Cross-border e-commerce as a foreign market entry mode among SMEs: the relationship between export capabilities and performance

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Abstract

Purpose – Although cross-border e-commerce has become increasingly popular among small and medium-sized enterprises as a foreign market entry mode, research on the determinants of its success is scarce. Drawing on the resource-based view, this study aims to examine the relationship between a firm's information technology, international marketing and export operations capabilities and its cross-border e-commerce strategic and financial performance.

Design/methodology/approach – Partial least squares structural equation modeling was used to analyze data from a sample of Italian exporters in the food and beverage industry.

Findings – The results highlight the mixed effects of information technology, international marketing and export operations capabilities on both e-commerce strategic and financial performance. Moreover, the use of third-party e-commerce platforms reduces the effect of exporters' information technology capabilities on their e-commerce financial performance.

Research limitations/implications – The majority of exporters in this study had implemented cross-border e-commerce only recently; hence, longitudinal data on the success factors of e-commerce are not available.

Practical implications – While cross-border e-commerce may work as an accelerator of the overall export performance, export managers are urged to approach it strategically with a clear medium-term view to develop the required capabilities.

Originality/value – This study was one of the first to examine the drivers of small and medium-sized exporters' cross-border e-commerce performance. Moreover, unlike most previous analyzes, it focused on e-commerce as a foreign market entry mode rather than a supplement to offline exporting activities.

Keywords Capabilities, Entry mode, Resource-based view, Cross border e-commerce, Export management

Paper type Research paper

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Introduction

Recent advances in information technologies (IT) have enabled exporters to improve their efficiency, effectiveness and overall performance in foreign markets (Ferreira *et al.*, 2021; Goldman *et al.*, 2020; Alarcón-del-Amo *et al.*, 2018; Watson *et al.*, 2018). In particular, digitalization is fundamental in the internationalization of small and medium-sized enterprises (SMEs) (Morais and Ferreira, 2020). Several studies have specifically examined how exporters can leverage the internet to enhance their international activities (Alarcón-del-Amo *et al.*, 2018; Bianchi *et al.*, 2017; Glavas *et al.*, 2019; Prasad *et al.*, 2001). Extensive knowledge is available on how the internet can facilitate foreign market analysis, reduce psychic distance, accelerate market entry, enrich internationalization capabilities and support customer relationship management (Glavas *et al.*, 2017; Hooper and Holtbrügge, 2020; Mathews *et al.*, 2016; Sheth and Sharma, 2005; Yamin and Sinkovics, 2006). However, the majority of this research views the internet as a complementary tool to integrate and improve exporters' marketing strategies rather than as a direct sales channel (Mathews *et al.*, 2016; Sinkovics *et al.*, 2013).

Nonetheless, official statistics indicate that cross-border e-commerce – the sale of goods and services conducted over the internet to foreign customers – is rapidly growing. According to estimates from the most recent United Nations Conference on Trade and Development (UNCTAD, 2020), revenue from cross-border business-to-consumer (B2C) e-commerce in 2018 amounted to $404bn and the coronavirus crisis has further contributed to its growth. In some countries, cross-border e-commerce is significantly high. For example, in 2019, cross-border e-commerce made up 7% of all Italian exports of B2C products (ICE-ITA, 2020). This has arisen from the fact that 99.9% of Italian firms are SMEs (1–249 employees) and 94.9% are microenterprises (1–9 employees) and their access to foreign markets is being accelerated by cross-border e-commerce (ICE-ITA, 2020). Some analyzes even indicate that cross-border e-commerce is the most effective channel through which to enter specific export markets such as China (Giuffrida *et al.*, 2017).

Although an increasing number of exporters are adding cross-border e-commerce to their foreign market entry modes, research on this issue is still in its infancy (Qi *et al.*, 2020; Watson *et al.*, 2018; Zhu *et al.*, 2019). In particular, knowledge of the drivers of small and medium-sized exporters' cross-border e-commerce performance is limited to the analysis of their digital marketing tactics (Goldman *et al.*, 2020). This study aims to address this gap by suggesting a model that draws on export capabilities (Morgan *et al.*, 2012). The capabilities framework has been extensively applied in international management to explain firms' foreign market performance (Efrat *et al.*, 2018; Morgan *et al.*, 2018; Morgan *et al.*, 2004). Building on this stream of research, we develop and test a model that includes three export capabilities – IT capabilities, international marketing capabilities and export operations capabilities – as antecedents of both market and financial performance of cross-border e-commerce. In addition, the model includes the moderating role of the use of third-party platforms (e.g. Amazon or Alibaba) by SMEs to avoid the need to develop their own e-commerce websites. In fact, the use of third-party e-commerce platforms, which offer a range of services to exporters, is rapidly growing (Deng and Wang, 2016; Wang *et al.*, 2020). Therefore, the relationship between a firm's internal export capabilities and its cross-border e-commerce performance may be weakened by the use of third-party platforms.

