli's (1993) scale for market orientation. The construct's AVE was 0.85, and its CR was 0.89, suggesting good discriminant validity and reliability.

Marketing adaptability was measured based on Lages, Abrantes and Lages (2008), using the 13 items that best represented the three aspects of the marketing mix. Each of the constructs composing the marketing mix was measured using specific items: product adaptability (four items), price adaptability (three items), and marketing communication adaptability (six items). The respondents were asked to evaluate their firm's willingness to adapt the different aspects of their marketing strategy to the target market's demands and requests. Exploratory factor analysis revealed that marketing communication loaded on two separate constructs; it was therefore divided into salesforce adaptability and communication adaptability, the former addressing the salesforce aspects while the latter incorporated all other aspects

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Table 1
Descriptive statistics and correlation matrix.

	CR	AVE	Mean	Sd	1	2	3	4	5	6	7	8	9
1. Market intelligence	0.89	0.86	3.6	0.72	0.92								
2. Price adaptability	0.80	0.57	2.94	1.13	−0.06	0.76							
3. Product adaptability	0.80	0.70	2.02	0.88	0.10	.29**	0.84						
4. Communication adaptability	0.85	0.85	2.88	1.04	0.14	.37**	0.16	0.92					
5. Sales force adaptability	0.85	0.76	2.73	1.21	−0.02	.47**	.20*	.40**	0.87				
6. Task cohesion	0.80	0.70	4.10	0.83	.30**	−0.05	0.00	0.00	−0.05	0.84			
7. Social cohesion	0.76	0.71	2.91	0.90	0.08	0.03	0.02	0.05	0.15	0.17	0.85		
8. Innovativeness	0.550	0.600	4.02	0.57	.43**	−0.05	−0.06	0.01	−0.04	.24**	0.10	0.77	
9. Technological development			5.4	0.55	0.08	−0.26*	−0.14	−0.19	−0.05	0.03	.30**	0.02	
10. Economic development			43,487.06	16,203	0.06	−0.23*	−0.16	0.05	−0.07	0.05	.25*	0.07	.85**

*Square rooted AVEs on the diagonal.

of marketing communication. The AVE and CR for product adaptability were 0.70 and 0.80 respectively; AVE and CR for price adaptability were 0.57 and 0.80 respectively; AVE and CR for marketing communication adaptability were 0.85 and 0.85 respectively; and the AVE and CR for salesforce adaptability were 0.76 and 0.85 respectively. Our results suggest acceptable discriminant validity and good reliability.

Team cohesion was measured based on seven items from Carless and De Paola (2000). Similar to the results reported in the original paper, exploratory factor analysis revealed that the seven items loaded on two separate constructs: task cohesion (four items), and social cohesion (three items). The task cohesion's AVE and CR were 0.70 and 0.80 respectively; AVE and CR for social cohesion were 0.71 and 0.76 respectively. These results also suggest acceptable discriminant validity and good reliability

Innovativeness was measured using the scale proposed by Deshpandé, Farley, & Webster Jr (1993). The scale captures two different innovation-related aspects: the level of innovation incorporated into the products, and the level of product innovation as perceived by the target market. The original scale contained five items. Preliminary discussions with CEOs of several BGs revealed, however, that the first four items measure the same thing; we therefore aggregated them into one item, resulting in a two-item scale. The AVE of the construct was 0.60, suggesting acceptable discriminant validity. The CR value of the measurement is fairly low (.55), given the two-item scale, since the reliability measure is sensitive to the number of items (Peterson, 1994).

All items were 5-point Likert-type scales (see Appendix A– standardized loadings and error variance values for each of the items).

The environmental moderators were measured using two target market–related variables: level of economic development, and level of technological development. Economic development data were taken from the "Global Competitive Report 2010–2011" (Schwab, 2010), published by the World Economic Forum. The technological development data were taken from the Information and Communication Technologies (ICT) index (ITU, 2009). The range of years we chose for each environmental indicator corresponds to the BGs' time of entry to their main foreign market.

