

# DETERMINANTS OF EXPORT INTENSITY AMONG SMALL AND MEDIUM-SIZED FIRMS: AN EMPIRICAL STUDY BASED ON THE HETEROGENEITY OF THEIR RESOURCES

DETERMINANTES DE LA INTENSIDAD EXPORTADORA ENTRE LAS PEQUEÑAS Y  
MEDIANAS EMPRESAS: UN ESTUDIO EMPÍRICO BASADO EN LA HETEROGENEIDAD  
DE SUS RECURSOS

JEL Classification: M16; F29; D22; C39

Received: January 29, 2022 | Accepted: April 25, 2022 | Available online: June 15, 2022

Cite this article as: Sandoval, C. (2022). Determinants of Export Intensity among Small and Medium-sized Firms: An empirical study based on the Heterogeneity of its Resources. *Estudios de Administración*, 29 (1), 5-27. <https://doi.org/10.5354/0719-0816.2022.66217>

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## Abstract

The purpose of this study is to examine plausible determinants of the firms' export intensity from the perspective of the heterogeneity of its resources. We developed and tested empirically a research model by applying structural equation modeling techniques to a sample of 133 exporting SMEs. The findings suggest that the export intensity exhibited by firms appears to lie in its degree of managerial export commitment along with the intense use of cross-national-border partners. A firm's resource availability to deal with foreign markets impacts export intensity indirectly. Export commitment seems to play a mediating role between a firm's resource availability and the export intensity.

**Keywords:** Small and Medium-sized Firms, export intensity; resources, structural equation modeling.



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## Resumen

El objetivo de este estudio es examinar posibles determinantes de la intensidad exportadora de las empresas desde la perspectiva de la heterogeneidad de sus recursos. Desarrollamos y probamos empíricamente un modelo hipotético de investigación aplicando modelación de ecuaciones estructurales a una muestra de 133 Mipymes exportadoras. Los hallazgos sugieren que la intensidad exportadora de una empresa depende del grado de compromiso exportador de la gerencia junto con el uso intenso de socios internacionales. La disponibilidad de recursos de una empresa para mercados internacionales impacta solo indirectamente a la intensidad exportadora. El compromiso exportador desempeña un rol mediador entre la disponibilidad de recursos y la intensidad exportadora.

**Palabras clave:** Mipyme; intensidad de exportación; recursos, modelación de ecuaciones estructurales

## 1. Introduction

The internationalization of small and medium-sized firms (SMEs) is of great interest as a result of the increasing number of SMEs in the international field (Andersson, Gabrielsson, & Ingemar, 2004; Dimitratos & Li, 2014). Internationalization is considered a means of survival and growth for SMEs (Dutot, Bergeron, & Raymond, 2014) and exporting is regarded as the most common and affordable operational way for SMEs to expand their commercial activities into foreign markets (Kuivalainen, et al., 2012; Leonidou *et al.*, 2010).

The scope of export operations and the levels of export intensity achieved by SMEs appear to be determined by the availability of resources to deal with international markets (e.g., Dhanaraj & Beamish, 2003). However, SMEs are typically resource-constrained, an aspect that characterizes them and may reduce their capacity to export (Achtenhagen, 2011; Suárez-Ortega & Álamo-Vera, 2005). Besides, exporting is considered as a challenging (Calabrò, Mussolino, & Huse, 2009) and risky activity for this type of firms (Basly, 2015).

Scholars have devoted efforts to determine why some SMEs involved in foreign market operations achieve higher levels of export intensity than others. A plethora of prior research has addressed this issue (e.g., Darshana, 2015; Leonidou, Katsikeas & Samiee, 2002; Morgan, Kaleka, & Katsikeas, 2004; O' Cass & Weerawardena, 2009). Despite having been extensively researched, no general agreement exists with respect to the determinants of the export intensity achieved by a firm (Stoian, Rialp, & Rialp, 2011; Wheeler, Ibeh, & Domitratos, 2008). Export intensity is one of the most disputed research topics (e.g., Leonidou, Katsikeas, & Coudounaris, 2010).

The Resource-Based View (RBV), originating from the seminal works of Barney (2001) and Wernerfelt (1984), constitutes a general, but helpful, theoretical framework to explain variations in the performance accomplished by a firm, viewed from the perspective of the heterogeneity of the firm's resources.

The aim of this study is to shed light on the effects of a SME's tangible and intangible resources on its export intensity. We seek to contribute to the existing literature on

SME internationalization and exports with the following research questions: (1) To what extent does the level of a SME's tangible resource availability impact its export intensity? (2) To what extent does the export commitment, that is, managerial and organizational resources, impact the export intensity achieved by the SMEs? (3) To what extent do external resources, specifically the use of foreign partners, influence the export intensity achieved by the SMEs? To answer these questions, we conducted developed firm-level empirical research and tested a model underpinned by the basic tenets of the Resource-Based View and insights from extant literature on SME internationalization and export ventures. The model was tested empirically with data from 133 Costa Rican exporting SMEs using structural equation modeling techniques. By examining Costa Rican SMEs, we want to provide findings drawn from a nation with vibrant participation of its SMEs in international markets. Costa Rican exporting SMEs incorporate more new products each year and add more destinations to their export basket compared to other Latin American exporting SMEs (Cepal, 2018). The rest of this paper is organized as follows: First, we present the conceptual framework and describe the research model and hypotheses. Second, we describe the research methodology employed. Third, we present the analysis results. Finally, we focus on our findings and address contributions and limitations of this inquiry.