The findings of this study contribute to the export management research by clarifying the links between export capabilities and cross-border e-commerce performance for small and medium-sized exporters. In addition, this research provides actionable insights for SMEs interested in adopting cross-border e-commerce as a foreign market entry mode (Qi *et al.*, 2020).

The remainder of this paper is structured as follows. First, we introduce the background for this study. Second, we develop our model and hypotheses. Third, we describe the research methods and present the results. Finally, we discuss the implications of the findings, the limitations of the research and opportunities for future studies.

Background and research model

Cross-border e-commerce

The continual development of information and communication technologies has dramatically expanded the opportunities for cross-border e-commerce as a new international market entry mode (Deng and Wang, 2016; Qi *et al.*, 2020; Watson *et al.*, 2018). The concept of e-commerce has not been univocally defined in the international management literature. Some researchers (Gregory *et al.*, 2007) view e-commerce from a broad perspective that includes the various effects of information and communication technologies on a firm's international business. According to this perspective, e-commerce encompasses activities such as "providing online product catalogue, online promotion of products, online ordering, online payment, salesperson online access, e-procurement, participation in the electronic marketplace and e-fulfilment" (Gregory *et al.*, 2019, p. 151). Other authors take a narrower view of e-commerce to include only online sales (Alarcón-del-Amo *et al.*, 2018; Giuffrida *et al.*, 2017). We adopt the second perspective, which is consistent with the official definition of e-commerce from the Organisation for Economic Co-operation and Development (2013):

> An e-commerce transaction is the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online. [. . .] To be included are orders made over the Web [. . .] To be excluded are orders made by telephone calls, facsimile or manually typed eail.

Drawing on this definition and on UNCTAD (2017) guidelines, we conceptualize cross-border e-commerce as the sale of goods and services to foreign customers conducted over the internet. We focus specifically on the use of B2C cross-border e-commerce as a foreign market entry mode for exporters (Gabrielsson and Gabrielsson, 2011). As highlighted by Watson *et al.* (2018), firms are more likely to embrace this channel when intermediaries in the foreign market are less powerful, reducing the risk of multichannel conflicts and retaliation.

Research model

Similar to other foreign market entry modes, cross-border e-commerce requires exporters to possess specific capabilities (Goldman *et al.*, 2020; Sinkovics *et al.*, 2013). While knowledge of the export capabilities required for cross-border e-commerce is limited, there is extensive evidence on the relationship between export capabilities and foreign market performance (Andersen, 1997; Chen *et al.*, 2016). This stream of studies draws on the resource-based view (Barney, 1991) and embraces the idea that capabilities are "complex bundles of skills and accumulated knowledge, exercised through organizational processes, that enable firms to coordinate activities and make use of their assets" (Day, 1994, p. 38). Many export capabilities have been identified in the literature, which also highlights the direct relationships between some capabilities owned by a firm and the entry modes it selects (Morgan *et al.*, 2018). Given the absence of prior research on cross-border e-commerce, we identified the most relevant capabilities for our model as follows. After extensively reviewing the international management literature related to capabilities and a recent UNCTAD (2017) report on digitalization, trade and development, we conducted an

exploratory inquiry to capture export managers' views on the topic (Shah and Corley, 2006). The UNCTAD (2017) report suggests that firms using e-commerce platforms may start exporting once they are discovered by a foreign buyer; however, their long-term success requires specific capabilities related to relevant technologies, conformity with legal and fiscal requirements in the target markets, access to logistics and the effective management of requests by and relationships with foreign customers.

For our exploratory inquiry, we contacted 11 export managers (drawn from our personal networks) with experience in cross-border B2C e-commerce and asked each of them to elicit and discuss relevant capabilities. The profiles of these export managers are shown in Table 1.

We adopted the long interview method and used general and non-directive interview questions (McCracken, 1988). Most interviews were conducted using video conferencing software. The exploratory inquiry was conducted to obtain practitioners' perspectives on the most important export capabilities needed to successfully conduct cross-border e-commerce, providing valuable inputs to frame our research.

From this process, we identified three capabilities needed for successful B2C cross-border e-commerce – IT capabilities, international marketing capabilities and export operations capabilities – and included them in our research model as antecedents of performance (Figure 1). The model distinguished between two types of cross-border e-commerce performance outcomes: strategic performance and financial performance. Previous researchers have strongly recommended making this distinction to gain an in-depth appreciation of the effects of capabilities (Efrat *et al.*, 2018). Strategic performance is a subjective measure of the degree to which export goals are achieved, while financial performance in an objective indicator of outcomes (Gregory *et al.*, 2019; Morgan *et al.*, 2012). The relationships between a firm's export capabilities and its strategic and financial export performance have been widely documented (Chen *et al.*, 2016; Morgan *et al.*, 2018). Hereafter, the research hypotheses are developed.

