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Marketing capabilities and international new venture performance: The mediation role of marketing communication and the moderation effect of technological turbulence

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ABSTRACT

Few studies have examined marketing capabilities as a source of competitive advantage in the international entrepreneurship (IE) field. Empirical evidence in the international new ventures (INVs) literature that considers the strategic interplay of marketing capabilities in developing new markets overseas is scant. Building upon the resource based view, this study develops a model of the relationships among marketing capabilities—competitive strategy—export venture performance. The sample used in this study includes INVs from an emerging country (Mexico) and provides a unique research setting for shedding additional light on these relationships. The findings suggest marketing communication mediates the relationship between marketing capabilities and competitive strategy. Moreover, this study reveals the moderating effect of technological turbulence, which strengths two relationships, one between marketing capabilities and marketing communication, and the other, between marketing communication and competitive strategy. The study findings have important implications for research on IE and new venture decision-making.

1. Introduction and literature gaps

As global trading has become increasingly important, the central role of high tech small and medium firms taking advantage of international trading opportunities is crucial for the understanding of the antecedents of performance (Zhou, Aiqi, & Barnes, 2012). International new ventures (INVs) are small and medium high-tech firms that from inception seek to gain substantial competitive advantage from the use of resources and deployment of capabilities for the international sale of outputs (Oviatt & McDougall, 1994). Rennie (1993) was the first to identify and label this new breed of firms that respond to environmental changes through rapid internationalization. The study of INVs in emerging countries like Mexico is still incipient given the difficulty of accessing information of small and medium firms, the main reason why many studies limit their analysis to multinational corporations (Brenes, Montoya, & Ciravegna, 2014). Mexico is an important world player among Latin America, even after the recent economic 2008 downturn where Mexico's firms were the only manufacturing powerhouse that remained in the region (Aguilera, Ciravegna, Cuervo-Cazurra, & Gonzalez-Perez, 2017). However, the international entrepreneurship (IE) literature has long neglected studies in this region (Cuervo-Cazurra & Ramamurti, 2014). The present study aims to help fill this gap.

INVs are young firms vulnerable to impediments related to resource limitations. Although studies suggest that marketing capabilities play a major role in explaining INVs' performance (Efrat & Shoham, 2012; Evers, Andersson, & Hannibal, 2012), the interaction understanding between marketing capabilities and other factors to meet the competitive demands remains limited. Marketing capabilities are created to gain competitive advantage, they are characterized by its ability to develop and deliver superior value to customers by combining its available resources (Day, 2011).

The marketing literature supports marketing capabilities as value creators. However, little is known about how INVs, which are resource constrained, can increase marketing capabilities, which are resource intensive (Evers et al., 2012). Hence, these gaps in the IE literature imply a lack of support for INVs' managers to decide on how to increment the level of marketing capabilities to increase performance.

These IE literature controversies are twofold. On the one hand, most

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marketing capabilities studies claim superior performance is the result of acquiring and exploiting unique resources. This argument derives from the resource based view (RBV) of the firm, which for decades has influenced the IE dialogue by helping researchers articulate the drivers of competitive advantage (Kaleka, 2012; Peng & York, 2001). However, the IE literature has also criticized the RBV for its emphasis on creating and sustaining capabilities regardless of ongoing changes in external market conditions (Knight and Cavusgil, 2004).

On the other hand, the highly competitive demands of INVs require them to be aware of the nature of their marketing environment to develop an adequate configuration of marketing capabilities. In the IE literature the recognition of the influence of external factors and their impact on internal firm factors, led to calls for a broader RBV that would encompass both aspects.

In addition, with the recent advances in new media and computer technologies, communication is more crucial than ever to comprehend the external marketing environment, because communication plays a key role in attracting and keeping customers (Batra and Lane Keller, 2016). Still, little is known about the interplay between marketing communications and the marketing capabilities that firms need.

The analysis of external factors finds competing abroad is challenging for INVs. These firms are constantly improving their strategies and respective executions to compete in regional and global markets. One such challenge is the rate of technological change in the market, particularly for INVs located in resource constrained emerging markets (Fernhaber & McDougall-Covin, 2014).

Technological turbulence can be viewed as a threat to firms' operations because this creates unstable environments that eventually contribute to reducing firms' performance (Gu, Hung, & Tse, 2008; Segarra & Callejon, 2002). Whereas some research suggests unstable conditions can leave INVs vulnerable (Autio, Sapienza, & Almeida, 2000), other studies show technological turbulence can have a positive effect on the performance of INVs (Efrat & Shoham, 2012; Song, Droge, Hanvanich, & Calantone, 2005). However, how technological turbulence can positively affect INVs performance remains under-studied.

The present study suggests these inconsistencies can be resolved, at least partially, by understanding the consolidation process that empowers the firm to add value and meet the demand. This consolidation process refers to RBV components, which are internal to the firm, such as marketing capabilities acting as antecedents of performance, and the impact of external factors.

Investigations about marketing capabilities have increasingly played a critical role in INVs' survival and success in international markets (Ripollés & Blesa, 2012). However, the focus on the effect of external factors, such as technological turbulence, on INVs is limited (Aspelund, Madsen, & Moen, 2007).

In the present study these arguments are tested by addressing the following still unanswered research question: *What is the effect of marketing capabilities on the relationships among marketing communication, competitive strategy, technological turbulence, and INVs' performance?*

This study makes three contributions to knowledge in this important field. First, this is an investigation of marketing capabilities and marketing communication interaction for creating a competitive strategy to enhance export venture performance in INVs. In doing so, the present study demonstrates how marketing communication affects the relationship between marketing capabilities and competitive strategy, thus offering a solid extension to IE theory.

Second, this study reports the moderation effect of an external factor. Competitive turbulence moderates two relationships, one between marketing capabilities and marketing communication, and the other between marketing communication and competitive strategy on INVs. The model contributes to the required empirical grounding from which to make recommendations to INV managers regarding relevant resource allocation decisions. The choice to augment the levels of marketing capabilities requires considerable resource investments, and managers need to ensure that their investments will profit appropriate rewards. The extant literature offers uncertain recommendations to practitioners, primarily because the performance effect of marketing capabilities on INVs has received minimal empirical attention. Specifically, doubts remain as to whether increasing levels of marketing capabilities are favorable for all INVs, under all circumstances. IE scholars have not reported any conditions under which the benefits of marketing capabilities outweigh the costs, or conditions under which the costs associated with increasing the level of marketing capabilities outweigh the benefits. Therefore, this research regarding the performance consequences of marketing capabilities on INVs is opportune.

Third, an empirical study was conducted in the context of high-technology "born regional" (Lopez, Kundu, & Ciravegna, 2009) INVs from Mexico. While research about INVs in Latin America's region is nascent, there is few empirical evidence of these firms in the region (Di Gregorio, Dante, & Thomas, 2008). Mexico is a unique Latin American setting that allows us to test marketing capabilities as performance antecedents of INVs and the technological turbulence effect. In Mexico, which is considered an upper middle income country (WorldBank, 2014), the emphasis on constrained resources is higher than in developed economies (Kaufmann & Roesch, 2012), and lower than in smaller emerging markets. Therefore, the results obtained speak to an important set of firms ignored in the marketing capabilities debate.

This paper is organized as follows. The next section exhibits insights from RBV into the INVs marketing capabilities-competitive strategy-performance paradigm and the technological turbulence constraint to develop the hypotheses and conceptual model. The research methodology is then discussed, after which the results estimation and their implications are presented. Conclusions, limitations and directions for further research are provided in the final section.

