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## Strategy and business economics

# International orientation and export commitment in fast small and medium size firms internationalization: scales validation and implications for the Brazilian case

*Orientação internacional e comprometimento exportador na rápida internacionalização de pequenas e médias empresas: validação de escalas e implicações para o caso brasileiro*

*Orientación internacional y compromiso de exportación en la rápida internacionalización de pequeñas y medianas empresas: validación de escalas e implicaciones para el caso brasileño*

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## Abstract

A set of changes in the competitive environment has recently provoked the emergence of a new kind of organization that has since its creation a meaningful share of its revenue being originated from international activities developed in more than one continent. Within this new reality, the internationalization of the firm in phases or according to its growth has resulted in it losing its capacity to explain this process with regard to small- and medium-sized enterprises (SME). Thus, in this paper, the international orientation (IO) and export commitment (EC) constructs have been revised under a theoretical context of the fast internationalization of medium-sized companies, so as to identify scales that more accurately measure these dimensions in the Brazilian setting. After a literature review and an exploratory research, the IO and EC scales proposed by Knight and Cavusgil (2004) and Shamsuddoha and Ali (2006) were respectively applied to a sample of 398 small- and medium-sized exporting Brazilian companies. In spite of conjunction and situation differences inherent to the Brazilian companies, the selected scales presented high measuring reliability. Furthermore, the field research outcomes provide evidence for the existence of a phenomenon of fast internationalization in medium-sized companies in Brazil, as well as support some theoretical assumptions of other empirical investigations carried out with samples from developed countries.

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**Keywords:** Small- and medium-sized firm internationalization; Born Globals; International orientation; Export commitment

## Resumo

Recentemente, um conjunto de mudanças no ambiente competitivo mundial trouxe à tona um novo tipo de organização em que, desde sua criação, uma parcela significativa de seu faturamento provém de atividades internacionais desenvolvidas em mais de um continente. Nesse contexto, o processo de internacionalização de empresas por estágios e de caráter incremental perdeu seu poder explicativo no caso dessas novas pequenas e

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médias empresas (PME). Assim, o presente estudo revisou os construtos da orientação internacional (OI) e de comprometimento com a exportação (CE), dentro do campo teórico da rápida internacionalização de PMEs, para identificar escalas que melhor aferissem essas dimensões no contexto brasileiro. Após a revisão de literatura e uma pesquisa exploratória, as escalas de OI e CE propostas por Knight e Cavusgil (2004) e Shamsuddoha e Ali (2006), respectivamente, foram aplicadas em uma amostra de 398 empresas brasileiras exportadoras de pequeno e médio porte. Apesar das diferenças conjunturais e situacionais inerentes às empresas brasileiras, as escalas selecionadas apresentaram elevada confiabilidade de mensuração. Ainda, os resultados da pesquisa de campo trazem evidências da existência do fenômeno da rápida internacionalização de PMEs no Brasil, bem como reforçam alguns pressupostos teóricos de outras investigações empíricas feitas com amostras de PMEs em países desenvolvidos.

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*Palavras-chave:* Internacionalização de pequenas e médias empresas; *Born globals*; Orientação internacional; Comprometimento exportador

## Resumen

Recientemente, un conjunto de cambios en el ambiente competitivo mundial hizo aparecer un nuevo tipo de organización en que, desde su creación, una parte significativa de la facturación proviene de actividades internacionales llevadas a cabo en más de un continente. En este contexto, el proceso de internacionalización de empresas por etapas y de carácter incremental perdió su poder explicativo en el caso de estas nuevas pequeñas y medianas empresas (PYME). Así, en el presente estudio se repasaron los conceptos de orientación internacional (OI) y de compromiso con la exportación (CE), dentro del campo teórico de la rápida internacionalización de PYME, para identificar escalas que mejor cotejasen estas dimensiones en el contexto brasileño. Después del análisis de la literatura y un estudio exploratorio, las escalas de OI y CE propuestas por Knight y Cayusgil (2004) y Shamsuddoha y Ali (2006), respectivamente, fueron aplicadas a una muestra de 398 empresas brasileñas exportadoras pequeñas y medianas. A pesar de las diferencias coyunturales y situacionales inherentes a las empresas brasileñas, las escalas seleccionadas presentaron elevada fiabilidad de medición. Los resultados del estudio de campo aportan evidencias de la existencia del fenómeno de la rápida internacionalización de PYME en Brasil, así como refuerzan algunos presupuestos teóricos de otros estudios empíricos realizados con muestras de PYME en países desarrollados.

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*Palabras clave:* Internacionalización de pequeñas y medianas empresas; *Born globals*; Orientación internacional; Compromiso con la exportación

## Introduction

A set of changes in the global competitive environment, most notably from 1990, brought out a new type of Small and Medium Enterprises (SMEs) that, since its inception, have a significant portion of its revenues coming from international activities (Knight & Cavusgil, 1996; Oviatt & McDougall, 1994). This phenomenon has received several names, including the following: Born Globals (BG), International New Ventures, Global Start-ups, and Instant Internationals, among others (Rialp, Rialp, & Knight, 2005).