Information technologies capabilities and performance. A firm's IT capabilities reflect its ability to integrate its IT and digital resources and knowledge to pursue its cross-border e-commerce goals (Bianchi and Mathews, 2016; Gregory *et al.*, 2019; Mathews *et al.*, 2016). These capabilities arise from an organization's technology and market orientation

Table 1. Export manager profiles

Participant	Main firm product offering	Experience (years)			Previous training on IT or digital marketing
		Export management	Current company	Cross-border e-commerce	
1	Jam and juices	6	4	2	Yes
2	Baked goods	5	3	1	Yes
3	Wine	19	9	7	No
4	Wine	16	10	8	Yes
5	Olive oil	12	11	4	Yes
6	Rice/other cereals	25	25	5	No
7	Cheese	7	5	4	No
8	Wine	3	3	3	Yes
9	Pastry products	14	7	1	Yes
10	Sauces/canned food	8	8	3	No
11	Wine	11	11	6	No

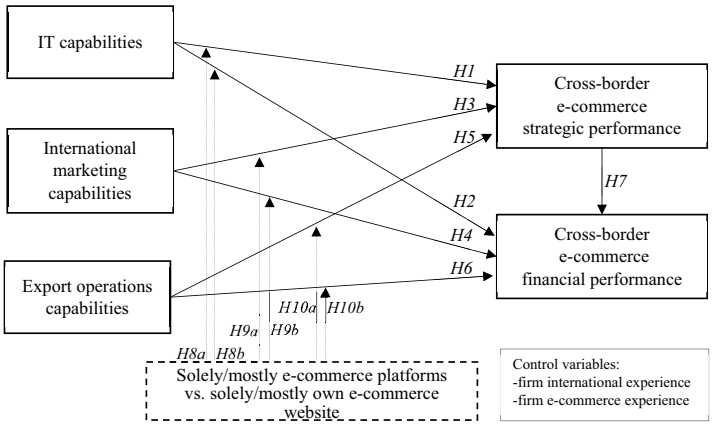

Figure 1.
The research model

(Trainor *et al.*, 2011). Research has consistently shown that IT capabilities are positively related to the achievement of strategic objectives in the target market (Gregory *et al.*, 2019) and financial performance (Bianchi *et al.*, 2017). Thus, we hypothesize that:

H1. IT capabilities are positively related to cross-border e-commerce strategic performance.

H2. IT capabilities are positively related to cross-border e-commerce financial performance.

International marketing capabilities and performance. A firm's international marketing capabilities refer to its ability to integrate available knowledge and resources to interact with, understand and satisfy the needs of foreign customers (Morgan *et al.*, 2018). Previous research has revealed a positive link between an exporter's marketing capabilities and its strategic effectiveness (i.e. the degree to which export markets respond to the exporter's actions) (Morgan *et al.*, 2012). In addition, marketing capabilities – such as the ability to manage relationships with foreign customers – are antecedents of exporters' financial performance (Jin and Cho, 2018; Kaleka, 2012). Other studies have shown that marketing capabilities simultaneously influence exporters' strategic and financial performance (Murray *et al.*, 2011). Hence, we hypothesize that:

H3. International marketing capabilities are positively related to cross-border e-commerce strategic performance.

H4. International marketing capabilities are positively related to cross-border e-commerce financial performance.

Export operations capabilities and performance. A firm's export operations capabilities refer to its ability to integrate available knowledge and resources to effectively conform to the legal and fiscal requirements of target markets (e.g. import duties and taxes, import licenses, import documentation requirements and foreign contracts) and manage logistics (e.g. transport mode and insurance) (UNCTAD, 2017). While logistical aspects have been discussed in detail by previous authors (Giuffrida *et al.*, 2017), the legal and fiscal aspects have been largely overlooked (Ellram, 1991). However, as shown by UNCTAD (2017) and confirmed by our exploratory inquiry, these aspects are pivotal to the success of cross-

border e-commerce. In particular, export operations capabilities are needed for products that require protective measures during transportation and for which regulations vary markedly from one country to another (e.g. food and alcoholic beverages). Given the lack of available research, we draw on similarities between these capabilities and specialized export marketing capabilities – defined as "export marketing program-related processes needed to implement export venture marketing strategies" (Morgan *et al.*, 2012, p. 274) – to establish our hypotheses. Therefore, we consider export operations capabilities as the technical capabilities needed by a firm to implement export operations. Building on research findings with respect to specialized export marketing capabilities (Gregory *et al.*, 2019), we hypothesize that:

H5. Export operations capabilities are positively related to cross-border e-commerce strategic performance.