2. Theoretical background and hypotheses

2.1. Marketing capabilities and competitive strategy

Marketing capabilities, as a source of sustainable competitive advantage, have been discussed previously in the international business field and in young international ventures (e.g., Martin, Javalgi, & Cavusgil, 2017; Zhou et al., 2012). Marketing capabilities can be defined as integrative processes designed to apply the firms' necessary resources to its market related needs, enabling the firm to add value and meet competitive demands (Day, 2011).

The INVs' literature shows that INVs follow a competitive strategy that combines low cost and marketing differentiation (Hughes, Martin, Morgan, & Robson, 2010). Successful businesses are usually positioned to capitalize on an attractive value proposition derived from this combination (Du, Kim, & Aldrich, 2016; Tan & Sousa, 2015). First, cost leadership provides customers with lower prices than competitors. Second, marketing differentiation help INVs to develop new and distinct products (Banker, Mashruwala, & Tripathy, 2014; Li & Deng, 2017).

Competitive strategies are planned patterns of marketing-capability deployments that support choices about how the venture will compete for target customers and achieve its desired goals. The link between marketing capabilities and competitive strategy is documented in the literature. Gregory, Ngo and Karavdic (2017) explore the marketing capability configurations, generic strategies to enhance export venture performance. In addition, Murray, Gao, and Kotabe (2011) use a sample of export ventures to investigate the link between marketing capabilities and competitive advantages.

Marketing capabilities should ensure the competitive strategy's decisions are aligned with the requirements of the international marketplace (Weerawardena & Mavondo, 2011). Marketing capabilities should allow international market decision makers to select the competitive strategy options that are more likely to be well received in the international market (Morgan, Katsikeas, & Vorhies, 2012). Firms with new product development capability, service capability, and distribution

capability can effectively develop and manage new product, service, and distribution offerings to generate a competitive advantage based on differentiation and cost leadership to meet international consumers' needs. Thus, the following hypothesis is suggested:

Hypothesis 1. The possession of marketing capabilities is positively related to the competitive strategy pursued by the INV firm.

2.2. Competitive strategy and export venture performance

From inception, INVs compete for the same resources as multinationals locally and internationally (Knight & Liesch, 2016). Therefore, combining and recombining resources to deploy capabilities is a dynamic, interactive process to attain an adequate competitive strategy (Kraaijenbrink, Spender, & Groen, 2010; Spanos & Lioukas, 2001). A firm's ability to progress rapidly and appropriately is based on a competitive strategy that allows the firm to decide which strategy can be executed to achieve superior export venture performance. The world of globalization and technological change, where INVs compete, requires dynamic strategic decisions to adapt continuously (Leonidou, Palihawadana, & Theodosiou, 2011). A positive relationship between competitive strategy and business performance has been widely proposed in the literature (e.g., Kaleka, 2011). Competitive strategy is linked to performance by determining the quality of strategy implementation (Furrer, Devanathan, Thomas, Tereza, & Alexandre, , 2008). Therefore, the following hypothesis is proposed:

Hypothesis 2. The competitive strategy that the INV firm pursues is positively related to export venture performance in the international market where the firm competes.

2.3. Marketing capabilities and export venture performance

The international marketing literature emphasizes that marketing capabilities play an important role in enabling effective marketing strategy implementation in export venture operations. Marketing capabilities are important sources of superior performance in export ventures (Morgan et al., 2012) and affect firms performance in foreign markets (Zou, Fang, & Zhao, 2003). Marketing capabilities are the integrative process of applying firm's knowledge, skills and resources to market-related needs. Marketing capabilities enable an INV firm to add value to its products and meet the competitive demands (Martin & Javalgi, 2019), and play a pivotal role in the deployment of market-related resources to respond to the changing environment (Moorman & Day, 2016).

The literature notes a firm's marketing capabilities lead to superior firm performance in various business disciplines and industrial sectors. For example, a study conducted by Vorhies and Morgan (2005) on 12 end-consumer and service industries found the development of marketing capabilities enhances customer satisfaction, market effectiveness, and profitability. In addition, Murray et al. (2011) find that marketing capabilities help improve export ventures financial, strategic and product performances. Thus, the development of marketing capabilities may enhance INVs performance. Therefore, the following hypothesis is proposed:

Hypothesis 3. Marketing capabilities are positively related to export venture performance in the international market where the INV firm competes.

2.4. Marketing capabilities and marketing communication

Marketing capabilities include the firm's ability to generate and disseminate information to develop proper responses for current and future needs with changing competitive dynamics (Song, Nason, & Anthony Di Benedetto, 2008). For INVs that interact in foreign markets, marketing communication enables firms to manage export customers' value perceptions. Firms with marketing communication are able to persuade customers to have a positive perception of their products, consequently building a differentiated brand image and awareness (Murray et al., 2011). Marketing communication emphasizes two-way communication to promote interactivity with the broader marketing environment (Luxton, Reid, & Mavondo, 2017). Marketing communication is based on the information interchange among customers, competitors, channel members, and the broader market environment (Kumar, Keller, & Lemon, 2016).

INVs should use marketing communications with dexterity. Accordingly, marketing capabilities of INVs should have a direct link with effective advertising and promotion, which is based on marketing communication skills and processes. In this regard, the following hypothesis is proposed:

Hypothesis 4. Marketing capabilities are positively related to an INV firm's marketing communication.

2.5. Marketing communication and competitive strategy

With an enhanced ability to gather competitor information, such as competitors' cost structures and competitive behaviors, a firm can initiate effective cost-containment programs, which leads to a low-cost advantage. This is the main building block to developing a cost leadership strategy in the firm. A differentiation strategy requires information from competitors and the marketing environment about the degree of distinction of international products (Zou et al., 2003).

Previous research reported a significant relationship between marketing communication and competitive strategy of export ventures based on the ability to rapidly implement a response to a major competitors' actions. For example, after a major competitor of an export venture launches an intensive campaign targeted at the venture's customers (Murray et al., 2011). However, few empirical research relates how vital marketing communications skills and processes are to reacting to competitive actions by developing effective export advertising and promotion (Batra and Lane Keller, 2016). To have this information available to generate appropriate competitive strategies, the INV firm needs the primary integrative element of marketing communication. Hence, the following hypothesis is proposed:

Hypothesis 5. Marketing communication is positively related to the competitive strategy in the INV firm.

2.6. Marketing communication and export venture performance

The development of marketing communication capabilities is likely to be felt through better performing campaigns, which in turn result in improved firm performance (Batra and Lane Keller, 2016). Given the competitive challenges that most firms face, managers must identify and react to competition and growth opportunities rapidly by building and sustaining marketing communications capabilities strategically and linking them directly to firms objectives (O'Cass & Weerawardena, 2009). Despite much conceptual work around defining marketing communication, little research has been undertaken to illustrate its value as a capability. To address this issue, the present study is grounded in the RBV and considers marketing communication as a capability that facilitates the translation of a firm's marketing capabilities into competitive advantages (Luxton, Reid, & Mavondo, 2015).

Effective marketing communication is considered key for superior firm performance. In particular, the literature has highlighted the important role of information regarding customers, competitors, channel members, and the broader market environment in the successful development and execution of marketing strategy (Borges, Hoppen, & Luce, 2009). The information sharing among parties and their feedback facilitates information processing about the market (Song, Wang, &

Parry, 2010). Developments in information processing and communication technologies, accompanied by a growing trend of niche markets, have created a fertile ground for INVs' appearance (Efrat & Shoham, 2012). Marketing communication should favor a two-way communication dialogue in order to understand the information related to doing business in the market; the customers; the quality of the channel relationships; and to develop knowledge about competitors in the market to achieve superior performance (Fill, 2002). In this regard, the following hypothesis is suggested:

Hypothesis 6. Marketing communication enhances export venture performance where the INV firm competes.