## 2. Conceptual framework and hypotheses

### 2.1 Conceptual framework

In accordance with RBV fundamental tenets, a firm's superior performance results essentially from the availability and exploitation of distinctive and special resources possessed or acquired by the firm (Dhanaraj & Beamish, 2003). Firms are viewed as a bundle of heterogeneous tangible (i.e., capital, assets) and intangible resources (i.e., organizational capabilities, information, and knowledge, among others), that may generate a sustained competitive advantage and support the implementation of strategies to improve the firm's performance (Barney, 2001).

However, within the RBV perspective, not all the resources of a firm are considered strategic, and not all of them can engender sustained competitive advantages. Only resources that fulfill the requirement of being valued, scarce, imperfectly imitable, and non-substitutable might generate sustained competitive advantages (Barney, 2001; Rodríguez, & Rodríguez, 2005). On the other hand, resources are considered to be strategic as long as they increase the efficiency and effectiveness of the firm and provide superior performance to the firm (Barney & Arikan, 2005).

According to RBV, resources controlled by a firm comprise a wide range of tangible and intangible assets (Barney *et al.*, 2015). Resources that are "typically more tangible include but are not limited to a firm's financial capital (e.g., equity capital, debt capital, retained earnings, leverage potential) and physical capital (e.g., the machines and buildings it owns)" (Barney & Arikan 2014, p 139). Intangible resources are considered relevant antecedents and essential for the development of the organizational capabilities of a firm (Schriber & Löwstedt, 2015). Regarding international venture and its relationship to resources, it was seen that the initiation and sustainability of exporting ventures involve the utilization and mobilization of substantial amounts of tangible resources (Junaidu *et al.*, 2012).

Nevertheless, this implies a challenge for SMEs. These firms can be presumed to suffer from liability of smallness, meaning that, compared to larger firms, they are often not well endowed with tangible assets (Gassmann & Keupp, 2007). The lack of tangible assets may constraint a SME's capacity to expand its commercial activities

abroad (Knight, Moen, & Madsen, 2020; Kraja, 2018).

Intangible resources, by their very nature, are regarded as the type of resources that might easily fulfill the requirements for resources that generate sustainable competitive advantage (Rodríguez & Rodríguez, 2005).

Among intangible resources, intellectual capital stands out and has been recognized as a fundamental enabler for creating sustainable advantages for firms (Li, Pike & Haniffa, 2008, González-Loureiro & Dorrego, 2012). The intellectual capital alludes to a bundle of intangible and knowledge assets that allow firms to create and maintain competitive advantages (Martín-de-Castro, *et al.*, 2006).

According to González-Loureiro & Dorrego (2012), it can be said that there is consensus that intellectual capital is basically made up of three main elements: human capital, structural capital, and relational capital. Human capital can be defined as a set of values, attitudes, qualifications, and skills of people that generate value for companies. Organizational (or structural) capital refers to the value created within the organization and its capability to acquire new competencies and knowledge with the purpose of responding to changes. Relational capital is the result of the value generated by companies in their relationships with their suppliers, clients, competitors, shareholders, stakeholders, and society (Gonzalez-Loureiro & Dorrego, 2012).

Among these three subcategories of intellectual capital, organizational capital is of special interest in SME internationalization research. Organizational capital involves the firm's culture as well as in-firm processes, including planning and organizational processes (Javalgi & Todd, 2011), coordinating systems, and reporting structures (Barney *et al.*, 2015).

Firms might also compensate for a relative lack of resources or leverage additional resources through their social capital (Chetty & Stangl, 2010). In general, social capital refers to a firm's external contacts or business partners which can provide extra resources or knowledge. They are also considered external intangible resources, and difficult to replicate (Peng, 2001).

The underlying rationale of RBV is that firm resources, organizational capacities, and social capital do not operate in isolation. They are intertwined. The competitive advantages developed by a firm are often based on bundles of interrelated resources (Barney & Arkan, 2005).

Based on these theoretical tenets, a hypothesized research model was developed, as depicted in figure 1. We will argue that export intensity achieved by a SME is the result of the interaction of three major components, namely: availability of tangible resources to cope with foreign markets, the degree of export commitment exhibited by a SME, and the use of foreign partners (i.e., other firms or entities located abroad with which the SME cooperates).

