

RESEARCH ARTICLE

Absorptive Capabilities and Export Performance: the Mediating Effect of Innovation

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Abstract: This paper aims to assess the relationship between absorptive capabilities and export performance of Portuguese small and medium enterprises (SMEs) exporting textiles, considering the mediating affect of innovation on it. Based on survey data from 247 firms, our empirical results indicate that: 1) absorptive capabilities have a positive and direct effect on innovation and export performance; and 2) innovation has a mediating effect on absorptive capabilities-export performance relationship. This study provides new insights into strategic management literature, since it considers the importance of multiple factors to SMEs business growth. Moreover, this paper presents empirical evidences of the strategies that small firm managers should consider.

Keywords: *Absorptive capabilities, Innovation, Export performance, SMEs, Portuguese textile industry, PLS-SEM.*

Article Received: 04 August 2018

Revised: 14 August 2018

Accepted: 28 August 2018

Introduction

Literature in the field of strategic management has focused on dynamic capabilities [1]. The firms' success depends not only on its' resources and capabilities, but also the ability to adapt itself to the industry contingencies and markets in which operates. Firms may possess resources but must display dynamic capabilities otherwise shareholder value will be destroyed [2].

It is in this context that emerges the Dynamic Capabilities View (DCV) [3, 4] to support the adjustment to environmental change. DCV is not divergent but rather an important stream of Resource-Based View (RBV) to gain competitive advantage in increasingly demanding environments [5, 1, 6]. [7] defend that in versatile markets, firms' capabilities should be dynamic and managers must display the ability to ensure consistency between business environment and strategy in order to continuously renew skills.

Exploring intangible resources among SMEs has inherent scholarly value, since these firms tend to be constrained in their tangible assets; possessing intangible resources take on particular strategic significance and can form the basis for competitive advantage [8]. Moreover, SMEs are believed to face greater uncertainty as a result of the external

environment than large firms and, thus, they have a greater tendency to take risks and innovate in order to attain success [9]. SMEs are therefore encouraged to implement an entrepreneurial mind-set to recognize the threats and opportunities in the environment of the firm in order to ensure firm's perpetuation and thrive [10].

Our study is responsive to the call of [11] which suggests that, in the context of international markets, firms' survival and expansion, and consequent economic growth of many countries, is strongly dependent on a better understanding of the determinants that influence export performance. In fact, the factors that set off SME growth (including exporting) are still in need of research [12].

So, the purpose of this paper is to contribute the scholarly conversation of strategic management literature and test the following research questions

RQ1: Does absorptive capabilities positively influence small business export performance?

RQ2: Does innovation mediates these relationships?

Theoretical Framework

Absorptive Capabilities

Exporting firms need to recognize and understand their foreign customers and competitors to be able to enhance or adjust their capability, adapt products, target multiple export market segments, manage different partners, including foreign distributors, and track customers' needs and trends [13]. In modern business environment with high turbulence, knowledge has been designated as a dominant source of competitive advantage.

In order to survive certain pressures, companies need to recognize, assimilate and apply new external knowledge for commercial purposes [14]. This ability, known as absorptive capability (ACAP) [15], emerges as an underlying theme in the organizational strategy research [14]. [15] presented a definition of ACAP most widely cited by academic research, as the firm's ability to identify, assimilate and exploit new knowledge.

Thus, this ability access and use new external knowledge, regarded as an intangible asset, is critical to success and depends mainly on prior knowledge level, since it is this knowledge that will facilitate the identification and processing of new one. This prior knowledge not only includes the basic capabilities, such as shared language, but also recent technological and scientific data or learning skills. By analyzing this definition is found that absorptive capability of knowledge only three dimensions: the ability to acquire external knowledge; the ability to assimilate it inside; and the ability to apply it. [16] divided ACAP in Potential Absorptive Capability (PACAP) and Realized Absorptive Capability (RACAP).

PACAP reflects the firms' ability to acquire and assimilate knowledge that is vital for their activities. Knowledge identification, acquisition and assimilation is related to routines and processes that enables to analyze, process, interpret and understand external information.

RACAP includes knowledge transformation and exploitation, where transformation is the ability to develop routines that facilitate the integration of newly acquired knowledge in existing one.

Knowledge exploitation represents routines which enhance existing skills or create new ones by incorporating acquired and transformed knowledge internally.

In order to cope and enhance each ACAP dimension, [14] argue that firms need to develop organizational mechanisms which enable them to synthesize and apply newly acquired knowledge. Thus, there are coordination mechanisms that increase the exchange of knowledge between sectors and hierarchies, like multitasking teams, participation in decision-making and job rotation. These mechanisms bring together different sources of expertise and increase lateral interaction between functional areas. System mechanisms are behavior programs that reduce established deviations, such as routines and formalization.