2.7. Moderating effects of technological turbulence

In examining the transformation of marketing capabilities into competitive strategy, one should avoid adopting a deterministic view in evaluating the relationship between marketing capabilities and competitive strategy. Without exercising caution, such a view would lead to over-generalization of the benefits of marketing capabilities. Researchers have conceptualized the external environment as one of the key constructs for understanding firm behavior and performance. Hence, different strategies become appropriate depending on the competitive settings of firms (Ketchen, Tomas, Hult, & Slater, 2007).

INVs operate in changing high-tech environments. Technological turbulence creates frequent alterations that force firms to constantly keep up with and adapt to technological trends. Technological turbulence can be viewed as a threat to firms' operations in that it is disruptive and creates unstable environments (Cadogan, Cui, & Yeung, 2003). Accordingly, technological turbulence contributes to a sense of uncertainty (Terawatanavong, Whitwell, Widing, & O'Cass, 2011). Empirical evidence regarding the effect of uncertainty is mixed. Gu et al. (2008) find that performance declines when technology changes rapidly by using a sample of well-established Chinese firms. Segarra and Callejon (2002) confirm these findings with a sample of Spanish new firms. However, Efrat and Shoham (2012) show that technological turbulence can lead to better performance.

INVs operate in dynamic environments exploiting technological trends and change as springboards for redefining their products and markets (Knight and Cavusgil, 2004). This study proposes that the impact of marketing capabilities on competitive strategy varies across different levels of technological turbulence.

A rapidly changing technological environment creates new product development opportunities that firms can use to appeal to and expand their customer bases. This also creates challenges that may propel firms to change or upgrade their products to maintain superior competitive positions (Sheng, Zhou, & Li, 2011). Firms must overcome challenges and seize opportunities by developing advanced new products, otherwise they will be squeezed out of the market. Therefore, rapidly changing technologies require firms to use new technologies and skills to introduce new products quickly with high quality distribution services (Zou et al., 2003), and after-sales services (Martin, Rajshekhar Raj, & Javalgi, and Luciano Ciravegna, , 2018). Such a requirement can be met by using marketing communications to develop adequate advertising and promotion campaigns (Luxton et al., 2015).

As a result, this study proposes that due to high technological turbulence, the INV requires to engage in new product development, as well as service and distribution marketing capabilities that employ marketing communication to maintain or enhance performance. With less technological turbulence, the INV firm does not need to engage in such resource-consuming activities. Based on the earlier discussion, the following hypothesis is proposed:

Hypothesis 7. Technological turbulence in the INVs' environment moderates the relationship between marketing capabilities and marketing communication. Specifically, the relationship diminishes under conditions of low technological turbulence and becomes stronger as technological turbulence increases.

Marketing communication is viewed as a firm-specific capability in that its underlying processes may be deeply embedded in organizational routines and practices (Lin and Wu, 2014). Consistent with the RBV, a capability does not imply doing something in an outstanding way; a capability means performing some function at some acceptable level that provides an advantages (Helfat et al., 2007). This study recognizes that marketing communication is heterogeneously distributed among competitors, hence its ability to provide some performance advantage. Thus, firms will have marketing communication capability, but some will have more than others.

The configuration of marketing communication capabilities is different and potentially unique for each firm. The development of marketing communication capabilities may be expensive for competitors. Consistent with Madhavaram, Badrinarayanan and McDonald (2005) marketing communication may not be a source of sustainable competitive advantage, but it is likely to provide a series of temporary advantages.

For INVs that are exposed to technological turbulence, the investment in marketing communication could help to compete with the high speed unpredictability of technology. With high technological turbulence, the INV will require the skillful use of marketing communication for effective advertising and promotion campaigns. With less technological turbulence, the INV firm will not need to engage in such resource-consuming activities. Consequently, the present study proposes that technological turbulence moderates the relationship between marketing communication and competitive strategy, as follows:

Hypothesis 8. Technological turbulence in the INVs' environments moderates the relationship between marketing communication and competitive strategy. Specifically, the relationship diminishes under conditions of low technological turbulence and becomes stronger as technological turbulence increases.

A vast majority of the literature on INVs focuses on export sales (Gerschewski & Xiao, 2015), notably when these firms are in the high-tech industry (Yang & Gabrielsson, 2017). Therefore, based on former studies (e.g., Knight and Cavusgil, 2004; Martin & Javalgi, 2019), this study adopts the export venture of the INV firm as the primary unit of analysis. Research at the export venture level looks at a specific product/market combination and provides an analysis of the success or failure of a particular product/product line to an overseas market. The research model is outlined in Fig. 1. The model endeavors to contribute to IE literature providing a synthesis of the RBV by examining how specific interactions of marketing capabilities with marketing communication drive competitive strategy and performance of INVs. Also, external factors are analyzed by considering the disruptive environments where INVs operate, caused by technological turbulence.

3. Research methodology

Latin American firms benefited from relative political stability and economic growth between the 2000s and mid-2010s. The conjunction changed dramatically with the fall in commodity prices, when the price of oil dropped from its peak levels of US$150 in 2008, to its lowest price of US$40 per barrel. Only Mexico's firms continued to be a manufacturing powerhouse (Aguilera et al., 2017). This study sample consisted of 260 INV firms from Mexico from a total population of 1500 INVs the lead author found in the country during 2015. High-technology manufacturing exports from Mexico have grown considerably resulting from an array of regional trade agreements. INVs in Mexico are part of government exporting databases firms mixed with other non-high-tech firms. So, the focus was on making firm –and international venture– level data from high technology industries.

Therefore, databases that contained information across high-

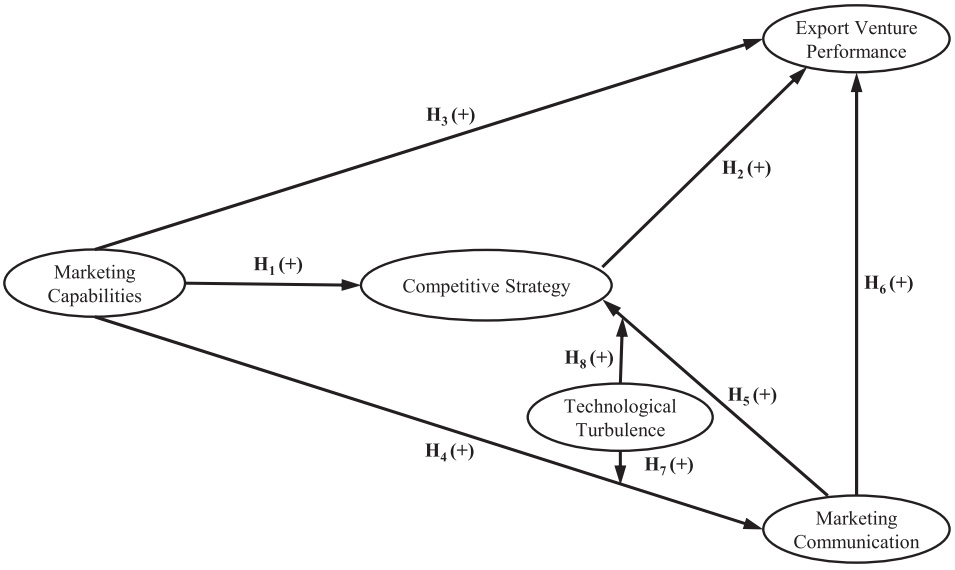

Fig. 1. Conceptual framework.

technology industries were selected and evaluated (Fernhaber, McDougall, & Oviatt, 2007). The databases included fields that facilitate the recognition of high-technology INVs in Mexico, such as the age of the firm at exporting, the industry sector, and the firm size in terms of number of employees. A multi-industry sample was used to strengthen the generalizability of the findings and to increase observed variance (Moen, 2002).