The phenomenon of rapid internationalization of SMEs has intrigued researchers in the recent decades (Chandra, Styles, & Wilkinson, 2012), mainly due to the peculiar characteristics of this type of organization and also because of their counteracting the corollary of traditional theories that explain the process of internationalization in companies (Knight & Cavusgil, 2005; Moen & Servais, 2002; Oviatt & McDougall, 1994).

According to several empirical studies, the factor that most contributes to the early internationalization behavior of SMEs is the belief by their managers that the target market is any market, whether domestic or international. For the executives of those companies, the market, unlike the gradual international companies, is global (Hagen & Zuchela, 2014; Zhang, Tansuhaj, & McCullough, 2009).

Thus, a key internal factor of accelerated internationalization in SMEs most researched, even considered an antecedent to this phenomenon, is the managers' strong orientation toward

foreign markets. Researchers who investigated this internal history of BG called such managers' behavior as international orientation (IO) or global orientation (Knight & Cavusgil, 1996, 2004; Kyvik, Saris, Bonet, & Felício, 2013; Moen & Servais, 2002; Rialp et al., 2005; Zahra, 2005).

On the other hand, several researchers have noticed the fact that managerial attitudes also influence the exports of a company, especially in the case of SMEs. Those attitudes are usually identified as the commitment of organizational resources, promoted by its managers, toward the export activity (Leonidou, Katsikeas, & Piercy, 1998; Mehran & Moini, 2001; Sousa, Martínez-López, & Coelho, 2008). Zou and Cavusgil (2002) and Cavusgil and Zou (1994) identified that the commitment of resources of a company toward exports has a direct impact on the speed of internationalization and the global performance of that company.

Therefore, it is clear that the BGs managers play a key role in their organization's rapid internationalization (Andersson & Floren, 2011; Kyvik et al., 2013); in addition, a subjective dimension, their international orientation (IO), and an objective dimension, its export commitment (EC), can help explain the accelerated internationalization (Autio, 2005; Freeman & Cavusgil, 2007; Johanson & Vahlne, 2003; Knight & Cavusgil, 1996, 2004; Rialp et al., 2005).

Another convergence in the studies on the BG is that the existence of such companies is more common in developed countries with a strong share of exports in GDP (Autio, 2005; Hagen & Zucchela, 2014; Knight & Cavusgil, 2004; Moen & Servais, 2002; Rennie, 1993). However, recently there has been a

significant increase in Brazilian exports, which jumped from US\$ 31.4 billion in 1990 to US\$ 242 billion in 2013 (MDIC, 2014). One should consider the existence of Born Global firms in Brazil. In addition, 75% of Brazilian exporting companies are micro-, small- and medium-sized (MDIC, 2014).

Therefore, the Brazilian SMEs have experienced a new economic and competitive context that, since the 90s, has been consistent with the occurrence of SMEs that internationalized in an accelerated way, “jumping” stages of the traditional process of internationalization. Dib, Rocha, and Silva (2010) state that the Born Global phenomenon is not limited to specific countries; however, companies in countries with small domestic markets are more likely to become BG. It is clear, from this reality, that there is a lack of studies on the rapid internationalization of SMEs in emerging countries with large domestic market (Chetty & Campbell-Hunt, 2004; Dib et al., 2010; Rialp et al., 2005).

In this sense, this article sought to answer the following research question: how to evaluate the International Orientation and Export Commitment in the case of rapid internationalization of Brazilian SMEs? So, as a general objective, this paper aimed to verify the existence of Brazilian BG firms and validate a scale to assess the managers IO of SMEs and another scale that measures the EC of those executives. As specific objectives of the study, it sought to (i) identify scales of IO and EC on SME and Born Globals studies and (ii) explore some implications for BG study in Brazil. The validation of IO and CE scales to the context of Brazilian SMEs, from a sample of 398 companies, can contribute to advance knowledge about the recent phenomenon of BG companies, in addition to discussing the existence and characteristics of the rapid SMEs internationalization process for the Brazilian case.

### The rapid internationalization phenomenon

The phenomenon of Born Global firms emerged as a major theme of scientific research in the field of internationalization of companies in the early 90s (McKinsey & Co., 1993; Oviatt & McDougall, 1994; Rennie, 1993; Rialp et al., 2005). Ganitsky (1989), in a study of Israeli companies, drew attention to a group of organizations that have been established specifically to meet foreign markets, which he called “innate exporters”.

Other researchers such as Oviatt and McDougall (1994, p. 49) point out some common characteristics that bring together this particular type of companies, defining them as “organizations that, since inception, seek to derive significant competitive advantage from the use of resources and sale outputs in multiple markets”. For them, the focus was not on the size but on the age, that means the time between the foundation of these companies and their entrance into the international market.