5. Findings

The conceptual model described in Fig. 1 was tested through structural equation analysis using AMOS20 software. To reduce noise in the analysis, we followed Bollen's (1989) recommendation to calculate the latent constructs and use them as indices in the model. As such, our structural equation analysis was based on the constructs themselves rather than on the original indicators. This procedure reduced the degrees of freedom of the overall model. The fit measures were highly satisfactory ($\chi^2 = 0.830$, df = 2, χ^2/df = 0.415, $p > 0.10$, TLI = 1.064, CFI = 1.00, RMSEA = 0.00). Table 2 present the fit measures, while Table 3 presents the estimated coefficients, t values, and significance of the model constructs.

H1 suggesting that higher levels of market intelligence will enhance BGs' innovativeness was supported by the hypothesis. We

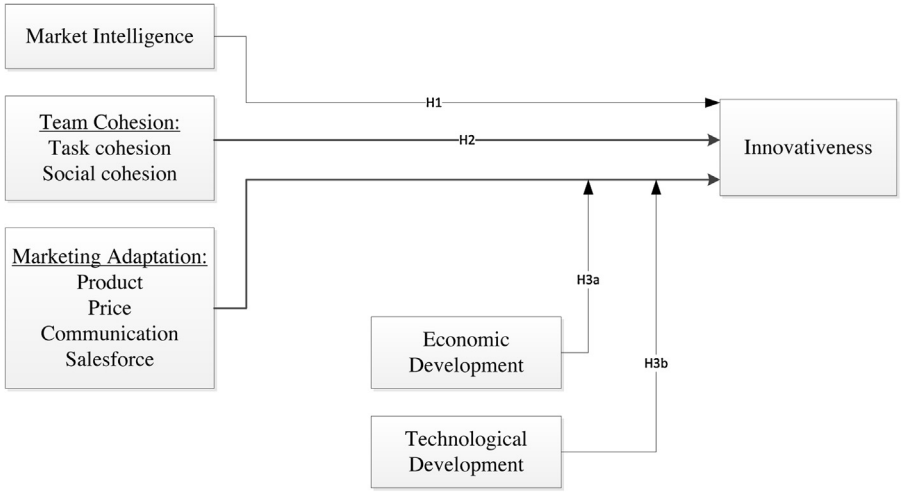

Fig. 1. Research Model.

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Table 2
Fit measures.

	χ^2 (df)	χ^2 /(df)	P	TLI	CFI	RMSEA
CFA	439.340 (377)	1.165	0.015	0.930	0.944	0.036
SEM Model	0.830 (2)	0.415	0.660	1.064	1.000	0.000

CFA – Confirmatory Factor Analysis of all measures.
Restricted Model – Structural Model containing the independent variables.
Unrestricted Model – Structural Model containing independent and moderating variables.
TLI – Tucker –Lewis coefficient Index.
CFI – Comparative Fit Index.
RMSEA – Root Mean Square Error of Approximation.

found that the greater a BG's marketing intelligence, the greater its innovativeness ($\beta = 0.400$, $p < 0.001$). H2a suggested that higher levels of social cohesion will reduce BGs' innovativeness, but it was not supported. H2b suggested that higher levels of team cohesion will enhance BGs' innovativeness. It was found that the greater the task cohesion of the R&D team, the greater the firm innovativeness ($\beta = 0.130$, $p < 0.05$). H3 suggested that higher levels of marketing adaptability will enhance BGs' innovativeness, which was not supported. No significant links were found between the four dimensions of market adaptability and innovativeness.

H4a posited that the relationship between marketing adaptability and BGs' innovativeness is stronger under higher levels of economic development. As Table 3 shows, the hypothesis was supported only for the interaction between economic environment and salesforce adaptability ($\beta = 0.628$, $p < 0.01$). In contrast, we found a negative relationship between the economic environment and product adaptability ($\beta = -1.08$, $p < 0.001$) and communication adaptability ($\beta = -1.36$, $p < 0.01$). This means that under higher levels of economic development, using product adaptability or communication adaptability will decrease BGs' innovativeness. No significant relationship was found between economic development and price adaptability.

Table 3
Structural Model Results.