The classification of TechAmerica was used to recognize Mexican high-technology firms. The European Commission classification of SMEs was adopted to measure firm size. This is in line with the Mexican Ministry of Economy: firms with 10–50 employees are considered small, and firms in the range of 51–249 employees are medium sized. Firms with < 10 employees are micro firms and were dropped from the study; such firms tend to have part-time operations and unstable objectives that can skew study outcomes.

After drawing together multiple databases to create one of just INVs, a target population of 1500 Mexican INVs was grouped together. Following, 50 firms were excluded as a result of screening for trading status, contact details, firm characteristics, and willingness to participate. Computer-assisted random calling was used to conduct telephone interviews of the 1350 INVs sample and to obtain responses for the survey. A total of 260 INVs respondents contributed in the study. Each respondent reported on a self-identified export venture, which was defined as a single product or product line exported to a specific export market (country).

Most of the respondents identified themselves as executive managers or managers (62%); the remainder were executive directors (20%), chief executive officers (8%), or in other senior positions (10%). The mean relevant working experience of the respondents was 8.2 years. A post hoc competency check on the informants' knowledge of export venture marketing programs, strategies, resources, and marketing capabilities, as well as those of their major competitors, elicited a mean of 5.80 on a seven- point scale (1 = "low knowledge," and 7 = "high knowledge"). The export ventures ranged across the following high-technology sectors: 30% computer systems design and related services, 21% computer and peripheral equipment, 11% electronic components, 25% communications equipment, and 13% measuring and control instruments. The median number of years of exporting was 19. In regards to size, 181 firms had 51 employees or more, and the remaining 79 had 10–50 employees.

To assess potential non-response bias, early and late respondents were compared with respect to various characteristics, including number of full-time employees, years of exporting, annual sales volume, age of the venture, number of export markets, key informant self-reported competency evaluation indicators, and the construct measures. No significant difference was detected by using secondary information on employee numbers and annual sales volume. In addition, the respondent firms and a group of 70 randomly selected nonparticipant firms were compared. No differences were found between respondents and non-respondents at conventional levels ($p < .05$). The conclusion was that non-response bias was not a significant problem in the data.

A systematic development process questionnaire was used combining fieldwork and literature-based insights to specify the domain of each of the constructs, and to develop multiple items to serve as indicators. Through an extensive literature search, a preliminary survey instrument in English was developed. Then, five academic researchers in international marketing and strategy who served as expert judges evaluated the survey to assess face validity. Subsequently, a Spanish version of the questionnaire was developed including business context terms used in Mexico. Two language experts performed a back-translation. Finally, to evaluate the relevance of the constructs to the Mexican INV business environment and the clarity of instructions and response format, the survey was presented and revised in a series of face-to-face settings with ten Mexican INV managers.

All construct measures were retrieved from existing literature sources. Marketing capabilities, competitive strategy and export venture performance are second order reflective constructs with three dimensions each. The dimensions of marketing capabilities are: new product, distribution and service. Items from Zou et al. (2003) were used to capture new product and distribution capabilities. Katsikeas, Paparoidamis, and Katsikea (2004) items were used to source service capabilities. The operationalization of marketing communication was also based on items from Zou et al. (2003). Likert-type seven point scale was employed to operationalize marketing capabilities ranging from (1) 'Much Worse' to (7) 'Much Better' with a mid-point label of 'About the same'. The dimensions of competitive strategy are cost leadership, marketing differentiation and delivery differentiation. Cost leadership provides customers with lower prices than competitors. Cost leadership items were obtained from Aulakh, Kotabe, and Teegen (2000), and Styles and Ambler (1994). Marketing differentiation helps the firm develop new and distinct export venture products as well as investments in marketing communications. These items were sourced from Aulakh, Kotabe, and Teegen (2000), Menguc, Auh, and Shih (2007), Spanos and Lioukas (2001), and Styles and Ambler (1994). Delivery differentiation enhances efficiency in the delivery of value offerings to customers. The items of delivery differentiation were retrieved from

Morgan, Kaleka, and Katsikeas (2004), and Cavusgil and Zou (1994).

To operationalize competitive strategy the participating INV managers were asked to denote the degree of emphasis that they intended to place on the marketing functions that denote the items of each subsection of the specific construct. A Likert-type seven point scale was employed ranging from (1) 'Not at all' to (7) 'To a great Extent' with a mid-point label of 'To some Extent'.

Consistent with previous studies (e.g., Morgan et al., 2012), perceptual measures of export venture performance were employed because firms financial statements do not report objective performance data at the export venture level (Katsikeas, Leonidou, & Morgan, 2000). Moorman and Day (2016) contend that managerial decisions and actions are primarily driven by perceptions of firm performance. In accordance with export venture studies (e.g., Martin et al., 2017; Morgan et al., 2004), export venture performance is conceptualized in this study as a multidimensional construct at the export venture level in terms of three dimensions: 1) effectiveness, the extent to which organizational goals and objectives are met; 2) efficiency, the relationship between performance financial outcomes and the inputs required to achieve them; and, 3) adaptiveness, the operational ability to respond to environmental changes (Jaworski & Kohli, 1993).

Respondents were asked to provide their own ratings of performance effectiveness, efficiency, and adaptiveness (Walker & Ruekert, 1987) compared with competitors in the export market (Peng & York, 2001). These subjective measures were deemed appropriate because prior work has found a high correlation between subjective and objective performance measures (Brouthers, Nakos, Hadjimarcou, & Brouthers, 2009). In the present study, effectiveness and efficiency items were obtained from Vorhies and Morgan (2003); and Walker and Ruekert (1987). Walker and Ruekert (1987) were also used to measure adaptiveness items.

Marketing communications was measured as a first order construct with items from Morgan, Vorhies, and Schlegelmilch (2006), Morgan, Zou, Vorhies, and Katsikeas (2003), and Morgan and Hunt (1994). Technological turbulence items were measured with a scale developed by Jaworski and Kohli (1993). Firm size was included as control in the structural model. Firm size was captured by asking for the number of full-time employees currently working in the firm.

The participating INV managers were asked to provide their own rating of their firm's marketing capabilities, marketing communications and export venture performance relative to the major competitors. A Likert-type seven-point scale was employed, ranging from (1)'Much Worse' to (7) 'Much Better' with a mid-point label of 'About the same'.

IE literature indicates that export venture performance of INVs is directly related to firm size. The size of firms does not appear to limit INVs' ability to engage in international activities (Moen & Servais, 2002). In line with previous IE studies, firm size, measured with the natural logarithm of number of employees, was included as control variable (e.g., Åkerman, 2015; Yli-Renko, Autio, & Sapienza, 2001). Number of employees is commonly used in INVs as there is staff with significant international experience. It is reasonable to assume that the number of employees can influence the firm's performance, as the employees experience is related with the identification of market opportunities (Cavusgil & Knight, 2015).