Knight (1997, p. 1), in turn, said that “Born Global is defined as a company which, from or near its founding, or next to this, seeks to derive a substantial portion of its revenue from the sale of its products in international markets.” The author points out that managers of these organizations see the world as a single market without frontiers. According to Madsen and Servais (1997), BGs are companies that adopt an international or global approach to the market since birth or shortly after. Perhaps the more precise

criteria had been elaborated by Knight and Cavusgil (1996). They argue that BG has at least 25% of its revenue from overseas sales, having started its exports within three years of its creation.

But the Born Global term was coined as a result of a survey conducted by the Australian Manufacturing Council in 1993, which investigated the reasons for the strong growth of Australian exports in the 90s and called their attention to a group of young small businesses that have achieved great successes seeking niche markets internationally, not domestically (Madsen, 2013; Rasmussen & Madsen, 2002; Rennie, 1993).

After the findings of the Australian study and by Ganitsky (1989), several other studies have been conducted around the world in order to verify the occurrence of this phenomenon in different countries, their characteristics, background and consequences (Danik & Kowalik, 2013; Knight & Cavusgil, 1996; Moen & Servais, 2002; Rialp et al., 2005). Thus, other terms and concepts associated with the rapid internationalization phenomenon have been developed, such as the expression leapfrogging, reflecting the behavior of a company that jumps the early stages of involvement of the traditional model. The reasons for this behavior are related to the homogenization of global markets and the fact that the internationalization of business now features as a key strategy of the company (Madsen, 2013; Rasmussen & Madsen, 2002).

### International orientation

The factor that most explains the BG phenomenon, according to several empirical studies, is the vision and guidance of managers in relation to the internationalization of these companies, that is, the manager’s international orientation (Danik & Kowalik, 2013; McDougall, Oviatt, & Shrader, 2003; Nummela, Saarenketo, & Puumalainen, 2004). Knowledge and experience in foreign markets, treated in various studies as international entrepreneurial orientation, are significant antecedents to the performance of these companies in foreign markets (Dib et al., 2010; Knight, 1997; Knight & Cavusgil, 2005; Rialp et al., 2005).

According to Freeman and Cavusgil (2007), the IO refers to a wide range of demographic and psychological characteristics. For these authors, executives with international orientation have high tolerance to psychic distance from markets (Freeman, Hutchings, & Chetty, 2012), good educational background, international experience, mastered foreign languages, are less averse to risk and have positive attitude toward internationalization (Dib et al., 2010; Freeman et al., 2012; Zhang et al., 2009).

Knowledge of international business is another factor that affects the HI of the company, because it facilitates the entry and operation of foreign markets. In addition, the knowledge of doing business abroad can serve to enhance the company’s ability to understand and use the relationship between informational factors to achieve certain goals (Knight & Cavusgil, 2004; Zhang et al., 2009). The IO should be understood in the sense of the entrepreneurial capacity of the executive, which would boost Born Global firms to develop high quality products

that would be distinct and advanced in technology (Freeman et al., 2012). More recently, Kyvik et al. (2013) found that the global orientation or global mindset is associated with SME's internationalization speed.

#### *International Orientation Scales*

The manager's international orientation, according to several studies, can be characterized as a multidimensional construct, with the global orientation or global mindset (Freeman & Cavusgil, 2007; Kyvik et al., 2013; Nummela et al., 2004) as a broader concept. One of the first empirical studies that tried to identify the phenomenon of Born Global firms was the study of Knight (1997), where the construct of the global orientation was derived from the market orientation construct from Narver and Slater (1990) and Jaworski and Kohli (1993). Subsequently, Moen (2002), in Norway and France, and Moen and Servais (2002), in Denmark, Norway and France, replicated the scale proposed by Knight (1997) to measure the international orientation.

However, another factor associated with the rapid internationalization is the transmission of the global strategic vision of the main executives of an organization (Oviatt & McDougall, 1995). Knight and Cavusgil (2004) explored the role of innovative culture and organizational capacity in the rapid internationalization of BG firms and the impact on performance. In this study, the authors used the term international entrepreneurial orientation, reflecting on the innovative capacity and proactivity of a company to reach foreign markets. This new concept thus overlaps the international orientation limited to the rapid internationalization of business (Nummela et al., 2004). Thus, the international entrepreneurial orientation of 203 US industries was identified by Knight and Cavusgil (2004) as a significant feature of BG firms.

Knight and Cavusgil (2005) conducted a study of 365 US companies characterized as BG to develop taxonomy of types of Born Global firms. The empirical research used the same scale of international entrepreneurial orientation used by them in 2004, now known as International Orientation, and demonstrated again that manager IO is a significant antecedent of BG performance; at the same time, that the research also validated the scale.

Nummela, Puumalainen, and Saarenketo (2005) conducted a study with 123 Finnish information technology firms to identify what they called the orientation for international growth. The IO here has also been seen as a precondition for a Born Global firm, particularly in intensive knowledge companies (Rialp et al., 2005). In another study, Jantunen, Nummela, Puumalainen, and Saarenketo (2008) replicated the scale for international growth developed by Nummela et al. (2005), with 299 Finnish firms from several industrial sectors. In this study, the authors validated the proposed instrument to measure the construct for international growth, and supported the idea that the orientation for international growth is a significant antecedent and a feature of BG firms.