H6. Export operations capabilities are positively related to cross-border e-commerce financial performance.

Cross-border e-commerce strategic and financial performance. Previous research highlights the importance of adopting multiple measures to evaluate exporter performance in foreign markets (Morgan *et al.*, 2004; Zou *et al.*, 1998). Researchers have emphasized the importance of using both strategic (subjective) and financial (objective) performance indicators (Efrat *et al.*, 2018). International management research has consistently reported the existence of positive and significant relationships between the two types of performance measures (Ren *et al.*, 2009; Spyropoulou *et al.*, 2018). Even if the export management research has not specifically investigated e-commerce performance, we suggest that previous findings related to foreign marketing performance can be extended to the e-commerce entry mode (Gregory *et al.*, 2019; Murray *et al.*, 2011). Thus, we hypothesize that:

H7. Cross-border e-commerce strategic performance is positively related to cross-border e-commerce financial performance.

The role of e-commerce platforms. E-commerce platforms or marketplaces such as Amazon and Alibaba have gained a prominent position in cross-border e-commerce (Watson *et al.*, 2018). Exporters must make substantial efforts to establish and operate their own e-commerce websites and develop the related capabilities; thus, the use of third-party e-commerce platforms can accelerate their cross-border e-commerce adoption and performance (Deng and Wang, 2016; Wang *et al.*, 2020). In particular, these platforms often provide exporters with enabling services such as technological tools to analyze customer information (Wang *et al.*, 2016), which may contribute to reducing the distance between home and host countries (Moalla and Mayrhofer, 2020). Moreover, established platforms such as Amazon typically offer payment and logistics services, dramatically facilitating cross-border e-commerce management for SMEs. Thus, when an exporter decides to use an established platform to conduct cross-border e-commerce, the effects of its internal capabilities on its performance may be weaker. In other words, we suggest that in these cases, platforms may act as partial substitutes for exporter capabilities, negatively moderating the effects of capabilities on export performance. Therefore, we hypothesize that:

H8. The sole or main use of e-commerce platforms negatively moderates the relationship between IT capabilities and cross-border e-commerce strategic (*H8a*) and financial (*H8b*) performance.

H9. The sole or main use of e-commerce platforms negatively moderates the relationship between international marketing capabilities and cross-border e-commerce strategic (*H9a*) and financial (*H9b*) performance.

H10. The sole or main use of e-commerce platforms negatively moderates the relationship between export operations capabilities and cross-border e-commerce strategic (*H10a*) and financial (*H10b*) performance.

Methods

A questionnaire was distributed among a sample of Italian firms in the food and beverage industry that were engaged in cross-border e-commerce. According to the Italian Trade Agency (ICE-ITA, 2020), food and beverage goods, together with fashion goods, account for 77% of Italian cross-border e-commerce B2C exports. A list of 497 Italian firms in the food and beverage industry was compiled by manually reviewing four cross-border e-commerce platforms (Amazon, eBay, Eataly and Alibaba) and conducting Google searches for Italian food and beverage exporters using their own e-commerce platforms. We began with third-party e-commerce platforms because, according to the Italian Trade Agency, more than 90% of Italian B2C e-commerce is generated through these platforms. Because 99.9% of Italian firms are SMEs, we sent invitations to all 497 firms, then excluded large firms (those reporting 250+ employees). Contact details of exporters listed in the platforms were obtained by visiting their websites. An invitation to complete an online questionnaire was then sent by email.

The questionnaire was structured into two sections. The first section included questions about the firm's profile and its experience with international markets in general (exported goods, entry modes, number of years of experience with foreign markets, number of served markets, number of years of experience with cross-border e-commerce, people in charge of managing the firm's cross-border e-commerce channel, role of the respondent and other firm details). The second section included the measures of all constructs in the model.

The three capabilities (IT capabilities, international marketing capabilities and export operations capabilities) were modeled as formative constructs. A list of items for the IT and international marketing capabilities was initially created by consulting available studies (Bianchi *et al.*, 2017; Gregory *et al.*, 2019; Mathews *et al.*, 2016; Morgan *et al.*, 2018). Because the items had not been originally developed for cross-border e-commerce, their relevance to the specific research context was discussed during the abovementioned pilot study with the 11 export managers. For the export operations capabilities, items were directly generated during the pilot study because no previous operationalization was available. As a result of this process, the three constructs were measured using the items shown in Table 3. Following established practice (Murray *et al.*, 2011), respondents were asked to rate each item relative to their firms' major competitors on a five-point scale (1 = *very poor* to 5 = *outstanding*).