Keupp and Gassmann (2009) have noticed that research on SME internationalization has been "phenomenon-driven," that is, striving to find direct causal connections between factors and international achievements (e.g., export intensity, degree of internationalization, etc.). Little attention has been paid to research models that examine the possible interrelationships and indirect effects between factors that foster a firm's international results. We test plausible direct and indirect links between tangible and intangible resources to explain the variations of the export intensity exhibited by SMEs, underpinned in RBV theoretical tenets. Following Martineau & Pastoriza (2016), in the model we start from the assumption that a SME's resource availability for foreign markets enables them to get involved in international activities and go after international opportunities.

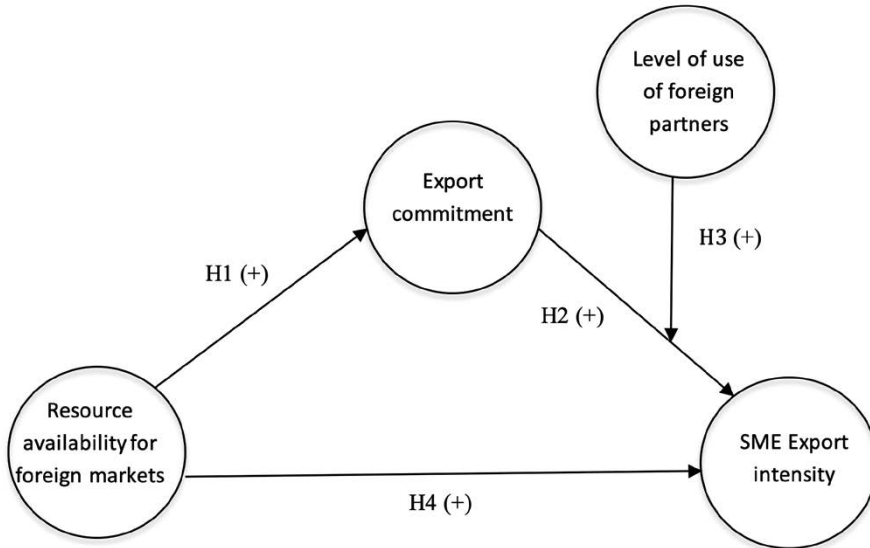
Export commitment and the use of foreign partners are intangible resources. They represent a firm's organizational capital and a firm's social capital in the model, respectively.

According to Navarro *et al.*, (2010) export commitment is an organizational factor that assesses how firms make efforts to improve exports and take advantage of exporting. In addition, it is recognized as "an organizing mechanism that allows companies to exploit the full potential of the resource-based strategy" (p.43). Recent research has embraced export commitment as a variable that distinctively represents the organizational capabilities of the firm, which has been empirically shown to be a determinant for exporting and a key factor for export performance, (e.g., Safari & Saleh, 2020). Export commitment is defined as "a favorable disposition and accompanying manifested behaviors that facilitate the development or maintenance of export as an ongoing course of action" (Faroque, & Takahashi, 2015, p 425). It is manifested in the amount of planning, organizational, and managerial resources dedicated to exports and the extent to which a firm's management is devoted to making the considerable efforts necessary to organize and support the export operations (Chugan & Singh, 2015; Lages & Montgomery, 2004). In the model we surmise that export commitment is an intervening variable between a SME's resource availability and export intensity.

Export venturing literature suggests that cooperative partnerships represent a firm's social capital that is relevant for international operations (Roxas & Chadee, 2011). In our model, the use of foreign partners is considered a moderating factor. Finally, export intensity is influenced directly and indirectly by the aforementioned factors.

For International Entrepreneurship scholars, the evaluation of export performance is of research interest, but it is one of the most disagreed topics among scholars. In fact, there is no single conceptualization and measurement to assess export performance (for a broad and diverse assessment of this construct, cf. Sousa, 2004 and Katsikeas *et al.*, 2000). The assessment of the export performance is not accepted uniformly in research on exporting SMEs. Some researchers measure it as a single indicator, for instance, export intensity (e.g., Javalgi & Todd, 2011; Majocchi *et al.*, 2005). Others measure it as a combination of two or three more dimensions of export operations such as the intensity percentage of export sales, the speed of start of export activity, and the geographical scope of export sales (e.g., Ciravegna *et al.*, 2014), and still others use subjective or perceptual measures on the export activity displayed by a firm (e.g., Madsen & Moen, 2018; Mostafa *et al.*, 2005). Notwithstanding, the ratio between international sales and total sales, (export intensity) is the most frequent measure utilized in research to capture export performance (cf. Sousa 2004, Katsikeas *et al.*, 2000) and is widely used in empirical research to assess the level of export performance achieved by SMEs Javalgi & Todd, 2011; Majocchi *et al.*, 2005; Suárez-Ortega *et al.*, 2005; Xu, Taute, Dishman, & Guo, 2015). The following sections deepen the explanations about the interconnections depicted in the model and underpinned by the extant literature.

Figure 1. Conceptual model.