Socialization mechanisms create a broad and tacit understanding of appropriate rules of action, contributing to a common code of communication. However, a challenging point for managing the firm's ACAP is that many firms fail to: a) consistently acquire and disseminate the collected information from sphere of front-line units (e.g. marketing and sales managers); b) transform or integrate this knowledge into the general market intelligence; or c) successfully apply the intelligence to increase their competitive position and/or customer value proposition, which in turn will enhance superior performance [17].

Innovation

Innovation refers to the support and encouragement to new ideas, experimentation and creativity that will lead to new products, services and processes. Any form of innovation involves a series of efforts, such as: technological innovation involves a research and engineering effort, focused on the development of new products and processes; product innovation includes market research, design, and the focus on advertising and promotion; administrative innovation refers to the development of management systems, control techniques and organizational structure.

Thus, innovation reflects firms' tendency to participate and support new ideas, newness, experimental and creative processes that might result in new products, services or processes [18].

The adoption of a innovative approach can generate competitive advantage and promote a superior source of growth [19]. Innovation can occur throughout a long process, a new product line or technological advance [18].

The financial resources invested in innovation and the level of commitment of human resources with the innovative activities will dictate the firms' degree of innovation [20]. While all types of innovation involves a lot of efforts, be it in technology, management, products or markets, the most innovative firms tend to overcome unstable situations. For this reason there is a consensus in the literature to acknowledge that innovation is the most important construct of entrepreneurial orientation, as it determines the means by which firms achieve competitive advantage and growth [19].

Exports Performance

The use of efficient worldwide communications technology and transportation, the decrease in governments' protectionist policies, and the decrease of geographically protected markets have made it possible, and necessary, for many firms to view their operating domains as global [21]. Moreover, small countries with constricted domestic markets depend on the success of small firms who can export successfully and grow to a scale beyond that which their home market could support [22].

Literature on export performance is extensive but arguably it has not yet achieved the consensus required to prescribe exporting strategies to small firm [22]. Exporting is an early phase in the internationalization model established by [23, 24] grounded on the assumption that new exporters can gradually engage with foreign markets, depending their exploitation strategy on knowledge and other resources. This export research, however, was not pertinent for small exporters [22], since its unit of analysis was large firms.

In a literature review, [11] concluded that, along with internal capabilities and competencies, the main determinants of export performance are firm size and international experience. Actually, the internationalization process has been mainly studied in multinational corporations context and less in SMEs, since smallness is usually considered a problem, as these firms often

have resource access constraints [25]. The lack of research does not support small firm managers in search of a growth strategy in international markets. Nonetheless, the number of small firms operating in international markets has increased. SMEs represent the majority of firms in most countries and they are pivotal to the economic growth of their countries. As a consequence, the internationalization process of SMEs has become a topic of academic and governmental attention [25].

The development of exports is of great importance both at macro and micro levels. Exporting contributes to economic and social development of nations, helps the industry progress, increases productivity and creates jobs. At firm's level, through market diversification, exports provide an opportunity for them to become less dependent on the domestic market, gaining new customers, exploiting economies of scale and achieving lower production costs while producing more efficiently [26].

Exports is a more attractive way to enter international markets, especially for SMEs, in comparison with other alternatives, such as joint ventures, which involve spending a large number of resources [27; 28; 29], does not create high risk and commitment and allows greater flexibility in adjusting the volume of goods to different export markets [30]. On one hand, export activity fulfills certain business goals, which may be economic (such as increasing profits and sales) and/or strategic (such as diversification of markets, gaining market share and increasing brand reputation) [31].

On the other hand, export motivation may result from proactive or reactive actions. For example, proactive actions are advantage of profit, introduction of a single product, technological advantage, and exclusive information, commitment of management, tax benefits and economies of scale. Reactive motivations are identifying competitive pressures, excess production capacity, sales decrease or saturation in the domestic market and proximity of customers and landing ports [12, 32].

In terms of geographic concentration versus diversification as internationalization strategies for SMEs, [33] studied small firms exporting from Greece and the Caribbean

region, that were contextualized in mature, traditional, and low-technology industries.

The authors concluded that these firms should concentrate their internationalization efforts and pursue a single export market strategy. On the opposite side, this suggestion does not apply to the small New Zealand firms, where the most successful are R&D based and are operating across several overseas markets [22]. Of course, such dissimilarities in findings are perhaps due to different contexts and types of small firms.

Hypotheses Derivation

Moreover, innovation is an ability that can attract the necessary resources to exploit opportunities [34]. These resources can thus promote, support and facilitate innovation, allowing firms to innovate and prosper, contributing to the construction of healthy and enduring business [35].

The benefits of innovation may result in the development of products and processes that occurs in multiple stages (multi-stage process), requiring a complete set of resources for an innovative firm [4]. [36] highlights resources as assets, capabilities, organizational processes, firm attributes, information and knowledge, which, according to this author, are valuable, rare, imperfectly imitable and non-substitutable (VRIN).