Strategic performance reflects the extent to which exporters' goals have been met. This construct was modeled as formative and included two items taken from Gregory *et al.* (2019), which were measured using a five-point scale (1 = *not achieved at all* to 5 = *completely achieved*). Similar to the measure used by Gregory *et al.* (2019) for overall financial performance in foreign markets, we operationalized cross-border e-commerce financial performance using cross-border e-commerce sales as a percentage of total export sales. In addition, with the aim of ensuring convergent validity, each formative construct also included a global item summarizing the essence of the construct (Hair *et al.*, 2017).

Finally, the moderating variable was operationalized as dichotomous: cross-border e-commerce executed solely or mainly through a firm's own website versus cross-border e-commerce executed solely or mainly through third-party e-commerce platforms. Based on previous findings that an exporter's international experience may influence its approach to e-commerce (Sinkovics *et al.*, 2013), two control variables were also included for each firm: the number of years of international experience and the number of years of cross-border e-commerce experience, respectively.

Overall, we received 117 questionnaires, 16 of which were excluded from the analysis. In 14 of the excluded questionnaires, respondents reported that they did not directly manage the cross-border e-commerce of their products – in most cases, products were purchased by domestic intermediaries, who then autonomously exported them using e-commerce (indirect exports) (Hessels and Terjesen, 2010). Two others were excluded because the firm had 250+ employees. The final sample comprised 101 exporters, giving a response rate of 20.3%. While not large, the sample size was adequate to analyze the data using partial least squares structural equation modeling (PLS-SEM), which requires samples to be at least 10 times the largest number of formative indicators used to measure a construct or the number of structural paths directed at a particular construct (Hair *et al.*, 2017). The absence of non-response bias was checked by using *t*-tests to compare early and late respondents on several variables (Armstrong and Overton, 1977).

Table 2 presents the roles of respondents and summarizes the main characteristics of firms in the sample. For all firms, cross-border e-commerce was one of several entry modes, with distributors and importers being the other two main export channels. In addition, all firms had at least some previous international experience when they decided to adopt cross-border e-commerce. Finally, experience with cross-border e-commerce was limited, revealing that its adoption is still in the early stages.

Data were analyzed using PLS-SEM, which is gaining popularity as an alternate tool to covariance-based structural equation modeling when there is little *a priori* knowledge on the topic and the study is exploratory rather than confirmatory (Hair *et al.*, 2011, 2019). Moreover, PLS-SEM is particularly useful when the sample size is small, which was the case in our research because of the small number of food and beverage firms that have embraced cross-border e-commerce (Hair *et al.*, 2017). Finally, PLS-SEM is recommended when using formative constructs (Hair *et al.*, 2019). For these reasons, PLS-SEM is frequently applied in international business research (Magnani and Zucchella, 2020; Richter *et al.*, 2016). The analysis was conducted using the software SmartPLS 3 (Ringle *et al.*, 2015).

Results

Measurement model assessment

Apart from cross-border e-commerce financial performance and the moderating variable (solely/mainly own e-commerce website versus solely/mainly third-party platform), all constructs were formatively measured. Therefore, the measurement model was evaluated based on convergent validity, indicator collinearity and statistical significance and relevance of indicator weights (Hair *et al.*, 2017, 2020). To assess convergent validity, we used redundancy analysis to examine the correlations of each construct with an alternate single-item measure able to capture the essence of the same construct (Hair *et al.*, 2019). For all constructs, correlations higher than 0.70 indicated that convergent validity had been met (Hair *et al.*, 2017). Indicator collinearity was analyzed by inspecting variance inflation factors, all of which were well-below the cutoff value of 5, confirming that collinearity was not an issue (Hair *et al.*, 2017). Finally, the statistical significance and relevance of indicator weights was examined. Bootstrapping (5,000 subsamples, bias-corrected and accelerated

Variable	Frequencies (n = 101)
Role of the respondent	
Marketing manager	26
Sales/export manager	24
CEO (entrepreneur)	23
Sales administration manager	18
Other roles (including IT manager)	10
Entry mode	
Cross-border e-commerce	101
Importer	72
Distributor	66
Trading company	14
Broker	11
Export consortium	10
Other modes	60
Served markets (number of countries)	
1	2
2–5	39
6–10	25
11–20	10
20+	25
Experience with foreign markets (number of years)	
<10	36
11–20	25
21–30	24
30+	16
Experience with cross-border e-commerce (number of years)	
<2	23
3	34
4	22
5+	22

Note: CEO = Chief executive officer

Table 2. Descriptive statistics of the sample

bootstrap, two-tailed test) revealed that not all indicator weights were statistically significant. Following Hair *et al.* (2017), we then considered each formative indicator's absolute contribution to its constructs given by the formative indicator's outer loading. All outer loadings were significant and much higher than the cutoff value of 0.5. Therefore, all indicators were retained.