Note: Author's own

## 2.2 Hypothesis development

### 2.2.1. Resource availability and export commitment

Export commitment appears to depend on the availability of resources to support export expansion (Navarro *et al.*, 2010). For instance, firms with more available resources are in a better position to commit resources to support current tasks to boost export undertakings like adapting products and services to foreign customers, contracting international suppliers, moving goods and services across long distances, searching for foreign market opportunities, among others (Naldi, 2008). Further resources are needed to support investments, adjust procedures or customize products to requirements abroad (Verwaal & Donkers, 2002, Barney *et al.*, 2015).

Having more sources available facilitates a firm's commitment to boost international ventures (Hessels & Terjesen, 2010) and fosters a firm's involvement in exports (Al-Rashidi, 2012). Conversely, smaller firms tend to possess less available resources (Naldi, 2008) to cope with export operations. The shortages of resources can limit its capacity to achieve high levels of commitment in overseas markets (Francioni, Pagano & Castellani, 2016).

According to Naldi (2008), international and domestic commercial business operations compete with each other for the limited resources available to SMEs. Having more resources enables firms to adequately commit to daunting projects like entering a new international market. Consequently, we argue that:

Hypothesis 1. Resource availability for foreign markets is positively associated with a firm's export commitment.

### 2.2.2 *Export commitment and export intensity*

According to some scholars, firm performance is not only a function of resource availability, but also of a firm's managerial competence (Chandler & Hanks, 1994). Firm resources need to be appropriately organized, and several tasks must be planned and coordinated to exploit the bundle of productive resources controlled by a firm (Barney & Arian 2005). Rodríguez and Rodríguez (2005) hold that the ability to penetrate international markets requires an important degree of competitiveness, which fundamentally resides in intangible resources controlled by the firm. Satisfactory results can be achieved in export markets once specific managerial and organizational structures, as well as specific capacities, are developed (Majocchi *et al.*, 2005).

Theoretically, export commitment captures a firm's readiness to implement actions to achieve advantages in export markets, and the efforts taken to facilitate the development of export operations (Navarro *et al.*, 2010). Firms with a higher level of export commitment often exhibit a more aggressive posture to go after export opportunities (Chugan & Singh, 2015) and dedicate more time to prepare the entry into foreign markets effectively (Navarro *et al.*, 2010). A high level of export commitment enables a firm to focus on international markets with less distractions and difficulties (Navarro *et al.*, 2010). Empirically, Lages Jap & Griffith (2008) found that high levels of export commitment in Portuguese SMEs positively influence international sales. Likewise, studies conducted on Spanish firms found that the level of commitment exhibited by the firm influences their export success (Stoian *et al.*, 2011). Consequently, we posit:

Hypothesis 2. A firm's export commitment is positively related to its export intensity.

### 2.2.3. *The role of foreign partners*

Foreign business partners are viewed as valued assets that can supply useful resources to support a firm's international exporting efforts. For instance, foreign partners may provide access to privileged market information (Solberg & Durrieu, 2006) and facilitate the recognition of new business opportunities abroad (Musteen *et al.*, 2014). Despite this, a substantial number of SMEs do not make use of foreign partners for several reasons. For instance, building foreign partner relationships could be difficult due to the cultural differences (Ojala, 2015). SME managers are usually reluctant to lose control of the firm's operations (Basly, 2015). Although maintaining control can lower a firm's export intensity (Cerrato & Piva, 2010), some SMEs prefer to keep more control over export operations (e.g., by seeking local vehicles to foster exports such as promotion agencies or subsidies). Moreover, the use of foreign partners and the intensity of the use vary from firm to firm. It is a deliberate strategic choice (Hessels & Parker, 2013), and not a precondition for firm internationalization (Kalinic & Forza, 2012).

Notwithstanding the above, cooperative relationships with foreign partners enable the transfer of trustworthiness and credibility to firms just entering international markets, since firms with diverse cooperative relationships in the targeted markets are considered more reliable than firms without them (Arenius, 2002). Besides, SMEs that cooperate with foreign partners display better levels of export intensity than those exhibiting lower use of foreign partners (Martineau & Pastoriza, 2016). Studies conducted on SMEs involved in exporting operations have shown that maintaining partners abroad boosts the level of export performance (Musteen *et al.*, 2010) and



assists SMEs to overcome resource shortcomings (Dominguez, 2018). Cooperative relationships with foreign partners can speed up the entry into international markets (Casillas & Acedo, 2013) and mitigate the “liability of foreignness” typically suffered by SMEs (Zhou et al., 2010). Based on these arguments, we formulate that:

Hypothesis 3. Foreign partners positively moderate the relationship between a firm’s export commitment and export intensity; so that the effect between export commitment and export intensity is stronger for those firms that make more extensive use of foreign partners.