Kyvik et al. (2013), in turn, used the global orientation construct to assess the global mindset and, at the same time, the managers' international orientation of Portuguese and Norwegian SMEs. The authors identified a strong relationship between

this variable and the decision and speed for SME internationalization.

#### *Export commitment*

For Sull (2003), the commitment, in general terms, can be defined as any action taken in the present that puts an organization into the future. The author argues that the commitment is essential for managers because it ensures the resources necessary for the survival of a company.

Cavusgil and Nevin (1981) defined the commitment to export as the desire to commit company's resources to the foreign market aspirations. This would determine behavior and, consequently, superior performance in exports. The relationship between the commitment of the executives with the export performance has already been studied (Haar & Ortiz-Buonafina, 2002; Navarro, Acedo, Robson, Ruzo, & Losada, 2010; Zou & Stan, 1998). For Singer and Czinkota (1994), the commitment and persistence of the manager of an enterprise can be defined as the set of positive attitudes regarding the exports.

In a review on the role of managers in the exporting success, Aaby and Slater (1989) found that all studies up to that time indicated the existence of a positive relationship between the commitment of executives and their propensity to export. These authors also argue that the managerial perceptions showed to be the most important success factor of a company in the foreign market.

Chadee and Mattsson (1998) investigated 103 New Zealand manufacturing exporters and 52 service exporters, all small- and medium-sized, and found that the commitment to export activity was the variable that most influenced the performance of these firms. The same relationship was also investigated by Tach and Axinn (1991), which found a significant contribution of the export commitment to the success in this activity by US and Canadian manufacturers.

Leonidou et al. (1998), from the systematic analysis of 46 studies on the export performance, proposed a structure of management characteristics and its relationship with the propensity, aggressiveness, performance and development of exports. Moini (1997), in turn, realized that high level of exporting company's manager education is directly associated to the success of this activity.

However, the commitment of a company toward exports is seen in two ways: financial and personal commitment (Sousa et al., 2008; Weaver, Berkowitz, & Davies, 1998). In the literature review by Zou and Stan (1998), the EC was set to be significantly related to export performance in 15 of the 17 empirical studies analyzed in this work. Sousa et al. (2008) also identified this relationship in the review of eight years of studies on export performance.

#### *Export commitment scales*

The commitment to export activity, according to Stump et al. (1999), includes an attitudinal dimension, which is a favorable disposition toward export, and a behavioral dimension, which refers to the extent the firm resources and efforts are really directed to support export activities. Mehran and Moini (2001)

also considered attitudinal elements as export commitment. In their study, the authors validated an EC scale investigating the differences in export behavior among non-exporters, occasional exporters and regular exporters with 279 US SME firms.

Lages and Montgomery (2004) used as EC the amount to finance and human resources allocated to support export activity, as well as the general efforts in supporting the export activities of the company. The authors conducted an empirical test with 413 SMEs Portuguese exporters and validated an EC scale. The export commitment construct was measured by Chadee and Mattsson (1998) using the allocation of resources in the export with SMEs New Zealand exporters.

Navarro, Acedo, Robson, Ruza, and Losada (2010) used a multidimensional scale to measure the Export Commitment with 150 Spanish exporters. Shamsuddoha and Ali (2006) used a one-dimensional EC scale to evaluate the mediating effects of support programs for exports in the export performance of firms. The results indicated that the use of support programs is an antecedent of export performance and the commitment to export impacts the use of official programs and export performance.

## Method

The research method employed was characterized as a descriptive that used a cross-sectional survey (Churchill, 1979; Malhotra, 2006). According to Babbie (2003), surveys are often conducted to allow descriptive statements about some population and to help make explanations about the population.

The target population of the survey consisted of Brazilian SME exporters. The sample was classified as non-probabilistic by convenience (Hair, Anderson, Tatham, & Black, 2005) and was accessed in Brazil4export website, maintained by the Brazilian National Confederation of Industry (CNI). The website provides a catalog of exporters from all states of Brazil and has just over 11,000 exporting companies registered. However, the firm sample should meet three requirements: (i) the company should have up to 499 employees; (ii) should not be an export trading company; and (iii) should not be a subsidiary or branch of a foreign company.

Many studies on the SMEs rapid internationalization defined the number of 499 employees as the limit for this type of firm (Andersson & Wictor, 2003; Chetty & Campbell-Hunt, 2004; Danik & Kowalik, 2013; Knight & Cavusgil, 2004, 2005; Moen & Servais, 2002). Such criteria for SMEs do not differ from the criteria used in Brazil for the Small and Medium Firm Support Service (SEBRAE) classification (SEBRAE, 2014).