Structural model assessment

After checking the validity and reliability of construct measures, we estimated the path model via bootstrapping (5,000 subsamples, bias-corrected and accelerated bootstrap, two-tailed test). First, we examined the structural model for collinearity for each set of predictor constructs, finding that all variance inflation factor values were below the suggested level of 5. Next, we analyzed the model's in-sample predictive power by inspecting the coefficient of determination (R^2) for cross-border e-commerce strategic performance and financial performance. Both constructs had acceptable values (0.348 and 0.440, respectively), which were higher than the average value of 0.33 found in meta-analyzes of international business

Measures	Weights
IT capabilities (formative measure)[a]	
ITC1. Use e-commerce and internet-based technologies	0.504
ITC2. Manage digital marketing tools	0.568
International marketing capabilities (formative measure)[a]	
IMC1. Understand foreign customers' needs	0.342
IMC2. Manage relationships with foreign customers	0.381
IMC3. Apply international marketing strategies effectively	0.395
Export operations capabilities (formative measure)[a]	
EOC1. Manage conformity with foreign markets' legal and fiscal requirements	0.419
EOC2. Manage international logistics (transport mode selection, documentation, insurance, etc.)	0.625
Cross-border e-commerce strategic performance (formative measure)[b]	
SP1. Sales objectives of cross-border e-commerce	0.337
SP2. Other strategic objective of cross-border e-commerce (e.g. access to new foreign markets)	0.742
Cross-border e-commerce financial performance[c]	/
Cross-border e-commerce sales as a percentage of total export sales	
Use of e-commerce platforms[c]	/
1 = cross-border e-commerce executed solely or mainly through a firm's own website; 2 = cross-border e-commerce executed solely or mainly through third-party e-commerce platforms	

Table 3. Construct measures and indicator weights

Notes: [a]Competences relative to their firms' major competitors on five-point scales (1 = very poor; 5 = outstanding). [b]Strategic performance related to the objectives of the cross-border e-commerce (1 = not achieved at all; 5 = completely achieved). [c]Single-item measures

studies (Richter *et al.*, 2016). We then used the blindfolding procedure to calculate the Q^2 value (Geisser, 1974; Stone, 1974), which is a further indicator of a path model's predictive accuracy (Hair *et al.*, 2017). The Q^2 values for cross-border e-commerce strategic performance and financial performance were 0.197 and 0.370, respectively, revealing acceptable predictive relevance of the PLS path model (Hair *et al.*, 2019). Then, the significance and relevance of the structural model relationships were analyzed. Because the interaction terms were created using a two-stage approach, analysis of the main effects was initially executed without the moderator (Hair *et al.*, 2017). Findings from the bootstrapping procedure (Streukens and Leroi-Werelds, 2016) are shown in Table 4.

Overall, the findings support the hypotheses related to the positive effect of IT capabilities on cross-border e-commerce strategic performance (*H1*) and financial performance (*H2*). In contrast, the hypotheses related to the positive effects of international marketing capabilities (*H3* and *H4*) and export operations capabilities (*H5* and *H6*) on cross-border e-commerce performance were not supported. Contrary to expectations, the analysis revealed a significantly negative effect of export operations capabilities on cross-border e-commerce financial performance (path coefficient of −0.243). Possible explanations for this result are presented in the discussion section below. The findings support *H7*, confirming the positive relationship between e-commerce strategic performance and financial performance. With respect to the moderating effects of the use of third-party platforms, only *H8b* was supported. In fact, the findings show that the use of third-party e-commerce platforms negatively moderates the relationship between IT capabilities and cross-border e-commerce financial performance. All other hypotheses (*H8a*, *H9a*, *H9b*, *H10a*, *H10b*) are rejected. However, contrary to expectations, the analysis highlights a significant positive