#### *2.2.4 The mediating role of export commitment*

The impact of resources in export performance is not without some dispute. While some research suggests a positive influence (e.g., Dhanaraj & Beamish, 2003; Preece & Baetz, 1999), other studies have not found any relationship. (e.g., Pla-Barber & Alegre, 2007; Westhead *et al.*, 2001). However, according to Roxas & Chadee (2011), having resources for export operations is not sufficient for superior export performance. Firms need to develop capabilities and be strategically organized to exploit their resources to gain sustainable competitive advantage in foreign markets. It was shown that firms with high levels of export commitment are more prone to work harder on demanding tasks to export and implement more tailored marketing strategies such as product adaptation for export markets (Lages, Abrantes & Lages, 2008). High levels of export commitment ensure careful allocation of resources to achieve positional advantages in export markets (Navarro et al., 2010), enhance the likelihood of success in such markets (Navarro et al., 2010), and increase the employees’ feelings of duty in favor of exports (Lages & Montgomery, 2004).

Building on these arguments, we contend that export performance depends, to a great extent, on export commitment, which is manifested in the organization and implementation of strategies to exploit business opportunities abroad. Likewise, we assume that focusing and orchestrating efficiently a firm’s efforts, capacities, and resources in favor of the export operations is of a greater relevance in the case of SMEs, which must make the most of its own, often limited, resources. That leads us to the hypothesis:

Hypothesis 4. Export commitment mediates the relationship between a firm’s resource availability for foreign markets and the export intensity achieved by the firm.

### **3. Methods and measures**

#### ***3.1 Data collection and sample***

SME is a firm with no more than 250 employees and annual sales not exceeding 50 million dollars or the equivalent (e.g., Acedo & Florin, 2007; Brouthers *et al.*, 2015; Dutot, *et al.*, 2014). Exporting is challenging for SMEs and not all of them are interested in export activity (Calabrò, *et al.*, 2009). Due to the focus of our investigation, we established two restrictions for the selection of firms. We selected exporting SMEs, that is SMEs that export and are pursuing export sales, regardless of the level of export intensity they might exhibit, and second, SMEs with at least five years in export operations. SMEs listed in the Costa Rican Industrial Chamber of Commerce and the Chamber of Technology and Communication were used as sample frames. These



are the most acknowledged chambers in the country whose majority of affiliates are exporting SMEs. This allows us to access a variety of exporting SMEs from different industry branches. With the assistance of the chambers' representatives, a total of 557 exporting SMEs were identified and invited to voluntarily participate in our study. A web-based survey was designed and sent to the top manager of each SME, who is considered the person who typically makes the decisions about expanding sales abroad and the scope of such expansion (Achtenhagen, 2011). Prior to releasing the web-survey, it was pretested to avoid semantic confusions. We also ensured confidentiality of the responses by allowing participants to complete the questionnaire anonymously, in order to reduce possible response bias (Chung & Monroe, 2003). In addition, we assessed non-response bias by means of time trends extrapolation (Armstrong & Overton, 1977). No significant differences were found between earliest and latest responding participants groups. Consequently, non-response bias does not seem to influence the results. A total of 210 questionnaires were returned out of 557. Out of these, 77 questionnaires were discarded due to many unanswered questions. In the end, we yielded a total of 133 exploitable questionnaires, for a 23.9% effective response rate.

Industry branches represented in the sample: Software development (37.6%), IT and communications (27.8%), Packing and plastic (15.8%), Food and beverages (9.8%), Metal-Mechanic (3.7%), Chemical (3.0%) and Legal Services (2.3%). The ratio of international sales to total sales varies from 8% to 100%. The data collection was carried out in 2017-2018 in pre-Covid times.

### **3.2 Variables and measures**

We used multi-item research instruments from prior research to assess the key variables of interest. The firm's level of export commitment was measured with the four-item scale suggested by Lages and Montgomery (2004). Cronbach's  $\alpha = .91$ .

Resource availability for foreign markets was assessed using the four-item scale created and validated by Preece, Miles, and Baetz (1999). This construct reflects specifically the firm's resource availability to cope with internationalization processes. It is a more suitable measure because domestic and international operations compete with each other for a SME's limited resources (Naldi, 2008). After the depuration process, a single item was dropped. Cronbach's  $\alpha = 0.73$ . The use of foreign partners was assessed using a three-item scale suggested by Peng and Luo (2000) and adapted by Zhou, Barnes, and Lu (2010). Cronbach's  $\alpha = 0.84$ . All Cronbach's  $\alpha$  scores suggest reliability and internal consistency of the constructs. We opted for this measure because it focuses on how international the social capital of the firm is, referring to the extent to which firms have developed new networks in foreign markets, and have established cooperative relationships with foreign business and cooperative relationships with foreign clients. Export intensity was operationalized as the ratio of export sales to total sales. (e.g., Xu *et al.*, 2015; Majocchi *et al.*, 2005; Suárez-Ortega *et al.*, 2005).

We control for the key variables that, according to previous research, may influence the intensity of exports: industry sector (e.g., Chetty & Stangl, 2010), governmental subsidization to export, firm size, and firm experience in serving foreign markets (e.g., Nakos, Brouthers, & Brouthers, 1998) operationalized as the total number of employees and the total number of years in exports, respectively. Product uniqueness, i.e., the degree to which export products are perceived as unique (Cooper, 1979; Leonidou *et al.*, 2002).