Variable name	Weights (t-value)
Independent variable	
Market intelligence	**0.400***** (4.776)
Task cohesion	**0.130*** (1.604)
Social cohesion	0.039 (.458)
Product adaptability	0.007 (.073)
Price adaptability	−0.080 (−0.739)
Communication adaptability	0.114 (.844)
Sales force adaptability	−0.068 (−0.623)
Moderating variable	
Product adaptability × Technological development	**1.216***** (2.494)
Product adaptability × Economic development	**−1.080***** (−2.654)
Price adaptability × Technological development	−0.778 (−1.282)
Price adaptability × Economic development	0.703 (.839)
Communication adaptability × Technological development	1.175 (1.499)
Communication adaptability × Economic development	**−1.356**** (−1.879)
Sales force adaptability × Technological development	**−0.657**** (−1.890)
Sales force adaptability × Economic development	**0.628**** (1.862)
R^2	0.33

* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

H4b posited the relationship between marketing adaptability and BGs' innovativeness to be stronger under higher levels of technological development. This was confirmed for the interaction between technological development and product adaptability ($\beta = 1.216$, $p < 0.001$). In contrast, a negative relationship was found between technological development and salesforce adaptability ($\beta = -0.657$, $p < 0.01$). This means that under higher levels of technological development, using product adaptability will enhance BGs' innovativeness while using salesforce adaptability will decrease it. No significant relationship was found between technological development and either price or communication adaptability.

6. Discussion

Our aim in this study has been to expand existing knowledge of the relationship between innovation and marketing in BGs, as suggested by Rennie (1993). Based on preliminary interviews with senior managers of BGs, we identified three such capabilities. We followed the interviews by testing the linkage between market intelligence generation, team cohesion, and market adaptability on BGs' innovativeness. Based on previous studies, we argued that BGs' operations should be measured in terms of their innovativeness, as a major driver of their competitiveness and survival.

The analysis supported our hypothesis regarding the positive impact of market intelligence generation on BGs' innovativeness, confirming our claim that market intelligence generation provides useful information which triggers innovation-related processes, hence grounding the market positioning of firms (Zhang & Duan, 2010). While previous research emphasized the importance of unique know-how and other relevant sources of innovation for BGs' operations (Knight & Cavusgil, 2004), the present study advocates adding market intelligence generation as a substantial source which can give BGs a better understanding of market conditions, customer needs and abilities, etc., and thus help them create a unique and innovative value proposition (Lackman, Saban, & Lanasa, 2000).

Task cohesion also showed a significant impact on innovativeness. As mentioned earlier, team cohesion was suggested by a number of managers who were asked to comment on the reasons for BGs' success. Our findings showed that while social cohesion does not impact BGs' innovativeness, task cohesion, which focuses on work relationships, bears significant impact on BGs' innovativeness. These findings are consistent with Hirunyawipada et al. (2015) about the positive effect of task cohesion on the ideation of new products. The reason for this may be that the organizational culture of BGs encourages long working hours, making task cohesion much more crucial in terms of its potential impact on team performance, which in turn impacts firms' innovativeness. Further investigation into the subject is needed in order to fully grasp its relationship with BGs' operations and innovativeness. This finding represents an initial advance towards a better understanding of team cohesion and its role in achieving firms' goals and impacting their performance.

We now turn to the moderating impact of economic and technological environments on the relationship between marketing adaptability and BGs' innovativeness. Before we start discussing this set of relationships, we need to elaborate on two issues

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that influenced the set of relationships revealed to us when we introduced the moderating factor. First, innovativeness was measured using a subjective scale: that is, the managers were asked to assess how innovative their firm was. We may assume that the perceptions of the firm's customers impacted their assessment. Second, innovativeness is a constantly changing condition. Being innovative once does not guarantee future innovation: firms must maintain their level of innovation by constantly striving for new discoveries (Hallbäck & Gabrielsson, 2013). In an environment made increasingly dynamic by globalization and technological change, firms require ever-growing inputs in order to remain innovative, but can also sustain innovativeness for increasingly shorter periods of time before other firms get ahead by either imitating or themselves innovating. It is in light of these two sets of circumstances that our findings must be viewed.