3.1. Addressing common method bias

Collecting data from key informants using a single survey instrument creates the potential for common method bias (CMB). This study followed the procedures recommended by Podsakoff, MacKenzie, Jeong-Yeon, and Podsakoff (2003) to limit the impact of such bias in terms of: using a systematic measure development process to ensure clarity in the scale items; socially desirable responses were avoided; the respondents were aware that their responses were not correct or incorrect; the respondents were not able to deduce the true intentions of the questionnaire; and guaranteed anonymity to all respondents was offered. Data from knowledgeable insiders, such as senior-level managers, was obtained. They were asked to rate objective organizational characteristics rather than subjective personal feelings. In this regard, individual biases in the responses were mitigated as suggested by McGrath (2001).

In addition, due to the lack of secondary sources of data on export venture performance, the firms in the final sample were contacted and their cooperation was requested in obtaining objective performance data. Primary objective performance data for 86 INVs from the sample was collected on market share growth, growth in sales, and the percentage of the firm's total sales derived from its export sales. Highly significant correlations were found between these objective performance indicators and the corresponding perceptual performance items used in export venture performance measurement: 0.82 ($p < .01$) for market share growth, 0.86 ($p < .01$) for growth in sales revenue, and 0.78 ($p < .01$) for the percentage of the firm's total sales derived from its export sales.

Furthermore, the possibility of CMB was examined with two statistical alternatives. The first one included in the data the variable export venture duration, which is theoretically unrelated to the main study constructs. The average correlation of export venture duration with the main study variables (those included in the measurement models) was 0.05. Using this marker variable, the CMB-adjusted correlations were computed between all the main study variables using the following equation:

$$r_A = (r_u - r_M)/(1 - r_M),$$

where r_A is the CMB-adjusted correlation, r_u is the original correlation, and r_M is a marker variable. This study found that the small differences between the original and the CMB-adjusted correlations ($\Delta r \leq 0.04$) did not affect the statistical significance of correlations between the main study variables. Moreover, to test the second statistical alternative an overall measurement model was estimated (parsimonious estimation; see below) using the original and CMB-adjusted correlations. Then, a chi-square difference test between the models was conducted. The substitution did not significantly deteriorate the fit ($\Delta\chi^2 < 0.10$). Taken together, these procedures and analyses suggest CMB is not the likely explanation of relationships between the study's constructs.

4. Analysis and results

Exploratory factor analysis and reliability analysis were used to purify the measures of this study. The retained items presented high item-to-total correlations, high loadings on the intended factors, and no substantial cross-loading. Then, the set of items were subjected to confirmatory factor analysis (CFA) to verify the hypothesized factor structure and to ascertain validity of the measures (Anderson & Gerbing, 1988). Then, three measurement models were estimated (see Table 1). The first contains 11 items measuring the marketing capabilities construct and 3 items measuring the marketing communication construct. The second model contains 9 items assessing the competitive strategy construct. The third model includes 11 items measuring the export venture performance construct and 3 items measuring the technological turbulence construct. Whereas marketing capabilities, competitive strategy and export venture performance are second-order constructs, marketing communication and technological turbulence are first order constructs.

These analyses were performed using the elliptical reweighted least squares estimation procedure in AMOS, which is proved to produce unbiased parameter estimates for multivariate normal and non-normal data. In spite of a significant chi-square ($X^2 = 172.14$; $df = 73$; $p < 0.000$) in the first measurement model, as might be expected given the sensitivity of the test statistic to sample size (Bagozzi & Yi, 1988) all other diagnostics are supportive. Indeed, MacCallum, Browne and Sugwara (1996) have proven the chi-square is unrealistic in most SEM empirical research. Normed chi-squared (x^2/df) of 2.35 is considered

Table 1
Measurement models and measures.

Factors and Items	Standardized Loading	t-Value
Measurement Model 1: **Marketing Capabilities** [d] and **Marketing Communication**		
Marketing Capabilities		
New Product (C.R = 0.93, AVE = 0.83) [b]	0.69	6.30
Developing new export venture	0.74	— [e]
Successfully launching new export venture products	0.86	13.14
Speedily developing and launching new export venture products	0.86	13.09
Service (C.R = 0.89, AVE = 0.65) [b]	0.78	5.49
Using our pricing skills to respond quickly to any customer changes	0.52	— [e]
Delivering high quality after-sales service	0.75	7.38
Attracting and retaining after-sales service personnel	0.78	7.44
Distribution (C.R = 0.82, AVE = 0.73) [b]	0.66	5.93
Providing high levels of support to distributors	0.72	9.61
Closeness in working with distributors/retailers in this market	0.64	8.80
Adding value to distributors' businesses	0.70	9.42
Satisfying the needs of distributors	0.70	9.40
Attracting and retaining the best distributors in the export venture	0.68	— [e]
Marketing Communication (C.R = 0.88, AVE = 0.86) [b]	0.63	— [e]
Marketing communication skills and processes	0.88	— [e]
Skillfully using marketing communications	0.90	17.00
Developing effective export advertising and promotion	0.73	13.46
Goodness-of-Fit Statistics: x^2 (d.f.) = 172.146 (73), x^2 /d.f. = 2.35, p < .000; NFI = 0.90; CFI = 0.94; RMSEA = 0.072		
Measurement Model 2: **Competitive Strategy** [d]		
Delivery Differentiation (C.R = 0.92, AVE= 0.79) [a]	0.86	— [e]
Guarantee delivery times	0.81	— [e]
Achieve quick delivery and response to distributor orders?	0.62	9.06
Offer extensive end-user customer service?	0.77	10.71
Marketing Differentiation (C.R = 0.84, AVE= 0.65) [a]		
Invest in marketing communications to build brand awareness?	0.74	— [e]
Develop new export venture product offerings?	0.52	6.75
Offer a highly differentiated export venture product(s)?	0.69	7.93
Cost Leadership (C.R =0.83, AVE =0.63) [a]		
…be the lowest cost provider in this export market?	0.62	— [e]
…provide export venture customers with lower prices than competitors?	0.79	6.26
…tightly control export venture selling and promotion expense?	0.40	4.76
Goodness-of-Fit Statistics: x^2 (d.f.) = 50.370 (24), x^2 /d.f. = 2.09, p < .001; NFI = 0.92; CFI = 0.95; RMSEA = 0.065		
Measurement Model 3: **Export Venture Performance** [d] and **Technological Turbulence**		
Efficiency (C.R = 0.94, AVE= 0.80) [b]	0.80	— [e]
Return on Investment (ROI)	0.79	— [e]
Return on Sales (ROS)	0.76	12.50
Export Venture margin	0.80	13.30
Reaching export venture financial goals	0.73	12.01
Effectiveness (C.R = 0.96, AVE= 0.90) [b]		
Positive changes in market share	0.79	— [e]
Market share growth	0.87	14.57
Growth in sales revenue	0.84	14.11
Adaptiveness (C.R =0.88, AVE = 0.66) [b]		
Overall export venture performance	0.64	— [e]
Number of successful new export venture products	0.73	9.04
Time to market for new export venture products	0.76	9.26
Responding to competitor's product changes	0.48	6.56
Technological Turbulence (C.R = 0.96, AVE = 0.88) [a]	0.38	5.03
The technology in our industry is changing rapidly	0.85	— [e]
Technological changes provide big opportunities in our industry	0.96	19.15
A large number of new product ideas have been made possible through technological breakthroughs in our industry	0.81	16.22
Goodness-of-Fit Statistics: x^2 (d.f.) = 148.318 (41), x^2 /d.f. = 3.61, p < .000; NFI = 0.93; CFI = 0.96; RMSEA = 0.063		