## 4. Analysis and results

To test our model, we used structural equation modeling methods (PLS-SEM) because it enabled us to estimate simultaneously the strength of all hypothesized relationships depicted in the model, thus making the relative significance of every relationship evident (Hair, Black, Babin,, & Anderson, 2010). The analysis under PLS-SEM using SmartPLS3 software is a two-stage procedure that involves the evaluation of the measurement model and the evaluation of the structural model (Hair *et al.*, 2017).

### 4.1 Evaluation of the measurement model

Evaluating the measurement model implies examining the construct reliability, convergent validity, discriminant validity for the constructs. We assessed the composite reliability (C.R) to verify for multi-item consistency. According to Nunnally (1978), values of C.R. higher than 0.7 show evidence of multi-item consistency. The C.R. values for all variables yielded between .84 and .94, exceeding the threshold value suggested by Nunnally (1978), suggesting a satisfactory level of construct reliability.

Convergent validity refers to the degree to which the items of a specific construct correlate (Byrne, 2016; Hair *et al.*, 2010). It is demonstrated when item loadings are significant on the respective a priori defined variable (Hair *et al.*, 2010). Results showed that all item loadings were statistically significant at  $p < .001$  within the corresponding constructs. Furthermore, following the suggestions of Fornell and Larcker (1981) and Hair and Colleagues (2010), we assessed the average variance extracted (AVE) to check whether the standardized estimates of the items are higher than the suggested threshold, ( $AVE > .50$ ). The AVE values of all constructs yielded from .65 to .79, denoting convergent validity.

We also checked for discriminant validity, meaning the degree to which a construct can be distinguished from other constructs. We examined HTMT ratios (Heterotrait-Monotrait Ratios) as facilitated in PLS-SEM. According to Hair and colleagues (2017), HTMT ratios lower than .90 are indicative of discriminant validity between the constructs. Results showed that HTMT values did not exceed the threshold of .90, evidencing discriminant validity between all constructs.

Lastly, we obtained the variance inflation factors (VIF) to check for collinearity. VIF values higher than 5 indicate a critical level of collinearity and may represent potential threat for the study results (Hair, Ringle, & Sarstedt, 2011). Our VIF values yielded between 1.31 and 2.94, which is evidence that the collinearity should not influence our model's results.

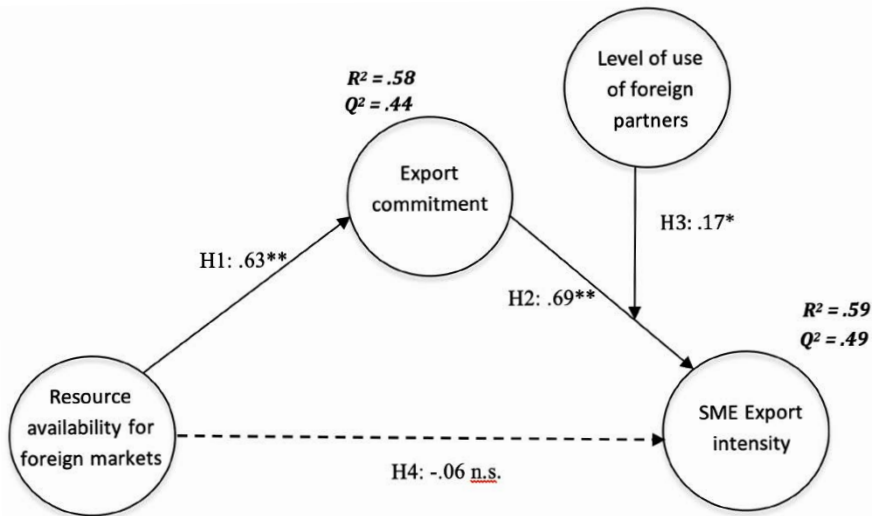
### 4.2 Evaluation of the structural model

The evaluation of the structural model seeks to answer the question of how well the model predicts our endogenous variables. This implies testing the model's predictive power relevance (Hair *et al.*, 2017). Following recommendations of Hair and colleagues (2017), we evaluated the predictive power of our model by running bootstrap procedures with a total of 5,000 re-samples and assessing the coefficient of determination ( $R^2$  value). This coefficient represents the amount of variance in the dependent variable that is accounted for by the independent variables associated with it. The assessments of the  $R^2$  values indicate that our research model explains 59% of the variance of the export intensity and 58% of the variance of export commitment, denoting a moderate predictive accuracy. Thus, results suggested that the model has

predictive power with respect to dependent variables in question (Hair et al., 2017).