HP	Path	Path coeff.	*t*-Statistic	*p*-Value	2.5% Confidence interval	97.5% Confidence interval	Decision
H1	IT capabilities → E-commerce strategic performance	0.408	3.629	0.000**	0.175	0.617	Supported
H2	IT capabilities → E-commerce financial performance	0.501	4.592	0.000**	0.307	0.739	Supported
H3	International marketing capabilities →E-commerce strategic performance	0.180	1.249	0.212	−0.125	0.443	Rejected
H4	International marketing capabilities → E-commerce financial performance	−0.284	1.826	0.068	−0.586	0.029	Rejected
H5	Export operations capabilities → E-commerce strategic performance	0.043	0.288	0.774	−0.265	0.317	Rejected
H6	Export operations capabilities → E-commerce financial performance	−0.243	2.167	0.030*	−0.447	−0.005	Rejected
H7	E-commerce strategic performance → E-commerce financial performance	0.264	2.909	0.004**	0.057	0.418	Supported
H8a	Platforms*IT capabilities → E-commerce strategic performance	0.000	0.002	0.999	−0.191	0.286	Rejected
H8b	Platforms*IT capabilities → E-commerce financial performance	−0.187	2.211	0.027*	−0.340	−0.011	Supported
H9a	Platforms*International marketing capabilities → E-commerce strategic performance	0.273	1.159	0.246	−0.307	0.589	Rejected
H9b	Platforms*International marketing capabilities → E-commerce financial performance	−0.155	0.944	0.345	−0.444	0.199	Rejected
H10a	Platforms*Export operations capabilities → E-commerce strategic performance	−0.105	0.912	0.362	−0.280	0.177	Rejected
H10b	Platforms*Export operations capabilities → E-commerce financial performance	0.300	3.449	0.001**	0.125	0.471	Rejected

Control variables	Path coeff.	*t*-Statistic	*p*-Value	2.5% Confidence interval	97.5% Confidence interval	Significance
International experience → E-commerce strategic performance	−0.070	0.695	0.487	−0.308	0.092	Not sig.
International experience →E-commerce financial performance	−0.071	0.973	0.331	−0.204	0.082	Not sig.
International experience → Export operations capabilities	0.352	3.827	0.000**	0.130	0.496	Sig.
International experience → IT capabilities	0.107	0.925	0.355	−0.165	0.290	Not sig.
International experience → International marketing capabilities	0.346	4.800	0.000**	0.175	0.463	Sig.
E-commerce experience → E-commerce strategic performance	0.150	1.531	0.126	−0.047	0.335	Not sig.
E-commerce experience → E-commerce financial performance	0.118	1.275	0.202	−0.077	0.286	Not sig.
E-commerce experience → Export operations capabilities	−0.094	0.887	0.375	−0.301	0.113	Not sig.
E-commerce experience → IT capabilities	0.143	1.319	0.187	−0.081	0.337	Not sig.
E-commerce experience → International marketing capabilities	−0.013	0.106	0.916	−0.260	0.216	Not sig.

Notes: *$p < 0.05$; **$p < 0.01$; HP = hypothesis

Table 4.
Significance testing results of the structural model path coefficients

moderating effect of the use of third-party e-commerce platforms on the relationship between export operations capabilities and e-commerce financial performance. These results are discussed in the following section.

Finally, with respect to the effect of control variables, both international marketing and export operations capabilities, but not IT capabilities, are positively related to exporters' international experience. Experience with cross-border e-commerce was not significantly related to any variable.

Discussion

This study contributes to the knowledge on the drivers of exporters' cross-border e-commerce performance. Unlike previous analyzes, this study specifically examined small and medium-sized exporters and focused on e-commerce as a foreign market entry mode rather than as a supplement to offline exporting activities. Overall, this research extends the previous knowledge on the links between export capabilities and foreign market performance. Our study highlights the positive effects of IT capabilities on cross-border e-commerce strategic and financial performance. This result extends previous findings about the effects of IT capabilities on overall performance in the foreign market (Gregory *et al.*, 2019; Murray *et al.*, 2011).

With respect to export operations capabilities, the analysis showed unexpected results. Contrary to previous findings on the positive effect of similar capabilities on foreign market performance in general (Kaleka, 2012; Morgan *et al.*, 2012), we found that export operations capabilities had a negative effect on financial performance. This may be related to the specific nature of the sample firms, all of which had entered the foreign market via multiple entry modes (mainly importers and distributors) and had only recently adopted cross-border e-commerce as an additional channel. Exporters that have previously developed advanced operational capabilities may be more likely to continue preferring traditional entry modes. Therefore, they may report lower cross-border e-commerce sales as a percentage of total export sales (i.e. lower financial performance). Results related to the control variables seem to corroborate this interpretation. In fact, firms with longer international experience also had a higher level of international export operations capabilities. In sum, cross-border e-commerce may be viewed as a pure sales channel, requiring only IT capabilities.

This research also enriches the available knowledge on cross-border e-commerce by acknowledging the effects of the use of third-party platforms (e.g. Amazon and Alibaba). While previous research shows that exporters are increasingly using third-party platforms, it has not explored the effects of this choice on the relationship between firms' capabilities and their performance (Deng and Wang, 2016; Wang *et al.*, 2020). We found that the use of third-party e-commerce platforms weakens the relationship between a firm's IT capabilities and its performance. Even firms with a low level of IT capabilities can obtain satisfactory cross-border e-commerce financial performance when using third-party platforms. We also found an unexpected positive moderating role of the use of third-party platforms on the relationship between export operations capabilities and e-commerce financial performance. The use of external platforms emphasized the effects of export operations capabilities. This result may be related to the global reach of cross-border e-commerce platforms. In other words, when using third-party platforms, exporters may receive orders from all over the world, thus experience a greater variety and complexity of legal and fiscal requirements. In these cases, operations capabilities are a significant driver of performance.