The resource-based perspective conceptualizes innovation as a complex and dynamic process [37] through which firms consistently develop innovation capabilities by exploring new resources or new combinations of resources [38, 39, 4]. H1: *Absorptive capabilities are positively associated with innovation.* It is widely recognized in international business literature that small firms are poorer in managerial and financial resources and that this resource constraint affects their tendency to internationalize, as well as their success in foreign markets. These disadvantages can be counterbalanced by the development of unique resources (firm-specific advantages) that enable firms to achieve competitiveness [40].

RBV scholars argue that variations in firms' performance result from the possession of heterogeneous resources. This heterogeneity leads to performance imbalances and affects firms' ability to design and implement

competitive strategies [36; 41].

Thus, and according to this theory, the possession of heterogeneous resources and capabilities directly affects firms' performance [42; 4]. In the same sense, dynamic capabilities enable firms to achieve superior long-term performance [4]. H2: *Absorptive capabilities are positively associated with export performance.* Innovation is the ability to simultaneously pursue both exploration and exploitation, efficiency and flexibility, or alignment and adaptability [43].

Innovation requires different strategic orientations, technological resources and processes. Innovation provides a mechanism to effectively manage change by repeatedly pursue and achieve both disruptive and incremental innovation [44]. This research tests the mediating effect of innovation in the relationship between intangible resources, absorptive capabilities and export performance.

The significance of the variables' mediating effect was assessed by Aroian test [45]. This test is used to determine whether the indirect effect of the independent variable on the dependent variable via the mediator is significantly different from zero [46]. Thus we propose: H3. *Innovation mediates the relationship between absorptive capabilities and export performance.*

Methodology

Setting and Data Collection

The sample of this empirical study has been drawn from Portuguese textile industry firms. Questionnaires were used as primary data sources and were carried out over the period of February 16 to April 30, 2016. The identification of firms was done through the Portuguese Textile Association (ATP) database. Hence, a non-probabilistic and convenient sampling was used. A total of 247 complete and validated questionnaires accounting for 25% per cent of the population were obtained. This response rate is considered quite good, given that the average of top management survey response rates are in the range of 15%-20% [47].

Measures

This study uses well-validated scales from previous studies to operationalize the key

constructs and adapted them to the particular context of our empirical setting.

Independent Variable

The absorptive capabilities construct, and based in [14], was operationalized through firms' ability to acquire new knowledge (six questions), assimilate it (three questions), transform it (three questions) and explore new external knowledge into their current operations (six questions).

Mediators

To assess innovation we adopted [20]'s measurements.

Dependent Variable

[20]'s scale was used to assess export performance, comprising profitability indicators of sales growth, profit, activities, operations and performance in general. The decision-makers were asked to assess the relative position of their firm vis-à-vis their competitors. All constructs were assessed on a five-point Likert scale.

Results

The structural equation model is a multiple regression analysis, with reflective indicators that are presented as an image of the unobserved theoretical construct, representing observed variables or measures, with the objective of strengthening the

relationship of influence between the

Table 1: Cronbach's Alpha of multidimensional variables

Construct	Cronbach Alpha	p values
Absorptive capabilities	.930	.000
Innovation	.827	.000
Export performance	.927	.000

We also use the composite reliability coefficient to assess construct validity [56]. This coefficient reflects construct adequacy for a level higher than 0.6 using confirmatory

constructs [48]. The simple correlation between these indicators with their construct must have a value equal to or higher than 0.707 so that the shared variance between the construct and their indicators is higher than the error variance [49]. Partial Least Squares (PLS) is a technique that best fits predictive applications (exploratory analysis) and theory development when it is not soundly established [50]. This technique, on one hand, maximize the explained variance of the dependent variables (latent or observed, or both) and estimate structural models with small samples [51, 52].

On the other hand, it estimates reflective and formative measurement models without identification problems [53]. PLS appear to be a preferable option for researchers with samples below 250 observations (247 in this study) [52]. In order to verify the reliability of overall variables we estimated the stability and internal consistency through Cronbach's alpha (α). Generally, an instrument or test is classified with appropriate reliability when α is higher or equal to 0.70 [54, 53]. The result of 0.941 achieved for all variables is considered excellent, confirming the sample's internal consistency [55]. Table 1 show all constructs largely achieved the required level.

factor analysis [57], as in our case. Table 2 illustrates that the studied constructs (all multidimensional) highly exceeded the minimum required for a good fit.

Table 2: Composite reliability coefficient of multidimensional variables

Construct	Composite reliability	p values
Absorptive capabilities	.939	.000
Innovation	.896	.000
Export performance	.945	.000

For validity assessment, two subtypes are usually examined: convergent and discriminant validity. Convergent validity implies that a set of indicators represents one and the same underlying construct [58]. [59]

suggest using the *Average Variance Extracted* (AVE) criterion and that an AVE value of at least 0.5 indicates sufficient convergent validity.