Regarding the evaluation of the predictive relevance of our model, we are interested in testing how well the empirical data can be reconstructed with the help of the model and parameter estimates (Akter, D'Ambra, & Ray, 2011). To accomplish that, we assessed the Stone-Geisser's value ( $Q^2$  value). Following Hair and colleagues (2017), we ran a blindfolding analysis with an omission distance factor of 10 to assess the corresponding  $Q^2$  values of our dependent variables.  $Q^2$  values greater than 0 denote predictive relevance (Hair et al., 2017). The  $Q^2$  value for export intensity yielded .49 while for commitment to exporting was .44. Both results scored above 0, providing support for the model's predictive relevance regarding the dependent variables. Figure 2 shows the results of the predictive power and predicted relevance of our model.

**Figure 2.** Test results of the model's predictive power and relevance



Note: \*\*  $p < 0.001$ , \*  $p < 0.01$ , n.s: non-significant

#### 4.3 Hypothesis test results

The direct association between a firm's resource availability for foreign markets and export commitment is significant and positive ( $\beta = .63$ ,  $p < .001$ ), supporting hypothesis H1. As for the relationship between export commitment and export intensity, it is significant and positive ( $\beta = .69$ ,  $p < .001$ ), supporting hypothesis H2. None of the control variables were significantly related to export intensity or export commitment.

We checked for a moderating effect by running bootstrap procedures with 5,000 resamples and using a two-stage approach. This approach is preferred when using PLS-SEM because it provides a high level of statistical power when the aim is to reveal whether a moderation effect exists (Hair et al., 2017). This effect was significant and in the suggested direction ( $\beta = .173$ ,  $p < 0.01$ ) indicating that the effect between export commitment and export intensity is stronger for those firms that make more extensive use of foreign partners. Thus, hypothesis H3 was supported. We also

computed the effect size  $f^2$  for the moderating effect to determine how much of this interaction effect contributes to explaining the variance in export intensity. The  $f^2$  for the moderation effect was .051.  $f^2$  values of .02, .15, and .35 are the thresholds for small, medium, and large effect sizes, respectively (Cohen, 1988). Consequently, our results reveal a medium contribution of foreign partners in explaining variations in the export intensity. Table 1 summarizes the results obtained.

**Table 1.** Standardized  $\beta$ -estimates and p-values applying bootstrap with 5,000 re-samples.

Hypothesized relationships		$\beta$ -estimates	p-values	results
Resource availability	→ Export commitment	.635	**	H1: supported
Export commitment	→ Export intensity	.689	**	H2 supported
Resource availability	→ Export intensity	-.059	.508	n.s.
Export commitment	→ Export intensity	.173	.008	H3: supported
<b>x foreign partners</b>				
<b>Control variables:</b>				
Branch	→ Export intensity	.066	.382	n.s.
Product uniqueness	→ Export commitment	.090	.170	n.s.
Branch	→ Export commitment	-.054	.494	n.s.
Firm's age in exports	→ Export commitment	.129	.079	n.s.
Firm size	→ Export commitment	-.017	.798	n.s.
Product uniqueness	→ Export intensity	-.072	.416	n.s.
Governmental support	→ Export intensity	.022	.825	n.s.
Governmental support	→ Export commitment	.113	.083	n.s.
Firm's age in exports	→ Export intensity	.019	.785	n.s.
Firm size	→ Export commitment	.015	.827	n.s.

Note: \*\*= significant at  $p < 0.001$ , n.s.= non-significant, after testing the model and mediating effect

#### 4.4 Robustness checks

We also tested the stability of all coefficients by obtaining the bootstrap confidence intervals using bias corrected accelerated approach (BCa). This approach is considered the most salient method (Hair et al., 2017). The BCa intervals of confidence are detailed in table 2. None of the intervals belonging to the supported hypotheses included a zero value, suggesting stability of the parameters.

**Table 2.** Robustness checks: Standardized estimates and intervals of confidence. (Bias-corrected accelerated approach with 5,000 re-samples).

Hypothesized relationships	H	Lower	Upper	Estimate
Resource availability commitment → Export	H1 *	.493	.765	.635
Export commitment intensity → Export	H2 *	.499	.874	.689
Resource availability intensity → Export	n.s.	-.230	.116	-.059
Export commitment x foreign intensity partners → Export	H3 *	.035	.294	.173

Notes: H=hypothesis; \*=supported; n.s.=non-significant

#### 4.5 Testing for mediating effect

Testing the hypothesis H4 required checking first if the following conditions were met: 1) There must be a significant relationship between the predictor and the outcome variable. 2) The predictor must be related to the presumed mediating variable. 3) The presumed mediating variable must be related with the outcome variable. (Hair, 2017). Then, we ran a bootstrap procedure with 5,000 re-samples to check the significance of the direct effect (i.e., coefficients of the direct path) and the total indirect effect (i.e., path coefficients of the indirect paths). After that, we also tested the stability of the path coefficients by computing the BCa intervals of confidence as recommended by Hair and colleagues (2017). A mediating effect occurs when a change in the strength of the relationship between the predictor and outcome variable (direct path) is markedly reduced by including the presumed mediating variable (Field, 2013). The direct effect, as shown in table 3, ( $\beta=.0266$ , lower and upper intervals confidence being low= 0.071 and upper=0.455 respectively) originally indicated a positive influence of a firm's resource availability for foreign markets on a firm's export intensity. However, this direct effect is reduced to non-significance when the export commitment variable is considered in the model ( $\beta =-.059$ , low= -0.241, upper= 0.121) This result supports the hypothesis H4 and provides evidence of a full-mediation effect.