We discovered that in countries with a highly developed economy, using a local salesforce enhanced BGs' innovativeness while adapting the product and the communication jeopardized it. In technologically developed countries the findings were reversed: adapting the product to the local market was found to enhance BGs' innovativeness, but using a local salesforce was found to reduce it.

Markets in economically developed countries are generally regarded as having high potential in terms of sales and revenues. Using a local salesforce provides the necessary understanding of the market, enabling the firm to provide better value to the customers as well as forming an open channel of communication. Knowledge of the local market also facilitates smoother operation, impacting the firm's innovativeness. But while adapting the salesforce facilitates BGs' innovativeness, it does not facilitate marketing communication. Our findings suggest that developing countries will benefit more from using standardized communication, which we explain by focusing on the purpose of brand image. While the salesforce aims at addressing customer demands and requests, marketing communication is aimed at creating the overall image of the brand (Kim & Hyun, 2011); hence using standardized communication can contribute to innovativeness perception much more. On the same note, operating in a highly developed country forces firms to maintain short time to market due to the competitive intensity often associated with such markets. Any diversion from the original product design will result in wasted time. Product adaptation requires planning and implementation. Both processes are time-consuming: while they might create value in terms of increased sales in the long run, they thus bear a significant risk in term of the time gap which reduces the firm's innovativeness (Dixon, Meyer, & Day, 2014).

As for the impact of adaptability in technologically developed countries, here the findings were reversed. Product adaptation increased innovativeness, while using a local salesforce led to the opposite outcome. A possible explanation for both findings has to do with the nature of such markets. Technologically developed markets attract innovation because they are known for their high adoption rate. For this reason, technological breakthroughs are often developed based on the sophisticated demand presented by these markets. Since such markets serve as a beacon guiding the way for other markets, gaining a foothold in such markets is considered a strategic goal and a step toward success (Zhou & Wu, 2010). BGs are technology-oriented firms. They are recognized for their innovative solutions, and it stands to reason that they will aim to obtain a market position in technologically developed markets. They can attain this goal more easily by adapting their products to market demands, hence lowering the barriers for entry and achieving innovativeness (Chryssochoidis & Wong, 2000). This is not the case, however, with respect to employing a local salesforce. Here, market characteristics give an advantage to a specialist, more experienced salesforce over a local one (Hultink, Atuahene-Gima, & Lebbink, 2000). Employing a local salesforce might thus jeopardize the firm's level of innovativeness as perceived by its customers.

Before we proceed, some limitations must be acknowledged. First, the study targeted the main export market of each BG. Over 50% of the firms noted the U.S. as their main market. This high concentration may have impacted the findings; future research should therefore aim at a better balance of the target countries. Second, the team cohesion factor represented a cultural aspect which has received very little attention to date. Also, since the current study showed that only task cohesion has a direct impact on innovativeness, a clearer understanding of this factor is needed in order to fully grasp its potential. Furthermore, the study was conducted partly during the late stages of the recent global economic crisis. Since the study focused on technology-oriented firms and on the U.S. market, it is only reasonable to assume that the results were somewhat influenced by the crisis. Finally, the relatively small sample size of BGs included in the study is explained by the difficulty in gathering information from privately-owned technology-oriented firms. This is due to their hesitation to share information which might be used later on by their competitors. Previous research on BGs was therefore conducted either in the form of qualitative studies (Laanti, Gabrielsson, & Gabrielsson, 2007; Nordman & Melén, 2008; Styles, Gray, Sullivan Mort, & Weerawardena, 2006), or using relatively small sample sizes, especially when the firms were from small economies (Gabrielsson, Gabrielsson, & Seppälä, 2012).

7. Managerial implications

Our findings bear significant practical implications. Two main features distinguish BGs from other globally operating firms. BGs are young and therefore relatively inexperienced. They also tend to suffer from lack of tangible resources, specifically financial ones. The two often interact, resulting in delay of the global expansion of BGs (Weerawardena et al., 2007). In light of this, it is imperative for BGs to enhance their innovativeness as a means of distinguishing themselves from their competitors. Gaining innovative positioning in major markets can reduce barriers that prevent further international expansion, hence improving their survival chances. Our findings suggest that by developing specific capabilities, BGs can enhance their innovativeness: By implementing market intelligence generation as well as encouraging the creation of task cohesion—both considered inward-focused capabilities—BGs can leverage their innovativeness. Market intelligence can facilitate the production of better solutions while task cohesion leverages the abilities of the R&D team to extract the best output from the intelligence obtained.