Another important criterion for the research sample was that it should be composed only by independent Brazilian firms. That means that no subsidiaries of foreign companies should participate in order to avoid the contamination of the organizational culture of other companies (Bell, McNaughton, & Young, 2001). The Export Trading Companies were discarded from the sample by the special characteristics of this type of development, which could result in an unwanted bias in the results. The survey sample consisted of 414 Brazilian SMEs exporters, which met the criteria mentioned. After the outliers removal procedure, the final sample was composed by 398 SMEs or about 3% of the original base accessed. Respondents were accessed by computer-assisted telephone interview (Malhotra, 2006).

## Choosing the IO and EC scales

The scales used in this study were obtained from the content analysis of various scales identified in literature. The international scientific journals' analysis showed four scales of IO and four of EC that were validated and replicated in later studies. All eight scales were Likert type and were submitted to the evaluation of a panel of experts through in-depth interviews with five executives of proven experience in export. They are presented in Table 1. International orientation and export commitment scales selected for this study passed by a translation and a reverse translation.

The executives surveyed understand that the set of variables proposed by Knight and Cavusgil (2004) to measure international orientation and by Shamsuddoha and Ali (2006) to measure exporter commitment were those that best captured the dimensions in the case of Brazilian SMEs exporters. It was argued that Knight and Cavusgil (2004) scale incorporated the firm vision and mission and this would determine a strong IO. In

Table 1  
IO and EC scales evaluated.

International orientation scales		Export commitment scales	
Authors	Features	Authors	Features
Knight (1997)	Global orientation; 07 variables; sample of 290 US SMEs; replicated by Moen (2002) and Moen and Servais (2002).	Gençtürk and Kotabe (2001)	Export <i>expertise</i> ; 07 variables, 162 US exporters.
Knight and Cavusgil (2004)	International entrepreneurial orientation; 06 variables; 203 US SMEs; replicated by Knight and Cavusgil (2005).	Mehran and Moini (2001)	Export commitment; 05 variables; 279 US SMEs.
Nummela et al. (2005)	International growth orientation; 06 variables; 123 Finnish SMEs; replicated by Jantunen et al. (2008).	Lages and Montgomery (2004)	Export commitment; 04 variables; 413 Portuguese SMEs.
Pla-Barber and Escribá-Estève (2006)	Global orientation; 05 variables; 274 Spanish SMEs; inspired by Roth, Schweiger, and Morrison (1991)	Shamsuddoha and Ali (2006)	Export commitment; 08 variables; 223 Indian SMEs.

Table 2  
Sample characterization.

Product	Number of cases	Share (%)
Furniture and decoration	65	16.33
Machinery and equipments	58	14.57
Food	51	12.81
Wood	39	9.80
Leather, footwear and artifacts	38	9.55
Metallurgy products	34	8.54
Rubber and plastic products	28	7.04
Textiles and clothes	18	4.52
Ores, jewelry and gemstones	16	4.02
Vehicles and transport equipment	12	3.02
Beverage	8	2.01
Electric material	8	2.01
Chemical product	7	1.76
Tobacco and cigarettes	7	1.76
Pulp, paper and paper product	5	1.26
Pharmaceutical product	2	0.50
Oil and biofuels	1	0.25
Computer or optical product	1	0.25
Total	398	100

the scale developed by Shamsuddoha and Ali (2006), there was consensus that it would be more pragmatic and that it understood the operational language of exporters. While there was a discussion that a new scale could be created, when asked to choose only one scale, the respondents understood that those two scales would be the most appropriate for IO and EC.

After this process, the scales were submitted again to the validation of a practical jury (five executives) and an academic jury (four researchers), as per Malhotra (2006) recommendation, and a pre-test with 30 SMEs managers. The procedure indicated the need for the exclusion of some variables proposed by Knight and Cavusgil (2004) considered redundant by the judges. As these variables had been excluded after purification performed in the original study, we proceeded to the exclusion of the same. The two scales were studied with six variables, each measured with a six-point Likert scale (Appendix).

### Sample characterization

The final sample of 398 Brazilian SMEs surveyed concentrated on furniture manufacturers, machinery, food, wood, leather, footwear and metallurgy products, as can be seen in Table 2. The Brazilian Ministry of Industry and Trade criteria for manufactured product was used in this study (MDIC, 2014).

When considering the founding date of the SMEs in the sample, it was noted that 30.4% started their activities from the 90s and 72% of the sample held its first export in the same decade. The year 1990 appears in the literature as a kind of “watershed” for the emergence of BGs (Andersson & Wictor, 2003; Moen, 2002; Moen & Servais, 2002; Rasmussen & Madsen, 2002; Rialp et al., 2005). At the same time, many studies on accelerated internationalization argue that up to three years after the firms’s foundation to its first international entrance can be considered as evidence of a Born Global (Knight & Cavusgil, 1996, 2004; Kuivalainen, Sundqvist, & Servais, 2007; Madsen, 2013).

Based on the year of inception and the year of its first export, it could be inferred that there would be a potential group of Born Global firms or rapid internationalization of 119 SMEs from the total of 398 SMEs of the sample. Thus, the sample suggests the occurrence of the phenomenon of the rapid internationalization in Brazil in 30% of the cases.