Notes: CR = composite reliability, AVE = average variance extracted. Items marked with a superscript "a" are anchored by 1 = "not at all" and 7 = "to a great extent"; items marked with a superscript "b" are anchored by 1 = "much worse" and 7 = "much better"; items marked with a superscript "c" are second-order constructs; and items marked with a superscript "e" are fixed to set the scale.

acceptable (Hair, Babin, Anderson, & Black, 2018). In a similar approach, Bagozzi and Foxall (1996) assert that researchers should not exclusively rely on the chi-square test as a measure of fit. The other fit indexes (normed fit index [NFI] = 0.90, comparative fit index [CFI] = 0.94, and root mean square error of approximation [RMSEA] = 0.072) suggest that the model fits the data satisfactorily. Items loaded heavily on their posited constructs and had t-values greater than 5.93. Likewise, the second measurement model exhibits a good overall fit to the data (NFI = 0.92; CFI = 0.95; RMSEA = 0.065). While this measurement model shows a significant chi-square

(X^2 = 50.37; df = 24; p < 0.000), this might be contemplated given the sensitivity of the test statistic to sample size (Bagozzi & Yi, 1988). Normed chi-squared (x^2/df) of 2.09 is considered acceptable (Hair et al., 2018). The third measurement model that corresponds to export venture performance displays good fit values (NFI = 0.93; CFI = 0.96; RMSEA = 0.063). While a significant chi-square (X^2 = 148.31; df = 41; p < 0.000) was obtained, this might be anticipated given the sensitivity of the test statistic to sample size (Bagozzi & Yi, 1988). Normed chi-squared (x^2/df) of 3.61 is considered acceptable (Hair et al., 2018). This evidence also supports the conceptualization of export venture performance in this study as a second-order construct. Unidimensionality is also obtained in all measurement models based on the good fit values of the fit statistic.

The measurement models themselves support for convergent validity if the overall goodness-of-fit indexes demonstrate a good fit of the hypothesized relationships to the data and all factor and item loadings are high and significant (Anderson & Gerbing, 1988). In general, the results exhibit a good fit of the measurement models to the data and high standardized loadings significant at $p < 0.01$. Furthermore, average variance extracted (AVE) estimates for the measures range from 0.63 to 0.90 (see Table 1). Composite reliability coefficients for all scales range from 0.82 to 0.96, suggesting satisfactory internal consistency.

Fornell and Larcker (1981) test of discriminant validity was employed. This procedure involves assessing whether the AVE for every construct's measure is larger than the squared *phi* correlation of that construct with all other constructs in the model. All AVE estimates compare favorably with the corresponding *squared phi* correlations. Table 2 presents the Pearson's correlations and descriptive statistics of the measures. In summary, the measures possess adequate psychometric properties.

5. Structural model and results

To test the hypotheses, the parsimonious structural model estimation procedure was used for this study. Parsimonious models are found in previous empirical studies about the RBV (e.g., Dhanaraj & Beamish, 2003), as well about export venture performance and INVs (e.g., Hughes et al., 2010). The parsimonious approach entails averaging the indicators for each construct to form manifest composites. By conducting such a procedure, the first-order construct is represented by one single indicator and the second-order constructs are treated in the model as being first-order with composites of their dimensions (Morgan et al., 2004). Marketing capabilities, competitive strategy and export venture performance are second order constructs and are presented in the model as composites of their dimensions. Marketing communication is a first-order construct of the observed variables: marketing communication skills and processes, skillfully using marketing communications, and developing effective export advertising and promotion. Because the number of parameters estimated relative to sample size is a key determinant of convergence, standard errors, and model fit, this method was critical in achieving a ratio of sample size to estimated parameter greater than five, which is necessary to attain reliable parameter estimates (Bentler, 1995). As such, composite measures were used as manifest indicators for each latent construct by averaging the items of each scale (for the first-order constructs) or subscale (for the second-order construct).

In addition, in modelling higher order constructs, visually checking if the additional level satisfies the t-rule of identification is crucial, for example, checking that the number of data variances and co-variances equals or exceeds the number of parameters to be estimated (Byrne, 2001). This study checked through each construct and any structure requiring an additional constraint.

The fit indexes (NFI = 0.90; CFI = 0.94; RMSEA = 0.069) suggest the structural model demonstrates a good fit to the data (see Table 3). Given the relatively large sample, the significant chi-square is not surprising (X^2 = 132.01; df = 59; p < 0.01), as might be expected

Table 3
Structural model.

Structural Relationships	Standardized Loading	t-Value
Hypothesized Links		
H1 Marketing Capabilities → Competitive Strategy	0.37	3.62**
H2 Competitive Strategy → Export venture performance	0.34	2.38*
H3 Marketing Capabilities → Export venture performance	0.64	4.54**
H4 Marketing Capabilities → Marketing Communication	0.63	6.64**
H5 Marketing Communication → Competitive Strategy	0.50	4.88**
H6 Marketing Communication → Export venture performance	−0.21	−1.84
H7 Split Group Moderation Test*		
Low-Technological Turbulence		
Marketing Capabilities → Mkt Communication	0.41	2.96**
High-Technological Turbulence		
Marketing Capabilities → Mkt Communication	0.74	5.91**
H8 Split Group Moderation Test*		
Low-Technological Turbulence		
Mkt Communication → Comp. Strategy	0.36	2.43**
High-Technological Turbulence		
Mkt Communication → Comp. Strategy	0.68	3.76*
* **Groups split at median level of Technological Turbulence.**		
Control Variables		
Ln (Size) → Export venture performance	0.04	0.788
Goodness-of-Fit Statistics:		
x^2 (d.f.) = 132.010(59), p < .000; NFI = 0.90; CFI = 0.94; RMSEA = 0.069		

*p ≤ 0.05 (one-tailed as we hypothesize directionality).
**p ≤ 0.01 (one-tailed as we hypothesize directionality).
Notes: Critical value (α = 0.5) = 1.645.

Table 2
Descriptives and correlations.

Measure	M	SD	1	2	3	4	5	6	7	8	9	10
1. New Product	4.85	1.61	**0.91**									
2. Service	5.16	1.31	0.44	**0.80**								
3. Distribution	4.77	1.33	0.36	0.48	**0.86**							
4. Marketing Communication	4.72	1.48	0.46	0.43	0.29	**0.93**						
5. Delivery Differentiation	5.68	1.28	0.13	0.26	0.23	0.35	**0.89**					
6. Marketing Differentiation	4.91	1.42	0.42	0.49	0.31	0.64	0.47	**0.80**				
7. Cost Leadership	4.96	1.21	0.03	0.24	0.13	0.19	0.40	0.35	**0.79**			
8. Efficiency	4.68	1.50	0.27	0.36	0.37	0.28	0.23	0.36	0.29	**0.90**		
9. Effectiveness	5.43	1.23	0.22	0.40	0.28	0.29	0.17	0.34	0.18	0.52	**0.95**	
10. Adaptiveness	4.77	1.44	0.44	0.46	0.33	0.35	0.24	0.47	0.37	0.59	0.48	**0.81**

Notes: Correlations ≥ 0.12 or ≤ 0.12 are significant at $p = .05$ (two-tailed).