As for marketing adaptability, here our findings emphasize the importance of the strategic fit concept. Namely, that the choice of adaptation should conform with the target market's characteristics in terms of economic and technological development. Product, communication, and salesforce are the three components that have the most impact on innovativeness in the context of marketing adaptability, but while in economically developed countries salesforce adaptation will work in BGs' favor, technologically developed countries' best strategy is product adaptation.

Finally, while all the capabilities suggested are associated with extra costs to develop and maintain them, in today's world market, intelligence generation can be achieved by using web sources, which provide useful information at relatively low (if any) cost (Mata & Quesada, 2014; Vaughan & You, 2011). This information can be supplemented by BGs' business partners who often have access to accurate and immediate market intelligence generation—again, at no increased cost (Mort & Weerawardena, 2006).

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8. Conclusion

Following Rennie's (1993) initial conclusion regarding BGs' innovativeness, we have suggested a set of capabilities—market intelligence, marketing adaptability, and task cohesion—as facilitators of firms' innovativeness. Our findings indicate that when moderated by the environment, adaptability impacts firms' innovativeness. On the basis of these results, we conclude that alongside innovation and technological capabilities, marketing capabilities are crucial in creating and maintaining value for BGs' customers. Metaphorically speaking, BGs' innovation capabilities depend on the firm's ability to hold its head in the clouds; therein is the vision that drives new generations of products. When practicing its marketing capabilities, the firm's feet remain firmly planted on the ground as it must in order to keep up to date with its customers' needs.

Appendix A. Items, factor loading and error variance

Items and examples of items sources	Standardized loadings	Error variances
Market intelligence (Jaworski & Kohli, 1993)		
In this business we meet with customers at least once a year to find out what products/services they will need in the future.	0.559	0.127
Individuals from our manufacturing department interact directly with customers to learn how to serve them better.	0.480	0.183
We do a lot of in-house market research.	0.501	0.128
We poll end users at least once a year to assess the quality of our products/services.	0.594	0.160
We often talk with or survey those who can influence our customers.	0.753	0.091
We collect industry information through informal means.	0.553	0.101
Intelligence on our competitors is generated independently by several.	0.546	0.154
We periodically review the likely effect of changes in our business environment.	0.565	0.087
Product adaptablity (Lages et al., 2008)		
Positioning	0.801	0.126
Design/style	0.704	0.159
Brand/branding	0.699	0.129
Items/models in product line	0.607	0.133
Price adaptability (Lages et al., 2008)		
Price	0.846	0.078
Profit margins	0.914	0.081
Discounts	0.811	0.091
Salesforce adaptability (Lages et al., 2008)		
Sales force structure/management	1.005	0.267
Sales force role	0.693	0.164
Communication adaptability (Lages et al., 2008)		
Advertising	0.812	0.108
Media allocation	0.795	0.110
Public relations	0.735	0.119
Advertising/promotion budget	0.707	0.124
Task cohesion (Carless & De Paola, 2000).		
This team is united in trying to reach its goals for performance.	0.706	0.057
I'm unhappy with this team level of commitment to the task.	0.766	0.109
These team members have conflicting aspirations for the team performance.	0.791	0.102
This team does not give its members enough opportunities to improve their personal performance.	0.529	0.119
Social cohesion (Carless & De Paola, 2000).		
This team likes to spend time together outside the work hours.	0.653	0.116
These team members rarely party together.	0.764	0.143
Members of this team would rather go out on their own rather than get together as a team.	0.725	0.105
Innovativeness (Deshpandé et al., 1993)		
Level of innovativeness (First-to-market −1; Later entrant in established but still growing markets − 2; Entrants in mature, stable markets − 3; Entrants in declining markets − 4)	0.371	0.052
At the cutting edge of technological innovation	0.829	0.150

All items (But Level of Innovativeness) are based 0n a 5-point Likert scale.

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