Managerial implications

The findings of this research offer several practical insights to exporting SMEs. First, to successfully adopt cross-border e-commerce, SMEs need to develop IT capabilities. Moreover, because a firm's IT capabilities are not related to its previous experience with foreign markets, firms need to specifically invest in IT. At the same time, firms should avoid the so-called "virtuality trap" (Sinkovics *et al.*, 2013) – in other words, relying too much on external e-commerce channels may prevent SMEs from learning about foreign markets. Digital international market entry strategies do not allow interpersonal interactions, which is a significant drawback (Watson *et al.*, 2018). Moreover, even if international marketing capabilities are not related to e-commerce performance, firms are likely to use foreign market knowledge previously acquired through offline channels (e.g. through direct interactions with distributors and importers). Therefore, while cross-border e-commerce may accelerate overall export performance, export managers are urged to approach it strategically and with a clear medium-term view to develop the required capabilities. This suggestion specifically applies to the many SMEs that, driven by the COVID-19 crisis, are embracing the opportunities offered by cross-border e-commerce without the needed planning. While such a reactive approach may result in a rapid increase in foreign sales, a proactive strategy is needed to experience sustainable growth in the international market. A proactive strategy also encompasses clear decisions about the relationships between cross-border e-commerce and other offline entry modes to prevent conflicts between channels (particularly distributors and importers). Deciding whether to use a third-party cross-border e-commerce platform and selecting the most suitable one will also affect sales, prices and margins and customer perceptions about the brand. Moreover, communications must be designed in such a way that they are noticed by customers in the cross-border e-commerce environment, where the number of competitors is growing rapidly. The volume of work and capabilities required to strategically manage cross-border e-commerce may motivate firms to hire or collaborate with specialists (e.g. temporary export managers or digital export managers). Trade promotions organizations can also support SMEs in their cross-border e-commerce efforts, such as by establishing specific agreements with cross-border e-commerce platforms and designing training services.

Conclusion

While many SMEs are rapidly embracing cross-border e-commerce as a new foreign market entry mode, theoretical and managerial knowledge on its success factors is limited. The results of this research highlight the varied effects of export capabilities on cross-border e-commerce performance. In particular, they reveal the role of the exporter's IT capabilities and that the use of third-party cross-border e-commerce platforms may mitigate the positive effect of these capabilities. The findings also suggest that SMEs with strong export operations capabilities may prefer traditional entry modes such as offline partnerships with importers and distributors.

Given that cross-border e-commerce is a nascent phenomenon (UNCTAD, 2017), caution is recommended when interpreting these findings. In particular, most of the exporters participating in this study had only recently implemented cross-border e-commerce; thus, longitudinal data on its success factors are absent. Therefore, it is not possible to evaluate whether export capabilities have different effects in the short versus the long term. Therefore, future longitudinal studies would be extremely valuable.

This study has several other limitations. First, data were collected from exporters in the food and beverage industry only. While this industry (together with fashion) accounts for the largest component of Italian B2C cross-border e-commerce, it also presents some specific

features. In particular, food and beverage products are highly standardized, thus do not require intense interactions between exporters and customers. This may partly explain the insignificant effect of international marketing capabilities on strategic performance. However, the findings may differ in industries in which interactions with international customers play a stronger role and require higher relationship management capabilities. The sample size, while being adequate for an exploratory analysis such as PLS-SEM, represents a further limitation. Collecting data from a larger sample of exporters adopting cross-border e-commerce would also advance the knowledge through multigroup analyzes. For example, model estimations for small versus medium-sized exporters or for exporters from different countries could be compared. Our study comprised SMEs, which have specific exporting challenges (Morais and Ferreira, 2020; Paul *et al.*, 2017). Respondents were mainly managers of marketing and sales departments, who may have a different view from, for example, IT managers. Moreover, this study included exporters using both traditional foreign market entry modes and cross-border e-commerce. It was not possible to assess whether this was the result of participant self-selection or whether it was related specifically to the food and beverage industry, which is characterized by more traditional firms compared with more innovative industries. Future studies should explore the effects of the export capabilities of firms using only cross-border e-commerce. In addition, the combined effects of export capabilities and other types of capabilities such as market orientation should be researched (Fernandes *et al.*, 2020). Finally, the role and effects of different types of e-commerce platforms could be examined.

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