The frequency of exports for 37% of the firms is weekly and for 21% at least twice a month, which reveals that firms are more involved with the export activity. The export destination was South America for 71.9% of the firms. The annual revenue is located mainly between US\$ 0.5 and US\$ 1.5 million for 27.9% of the firms. Moreover, exports account for up to 10% of the total revenue in 45% of the companies studied, while 25% or more in 39.2% of the SMEs surveyed.

### The validation of international orientation and export commitment scales

According to Garver and Mentzer (1999), in the context of academic research, the validity is in a hierarchy of procedures intended to ensure that what is concluded from a study can be shared with confidence. In this study, the sub-dimensions of the examined construct validity were as follows: content validity, substantive validity, one-dimensionality, reliability and convergent validity.

After preparation of the database, we proceeded to the evaluation of the constructs through Confirmatory Factor Analysis (CFA). According to Tabachnick and Fidell (2001), the CFA is a technique used in advanced stages of research in order to test theories relating to latent processes. According to Brown (2006), the CFA is a type of structural equation method that specifically deals with the measurement models, focusing on the relationship between the observed variables or indicators and latent variables or factors. With regard to the estimation method, Schumacker and Lomax (2004) emphasize that the Maximum Likelihood should be preferred to be consistent, non-biased, independent of changes in items of scales and presenting good results in multivariate normal conditions.

According to Anderson and Gerbing (1982), the evaluation of one-dimensionality is important because it allows researchers to assess whether the constructs individually have good fits, before assigning their meaning in the context of a structural analysis. Thus, the latent variables must have multiple indicators measuring only one construct, i.e. strongly correlated with only one factor. Table 3 presents the analysis of the EC scale and Table 4, the IO scale studied.

While many measurement models have some variables whose standardized residuals and modification indices are relatively high, Garver and Mentzer (1999) recommend that, in general, researchers should focus on achieving a relatively low number of items whose indices are high. In this study, it was considered that high residues that exceeded 2.58 and the modification indices above 7.88 indicated substantial improvement in the model.

Analyzing the EC scale, it was realized that Model 1 (Table 3) showed standardized residual greater than 2.58. However, two indicators exhibited modification indices that exceeded the above limits (Q4 and Q5). This last variable, according to

Table 3  
Export commitment scale confirmatory factor analysis.

Model 1

Path diagram for Model 1: A single latent variable CE (Export Commitment) is measured by six observed variables Q1 through Q6. The factor loadings are: Q1 (.49), Q2 (.57), Q3 (.72), Q4 (.68), Q5 (.45), and Q6 (.75). Each observed variable has an associated error term e1 through e6.

Model 2

Path diagram for Model 2: A single latent variable CE (Export Commitment) is measured by six observed variables Q1 through Q6. The factor loadings are: Q1 (.47), Q2 (.59), Q3 (.74), Q4 (.65), and Q6 (.75). Q5 is not shown, indicating it was removed. Each observed variable has an associated error term e1 through e6.

Model 3

Path diagram for Model 3: A single latent variable CE (Export Commitment) is measured by six observed variables Q2 through Q6. The factor loadings are: Q2 (.58), Q3 (.74), Q4 (.63), and Q6 (.77). Q1 and Q5 are not shown, indicating they were removed. Each observed variable has an associated error term e2 through e6.

Model	$\chi^2$	GL	$\chi^2/GL$	GFI	AGFI	IFI	TLI	CFI	RMSEA
1	47	9	5.291	0.935	0.907	0.935	0.891	0.935	0.104
2	17	5	3.450	0.984	0.953	0.950	0.950	0.975	0.079
3	8	2	4.036	0.990	0.952	0.986	0.956	0.985	0.087

CE, export commitment; Q, item from the scale or the variable number; e, error.

Appendix, states that “the company tends to pursue export opportunities” and presented a factor loading less than 0.5. This would indicate that the export commitment is not necessarily associated with pursuing only export opportunities, encouraging the removal of this indicator and later review of the model.

Some studies have observed that the past performance of SMEs has a crucial role in the construction of export commitment, that means the perception of decline in export earnings due to the turbulence in the market (economic crisis, exchange rate fluctuation or drop in international prices) could affect the immediate response to opportunities abroad, but not

Table 4  
International orientation scale confirmatory factor analysis.

Model 1

Model 2

Model	$\chi^2$	GL	$\chi^2/GL$	GFI	AGFI	IFI	TLI	CFI	RMSEA
1	40	9	4.534	0.964	0.916	0.960	0.933	0.960	0.094
2	16	5	3.199	0.984	0.951	0.984	0.969	0.984	0.074

OI, international orientation; Q, item from the scale or the variable number; e, error.



Table 5  
Reliability and extracted variance analysis.