Table 3. Assessment significance of direct and indirect effects

	Paths	Estimates	t-value	lower 4	upper 4
Direct effect <sup>1</sup>	RA-EI	0.266	2.72	0.071	0.455
Total indirect effect <sup>2</sup>	RA-EC-EI	0.437	5.34	0.293	0.615
Direct effect <sup>3</sup>	RA-EI	-0.059	0.640	-0.241	0.121

Notes: RA: Resource availability, EC: Export commitment, EI: Export intensity,  
<sup>1</sup>Assessments after controlling the indirect effect in the model, <sup>2</sup> It is the product of path coefficients of RA-EC and EC-EI, <sup>3</sup> Assessments when the indirect effect is included, 4BCa intervals of confidence.

## 5. Discussion and conclusions

The aim of the study was to examine the impact of a firm's resources on export intensity. We proposed a research model grounded in the perspective of the heterogeneity of the resources controlled by SMEs. Four main contributions emerge from the study: It provides a different perspective to the debate regarding export intensity determinants achieved by a SME, suggesting that a SME's export commitment accounts for the relationship between a SME's resource availability and export intensity. Higher levels of export intensity could be attributed to superior committed management to the export activity. This result outlines the more prominent role of the SME's intangible resources as the factor that explains export intensity. The finding supports the assertions of Navarro and colleagues (2010) who consider export commitment as the crucial element of an effective resource-led strategy to cope with foreign markets.

According to Nummela (2004), few studies analyze the effects of foreign partners on international results obtained by SMEs. These studies do not offer much empirical support and are mostly of an exploratory nature with quite diffuse findings. We contribute also to the export venturing literature by providing empirical evidence that intense use of foreign partners complements firms' efforts in pursuing exports and enhances export intensity. This result provides empirical support to the assumptions of Oviatt and McDougall (2005), who theorized that the strength and size of the firm's relationships abroad might moderate the effective and rapid exploitation of export opportunities (Oviatt & McDougall, 2005).

Besides, our study demonstrates that RBV is a helpful theoretical framework in understanding export intensity. In line with its main theoretical foundations, a firm's intangible resources are more likely to be the source of sustainable competitive advantage and the reason for better performance. In this vein, our study provides evidence suggesting that intangible resources (export commitment and foreign partners) may constitute drivers of superior export performance.

Finally, our hypothesized model highlights that the resources available to a SME do not operate in isolation, rather they are entwined. We contribute to the research on exporting SMEs by providing a more holistic approach by examining determinants of export intensity. This supports assertions of Kaleka (2002), who holds that firms consist of an assortment of assets and resources, but it is the synergistic effects generated by their combinations of tangible and intangible resources that matter most.

In addition, the study provides some implications for SME managers. According to studies of OECD (2009), most of the SMEs consider the lack of firm resources, especially financial, and the lack of international contacts as the main obstacles to internationalize (for an overview of major barriers to SME internationalization cf. OECD, 2009). Our findings conflict with the apparent prevailing conventional understanding in SMEs that overemphasizes a lack of resources as a main barrier for SMEs internationalization, while managerial aspirations and poor commitment to exports are overlooked and go relatively unnoticed. For those firms intending to initiate or expand international sales, our findings suggest that they should increase their commitment to export activity, in terms of establishing structures to effectively support the exploitation of international market opportunities, dedicating managerial time and greater focus on exports. In addition, based on our empirical evidence it seems advisable for SMEs to invest efforts in establishing closer cooperative relationships

with partners across-national-borders.

## 6. Limitations and directions for future research

It should be noted that this study is context-specific, and we cannot rule out that our findings could represent singular characteristics of the SMEs sampled and the country in question. Another limitation refers to the use of self-report data. Even though self-reports are often used in research and have proven to be reliable (e.g., Soininen, 2013), we recognize that self-report data entails the potential risk of having common methods bias (cf. Podsakoff et al., 2003). As previously mentioned in the methods section, we took comprehensive measures to reduce these possible effects. However, it is important to take notice of this limitation in the study. Lastly, our model fails to capture the finer aspects regarding the strategy applied to cope with exports by SMEs. Firms devoting the same quality and quantity of efforts and resources may still undertake quite different competitive strategies. Future research could address what export strategies are deployed by SMEs to boost the export intensity. We acknowledge that there are additional frameworks that might be useful to explain export intensity and SME internationalization (e.g., Albertoni & Horta, 2021). We addressed only a part of the explanation about what may lead to the variations of export performance of the SMEs. Future investigations could take notice of the insights obtained from this study to elaborate more comprehensive research models that aim to explain SMEs exporting intensity.

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