Table 3: Convergent validity

Construct	AVE	p values
Absorptive capabilities	.538	.000
Innovation	.742	.000

Export performance	.775	.000
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Discriminant validity is the degree to which any single construct is different from the other constructs in the model. To have discriminant validity a construct must exhibit weak correlations with other latent variables that measure different phenomena.

There are two measures of discriminant validity in PLS. The Fornell-Larcker criterion (1981) recommends that the AVE should be greater than the variance between a given construct and the other with which it shares the model. The second criterion suggests that the loading of each indicator is expected to be

greater than all of its cross-loadings [58]. We can observe the explanatory power of each variable in the model. Entrepreneurial orientation is the only purely explanatory variable and reputational resources and absorptive capacity of knowledge exploitation the explained variables. [56] distinguish the explanatory power from moderate to substantial. Table 4 expresses the good results in terms of discriminant validity of the research model, confirming that constructs do differ significantly.

Table 4: Discriminant validity

Fornell-Larcker Criterion	Absorptive capabilities	Innovation	Export performance
Absorptive capabilities	.662		
Innovation	.515	.861	
Export performance	.650	.511	.880

In order to determine the significance of the studied relationships and the confidence intervals of the path coefficients, we used bootstrapping technique. The weighted

coefficients indicate the relative strength of each exogenous construct. From table 5, we thus conclude that the original model does not present non-significant paths.

Table 5: Model's Path Coefficients

Hypotheses	Original Sample (O)	Sample Mean (M)	Standard Error (STERR)	T Statistics (O/STERR)	p values
H1: AC --> +INNOV	.426	.432	.059	7.193	.000
H2: AC --> +EP	.479	.487	.039	12.306	.000
H3: AC --> +INNOV --> +EP	.093	.097	.021	4.593	.000

The significance of structural coefficients and the magnitude of the total effects enabled us

to test the research hypotheses, having registered the following results:

- H1. AC -> +INNOV – This hypothesis was supported;
- H2. AC -> +EP – This hypothesis was supported;
- H3. AC -> +INNOV --> +EP – This hypothesis was supported.

Discussion and Conclusion

The main purpose of this study was to assess the relationship between absorptive capabilities and export performance on Portuguese SMEs exporting textiles, considering the mediating effect of innovation on it. We conducted an empirical research based on a sample of 247 firms. A questionnaire was applied in order to exploit data and test the hypotheses, using statistical techniques.

It is important to note that SMEs evaluated absorptive capabilities and innovation relative to their major competitor in the export market(s), so the results should be interpreted based on this aspect. Absorptive

capabilities have a positive and direct effect on innovation (H1 supported), reflecting the fact that firms are adequately developing their innovations through the exploitation of new or combined knowledge [38, 39, 4]. Additionally, firms do not have yet heterogeneous resources that enable them to achieve superior performance, as suggested [36] and [41], requiring therefore, and according to our findings, to possess heterogeneous dynamic capabilities to enhance growth in international markets [42, 4].

Hence, absorptive capabilities have a positive and direct effect on export performance (H2 supported). Innovation, through exploration

and exploitation, efficiency and flexibility, alignment and adaptability, or even different strategic orientations, has a mediating effect on the absorptive capabilities-export performance relationship (H3 supported), confirming [42] and [4] studies. We highlight the contribution of this study to the theory of strategic management. It is known that strategy includes deliberate and emergent initiatives adopted by management, comprising resource and capabilities used to improve business performance [60].

In order to remain competitive, firms must assess which strategic determinants give them an advantage over their competitors. The findings are a contribution to clarify the influence of absorptive capabilities and innovation in small firms export performance. Findings provide guidance to business practitioners, since they indicate that absorptive capabilities and innovation are predictors of export performance.

The research has also shown the positive influences of generic strategies on firm performance. By building on the strategic management, this study aims to support the strategic development of business management policies designed to increase firms' performance in foreign markets and

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add value to the current context of change.

The fact that the research does not consider the effect of control variables such as age, location and target market of the respondents can be seen as a limitation. Another limitation is the fact that the sampling is non-probabilistic and convenience. Therefore we advise prudence in the generalization of results. Firstly, this study has been based on a mature sector, as is the textile sector in Portugal.

The results obtained should be understood in this context. For this reason, new research could be done in more modern industries to test again the proposed relations. Second, given the irregular nature of business growth, a snapshot survey may not be able to capture strategy and performance variations over long periods of time.

As such, further studies with a longitudinal perspective would be of added value to investigate why these differences persist. In other words, to find how and why some small exporters become highly successful while others, in the same industry, struggle to raise their export strengths.

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