Scale	Model	Composite reliability	Extracted variance	Cronbach's alpha
Export commitment	3	0.853	0.594	0.770
International orientation	2	0.892	0.627	0.830

the organizational commitment to export (Chandra et al., 2012; Lages & Montgomery, 2004, 2005; Leonidou, Katsikeas, & Samiee, 2002).

In Model 2, the analysis of standardized residuals and modification indices did not show the existence of problematic variables. However, the Q1 variable, which was the existence of “an appropriate organizational structure to handle all export activities”, showed a reduced load factor. Therefore, in this research, SME commitment intensity with export could not be related to the existence of appropriate organizational structures to deal with these activities. For many authors, the resources were directed to the export activity and not the structure that better capture the EC (Cavusgil & Zou, 1994; Johanson & Vahlne, 2003; Leonidou et al., 1998; Mehran & Moini, 2001; Zou & Cavusgil, 2002). Thus, the fact that a company has no organizational structure does not represent its low commitment. But, because they are SMEs, outsourcing export-related bureaucratic services could be an intelligent way to optimize the resources allocated to this activity. Thus, the Model 3 was tested after removal of the variables Q1 and Q5, showing acceptable set and indicators whose factor loadings are high in only one dimension.

The analysis of IO showed no indicator with standardized residue beyond that recommended in the literature, according to Model 1 (Table 4). However, Q8 and Q9 variables presented modification indices greater than 7.88. The low factor loadings of Q8, which stated that “internationalization of the business is the only way to achieve our growth goals”, suggest that the sample could look at opportunities in the international market without losing the domestic market, that is, their growth is not only a result of the internationalization of the business.

The managers' international orientation, according to several studies, can be characterized as a multidimensional construct, with the broader concept: a global mindset (Freeman & Cavusgil, 2007; Nummela et al., 2004). The IO is more about the belief that the firm market is one of the alternatives to growth and not to the belief that the internationalization of a business is the only alternative to growth. The growth opportunities of a company can be in domestic and foreign markets or in both at the same time, which would not alter its IO. Thus, after removal of Q8 variable adjustment indices related to Model 2, it might be considered as acceptable, as well as the factor loadings indicating that this is a one-dimensional construct.

After getting adjusted to one-dimensional models, it proceeded to check the reliability of the scales from the calculation of three indices: composite reliability, average variance extracted and Cronbach's alpha. According to Hair et al. (2005) and Garver and Mentzer (1999), the first two indicators need to be calculated separately by construct and most statistical software did not estimate directly. The composite reliability is

the internal consistency of indicators, reporting how these contribute to the formation of the latent construct (Hair et al., 2005). To achieve reliability, the composed reliability indices and Cronbach's alpha should be greater than 0.7 and the extracted variance greater than 0.5 (Hair et al., 2005). Table 5 summarizes the statistics obtained for each scale and showed satisfactory levels, attesting to the reliability of both scales examined.

Regarding to the convergent validity, Bagozzi, Yi, and Singh (1991) consider that the statistical significance of factor loadings compared to the constructs would be a sufficient condition to confirm its existence. Moreover, Steenkamp and Van Trijp (1991) state that the factor regression coefficients should not only be significant, but also substantial (greater than 0.5). However, this condition should be assessed only after obtaining a proper fit of the model tested. Standardized factor loadings in both tested scales were greater than 0.5, confirming its convergent validity.

### The features of Brazilian SMEs fast internationalization

Aiming to understand and explore some of the sample characteristics studied and their relationship to the scales proposed for validation, the mean of IO and EC were compared using analysis of variance (ANOVA) on the regularity of export and annual revenues obtained from exports.

The firms that performed exports on a weekly basis, which would show great export intensity, showed higher IO and EC than those firms that exported every three months. This finding helps to validate the use of the EC scale proposed by Shamsuddoha and Ali (2006), because it relates to the intensity of export activities of SMEs with organizational commitment in relation to the export activity (Cavusgil & Zou, 1994; Leonidou et al., 1998, 2002; Mehran & Moini, 2001; Singer & Czinkota, 1994; Zou & Cavusgil, 2002).

In order to categorize a Born Global, the percentage of revenue that comes from the international activity (Andersson & Wictor, 2003; Hagen & Zuchela, 2014) is frequently used. The use of an amount exceeding 25% of revenues from international activities, to confirm the predominance of these revenues in BG companies, emerges as a consensus value in studies on rapid internationalization (Chetty & Campbell-Hunt, 2004; Knight & Cavusgil, 2005; Rasmussen & Madsen, 2002; Rialp et al., 2005). The SMEs surveyed that have more than 25% of its revenues from exports showed higher EC ( $n = 140$ , mean = 4.25) and IO ( $n = 140$ , mean = 4.82) than the rest of the sample firms ( $n = 258$ , mean = 3.87 and mean = 4.17, respectively). Such export revenue percentage may indicate, at first, the existence of rapid internationalization SMEs in the sample. Secondly, this finding indicates that the scales used captured the differences in behavior of rapid internationalization of firms, or potential BG, from the other SMEs studied.