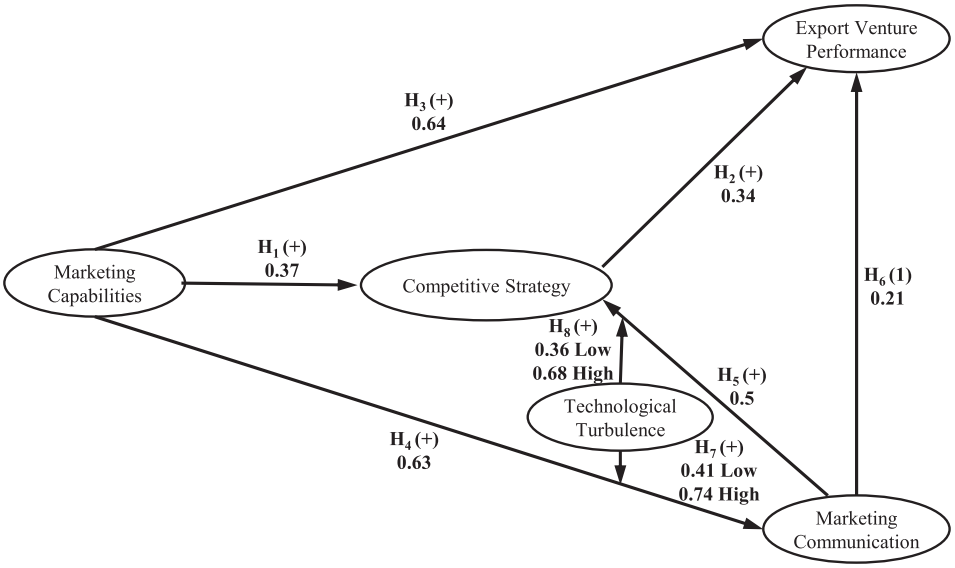

Fig. 2. Conceptual framework with the loads.

given the sensitivity of the statistic test to sample size (Bagozzi & Yi, 1988).

The empirical assessment of key relationships predicted in the theoretical model from Fig. 1 indicates support for seven of the eight relationships examined, see Table 3 and Fig. 2. In support of H_1, the results indicate marketing capabilities are positively associated with competitive strategy ($\beta = 0.37$, $p < 0.01$). This finding is consistent with the literature sustaining that key marketing capabilities secure higher-up coordination of functional activities by supporting choices about how the venture will compete for target customers in order to achieve its desired goals (Teece, Pisano, & Shuen, 1997). Therefore, key marketing capabilities engender more delivery and marketing differentiation as well as cost-leadership competitive strategies in INVs.

Results also support the claim that competitive strategy is a strong predictor of export venture performance. On this basis, there is no doubt that H_2 is theoretically substantive ($\beta = 0.34$, $p < 0.05$). This finding is in keeping with Henard and Symanzki (2001), Carbonell and Rodriguez (2006), as well as Morgan et al. (2004), who identified competitive strategy as one of the most important drivers of export venture performance, because of the relative superiority of a venture's value offering as a determinant of target customers' buying behavior.

Furthermore, the results show that marketing capabilities link positively to export venture performance ($\beta = 0.64, p < 0.01$) supporting H_3. This finding implies that INVs focusing on new product development, service and distribution deploy marketing capabilities to build superior export venture performance. In addition, the results suggest marketing capabilities are positively associated with marketing communications ($\beta = 0.63$, $p < 0.01$) upholding H_4. Moreover, whereas marketing communication is positively linked to competitive strategy, as per H_5 ($\beta = 0.50$, $p < 0.01$), it is not linked to export venture performance. The relation between marketing communication and export venture performance shows a non-significant path failing to give support to H_6 ($\beta = -0.21$, $p > 0.05$). Therefore, marketing capabilities need marketing communication to reinforce the competitive strategy of INVs to achieve superior export venture performance.

To test that technological turbulence moderates the relationship between marketing capabilities and marketing communication this study required an additional analysis. The sample was split into two groups at the median level of technological turbulence, and the structural mode was re-estimated (Hewett & Bearden, 2001). Two models were estimated: one in which this study constrained the path between marketing capabilities and marketing communication to be equal across the two groups, and one in which this study allowed the path coefficients to vary freely. A highly significant chi-square difference ($\Delta x^2_{(1)} = 7.84$, $p < 0.02$) signifies a much better fit for the unconstrained model, thus indicating the relationship between marketing capabilities and marketing communication is different in the two groups. As shown in Table 3, the two-group moderator test supports the prediction of the theoretical model H_7. In the low-competitive intensity group, the relationship between marketing capabilities and marketing communication is positive and significant (path coefficient = 0.41, t-value = 2.96, $p < 0.01$) and in the high competitive intensity group, the same relationship is positive and significant (path coefficient = 0.74, t-value = 5.91, $p < 0.01$). Therefore, there is moderation of technological turbulence in the path from marketing capabilities and marketing communication supporting H_7.

Fig. 3 illustrates the moderation effect of competitive turbulence between marketing capabilities and marketing communication. The difference in marketing capabilities and marketing communication depends on the low and high levels of competitive turbulence.

To test that technological turbulence moderates the relationship between marketing communication and competitive strategy another set of models were estimated: one in which this study constrained the path between marketing communication and competitive strategy to be equal across the two groups and one in which this study allowed the path coefficients to vary freely. A highly significant chi-square difference ($\Delta x^2_{(2)} = 38.3$, $p < 0.01$) exhibits a much better fit for the unconstrained model, thus indicating the relationship between marketing communication and competitive strategy is different in the two groups. As shown in Table 3, the two-group moderator test supports the prediction of the theoretical model H_8. In the low-competitive intensity group, the relationship between marketing capabilities and marketing communication is positive and significant (path coefficient = 0.36, t-value = 2.43, $p < 0.01$) and in the high competitive intensity group, the same relationship is also positive and significant (path coefficient = 0.68, t-value = 3.76, $p < 0.05$). Therefore, moderation of technological turbulence exists in the path marketing communication and competitive strategy, upholding H_8.

Fig. 4 illustrates the moderation effect of competitive turbulence between marketing communication and competitive strategy. The difference between marketing communication and competitive strategy depends on the low and high levels of competitive turbulence.

Furthermore, the results imply the mediating role of marketing communication between marketing capabilities and competitive strategy, because H_6 is not supported. In addition, the results suggest a mediating role of competitive strategy between marketing capabilities

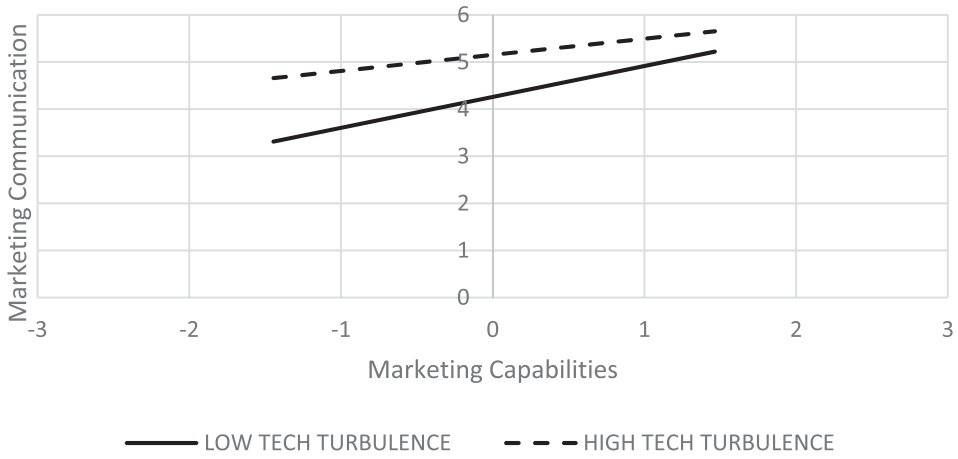

Fig. 3. Moderation of technological turbulence between marketing capabilities and marketing communication.

and performance. Three additional models were estimated to verify this. The first model analyzed the direct link from marketing capabilities to performance. The path loading strategy increased from $\beta = 0.64$ to $\beta = 0.73$ (both $p < 0.01$). The second model removed the paths: from marketing capabilities to performance, from marketing capabilities to competitive strategy and from marketing communication to performance. The link from marketing capabilities to marketing communication increased from $\beta = 0.63$ to $\beta = 0.68$ (both $p < 0.01$). The third model removed the paths: from marketing capabilities to marketing communication, from marketing communication to competitive strategy, from marketing communication to performance, and from marketing capabilities to performance. The link from marketing capabilities to competitive strategy increased from $\beta = 0.37$ to $\beta = 0.79$ (both $p < 0.01$). The tests confirm partial mediation.