In addition, the firms that earned US\$ 0.5 to US\$ 1.5 million had lower EC ( $n = 95$ , mean = 3.82) than the SMEs that earned US\$ 1.5 million or more ( $n = 74$ , mean = 4.24). At the same time, SMEs surveyed with fewer employees (up to 49) have lower EC ( $n = 111$ , mean = 3.69) than companies with more employees (100–199 employees;  $n = 79$ , mean = 4.27).

These results provide evidence for the idea supported by many authors (Chandra et al., 2012; Rocha, Mello, Pacheco, & Farias, 2012) that there is a recursive relationship between exporter commitment and performance and the size of the firm.

## Conclusion

The scales when translated into Portuguese and applied to the context of the Brazilian SMEs had adequate adjustments, according to the recommendations found in the literature. Compared to the results obtained by Knight and Cavusgil (2004) and Shamsuddoha and Ali (2006), for scales IO and EC respectively, there was a tendency to identify items with lower factor charges to the original models.

With regard to the IO specifically, although the reliability composite obtained was superior to that reported by their creators (0.80), the items belonging to the Brazilian version presented below factor loadings. It is possible that cyclical and situational elements common to Brazilian SMEs may have contributed, making these items have less weight on the definition of IO construct. In the EC scale, reliability obtained by Shamsuddoha and Ali (2006) is equivalent to this study (Cronbach's alpha of the original scale, 0.79). However, reductions in factor loadings in some items resulted in the removal of two variables.

The findings of this study reflect the diversity of the Born Global phenomenon in different country contexts and the need for clearer understanding of the variables that influence the rapid internationalization, not only the export commitment and the international orientation. It is possible to suggest that the traditional definitions of BG are still static and context-dependent (Chandra et al., 2012). In Brazil, there is a clear need to incorporate specific variables of the local context, such as exchange rate volatility and the government intervention in export activity, for example. In doing so, there would be a better understanding of the rapid internationalization mechanism of Brazilian SMEs (Dib et al., 2010; Rocha et al., 2012).

However, the most significant implication of this study is perhaps the simple fact of the existence of the rapid internationalization phenomenon or Born Globals in Brazil, mainly from the 90s. It is believed that the year 1990 is the most appropriate to identify these companies in Brazil too, due to some national context reasons: (i) the Brazilian trade liberalization initiated in 1990; (ii) the beginning of the integration process among MERCOSUR countries in 1991; and (iii) the creation and adherence of Brazil to the World Trade Organization (WTO) in 1995.

It should be noted that Born Globals, according to Rennie (1993), are an extreme example of the important role of SMEs to export growth of a country. In Brazil, more than 18,000 companies exported in 2013. From that total, 75% were micro-, small- and medium-sized firms. However, from the US\$ 242 billion of the country's exports that year, the micro-, small- and medium-sized firms accounted for only 4% of the value (MDIC, 2014). In this sense, the development of official policies to support specifically to this new type of firms will have outstanding economic and social importance to Brazil.

Therefore, official support programs for exports should accommodate the needs of small and innovative businesses that even without a stronger performance in the domestic market have significant operations in foreign markets since its foundation (Aspelund & Moen, 2012). Thus, there is a clear call to Brazilian policy makers to redirect support programs that often date back to half a century.

Finally, an important limitation that exists in the study of the SME rapid internationalization is the *ex post facto* bias. The managers' perception, with regard to IO and EC, changes over time, as well as the firm's international experience. Thus, a BG firm, but one that has worked for many years in the foreign market, must present an IO and CE assessment different from a company that makes its first entrance into foreign markets. The most appropriate would be a study in a longitudinal way to verify the dynamics of the proposed scales. However, the difficulty in establishing an adequate sample, added with the problem of data collection at various times, would complicate this kind of empirical research.

## Conflicts of interest

The authors declare no conflicts of interest.

## Appendix.

Export commitment scale (EC) from Shamsuddoha and Ali (2006):.

- <sup>a</sup>Q1 – The firm has appropriate structure to deal with all export activities.
- Q2 – Firm executives travel frequently to export market.
- Q3 – The firm has extensive in-house export market research facilities.
- Q4 – Learning about export procedures and documentation is a high priority in this firm.
- <sup>a</sup>Q5 – The company tends to pursue export opportunities.
- Q6 – The firm sets aside adequate funds to develop overseas market.

<sup>a</sup> Indicates item that was dropped in the scale purification process.

International orientation scale (IO) from Knight and Cavusgil (2004):.

- Q7 – Top management tends to see the world as our firm's marketplace.
- <sup>a</sup>Q8 – The business internationalization is the only way to achieve our growth goals.
- Q9 – The prevailing organizational culture, a tour firm (management's collective value system), is conducive to active exploration of new business opportunities abroad.
- Q10 – Our top management is experienced in international business.
- Q11 – Management continuously communicates its mission to succeed in international markets to firm employees.
- Q12 – Management develops human and other resources to achieve our goal in international markets.

<sup>a</sup> Indicates item that was dropped in the scale purification process.

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