6. Discussion and conclusions

This study is an attempt to address the gap of the RBV influence on IE theory inquiring how particular interactions of marketing capabilities with marketing communication drive competitive strategy and performance, considering the technological turbulence where INVs operate.

Several studies in marketing have proposed marketing – capabilities – performance frameworks of export venture performance (e.g., Morgan et al., 2004) and other studies discussed the importance of marketing communications (e.g., Batra and Lane Keller, 2016). However, until now, no study has examined the research gap addressed by this study. The study findings support seven of the eight hypotheses and signify the efficacy of the measurement approaches used to capture the focal constructs. The results strongly uphold the central role of marketing capabilities in the process of attaining superior export venture performance in INVs. This study thus makes three valuable contributions to knowledge as a result.

First this is an investigation of the interplays that occur in the RBV paradigm to map a network of novel relationships in the extant literature, the interactions among marketing capabilities, marketing communication and competitive strategy to improve performance in INVs. This study reports empirical evidence on how the partial mediating role of marketing communication affects marketing capabilities. Additionally, competitive strategy partially mediates two relationships: one between marketing capabilities and performance, and the second between marketing communication and performance of the INV. The partial mediating role of marketing capabilities and performance is in line with the export ventures literature, which reports the partial mediating role of lower-cost and differentiated competitive strategies (Murray et al., 2011). In addition, the IE literature has not addressed the competitive strategy partial mediation between marketing communication and performance of the INV. These results indicate that the rapid environment in which INV's find themselves produces a need to develop effective export advertising and promotion from which to attain competitive advantage.

The findings show that marketing communication may facilitate the adoption of a competitive strategy that combines cost advantage and delivery differentiation to achieve superior export venture performance. In this way, INVs' managers could better fulfill customer needs for differentiated low-cost products with guarantee delivery times. Moreover, INVs with successful marketing communication skills are more likely to offer highly differentiated products by building brand

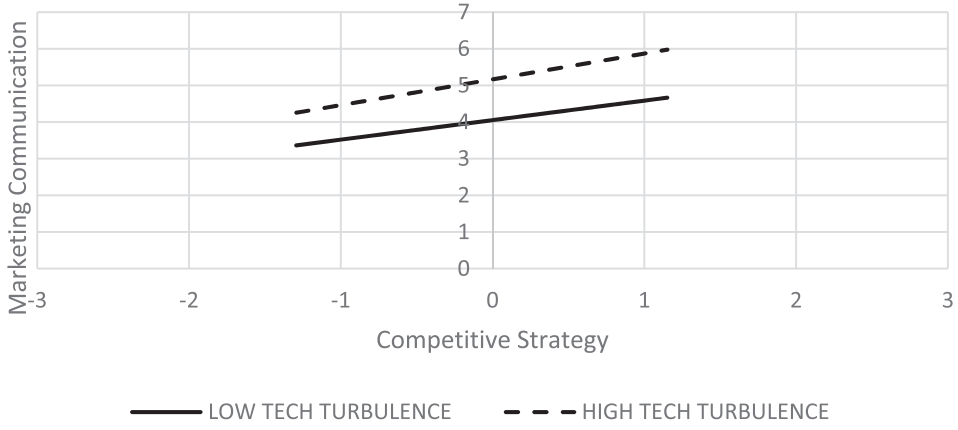

Fig. 4. Moderation of technological turbulence between competitive strategy and marketing communication.

awareness and developing new export product offerings.

Also, by reducing the cost of the delivery offering INVs' managers are likely to both attain higher profit margins and thus increase their profitability or lower the product price and achieve larger sales volume and greater profits.

Furthermore, the results indicate that the rapid environment in which INVs find themselves produces a need to develop new philosophies and strategies from which to attain competitive advantage. The study findings have important implications for research on marketing strategy, new venture decision-making, and international marketing.

Second, this study adds to the IE literature by investigating the degree to which marketing capabilities and corresponding marketing communication vary under differing technological turbulence. This study also contributes to the literature with the findings of technological turbulence moderation effects on marketing communication and competitive strategy. The first moderation effect concludes that the higher the technological turbulence is, the more likely marketing capabilities are to become a key component of INVs to enhance marketing capabilities. By contrast, marketing capabilities and marketing communication may not be as relevant under conditions of low technological turbulence. Under higher technological turbulence conditions, INVs with fewer marketing capabilities and less marketing communication are likely to see their performance damaged because customers would prefer firms with higher marketing capabilities and marketing communication. Therefore, a high level of marketing capabilities may not always be beneficial given that its development and maintenance is highly resource intensive (Slater & Narver, 1994). Also, having a high level of marketing capabilities and marketing communication may not always beneficial. Additionally, the degree of technological turbulence can also help to determine the level of marketing communication required to leverage competitive strategy for superior performance for INVs. The higher the technological turbulence environment, results in a need for INVs to use marketing communication for a stronger competitive strategy. In this type of environment INVs require higher skills to use their marketing communications accompanied by processes for a stronger competitive advantage. Furthermore, this environment drives INVs to develop effective export advertising and promotion to obtain higher performance. This empirical evidence is useful to INVs' managers. The suggestion is to emphasize the investment in developing marketing capabilities to enhance marketing communication and competitive strategy in environments with higher technological turbulence.

Third, the results speak to an important set of firms hitherto ignored in the marketing capabilities debate: the high technology INV firms from an emerging country, Mexico. This study contributes to the call for research focused on this region of the world, which has thus far, been underrepresented in the literature.

7. Further research and limitations

The first limitation of this study is the cross-sectional research design which prohibits causal inference, and the temporal effects that exist among marketing capabilities, marketing communication, competitive strategy, and export venture performance that this empirical framework does not accommodate. Further research should be aimed at generating longitudinal data to capture dynamic influences. However, note that this limitation is common in studies conducted within the area of accelerated internationalization (Freeman and Cavusgil, 2007). Second, and partly related to the latter, reverse causation cannot be ruled out in the theoretical framework of this study. Third, the unit of analysis in the study was the export venture of the INV firm, identified by the respondent. There were no accommodations to assess the related or discrete effects of marketing capabilities, marketing communication and competitive strategy with regard to other concurrent and historical ventures. In addition, in this study the export venture is defined as a single product or product line exported to a specific export market. Though necessary to delimit the study, a loss of richness occurs as a result. Fourth, these data were generated among the INVs of a single country: Mexico. Therefore, the results are limited to this particular country's framework, and caution should be exercised in attempting to draw generalizations to other contexts. Fifth, a multi-industry sample was used to increase generalizability, but in doing so, the sample became heterogeneous, and the ability to represent a single industry closely was lost. Nevertheless, these multiple industries are all high-technology oriented. Collectively, then, the findings are limited by these features of the sample.

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