



Global mindset and SME internationalization: A fuzzy-set QCA approach[☆]



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ABSTRACT

This study uses fuzzy-set qualitative comparative analysis (fsQCA) to analyze how individual global mindset (IGM) and corporate global mindset (CGM) relate to SMEs' internationalization behavior. The sample consists of 51 Portuguese SMEs from two sectors: (1) metallurgy and metalworking, and (2) construction and public works. Different combinations of IGM and CGM attributes lead to internationalization effect, international networking activities, and international know-how activities. Sector characteristics determine which configurations of GM attributes affect internationalization behavior. The use of fsQCA to explore how alternative combinations of IGM and CGM attributes lead to internationalization behavior constitutes an important contribution to the literature.

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1. Introduction

Several authors (Ananthram, Pearson, & Chatterjee, 2010; Cohen, 2010) note the role of corporate global mindset (CGM) in organizational performance. Recent literature highlights the importance of individual global mindset (IGM) in understanding internationalization behavior and performance (Kyvik, Saris, Bonet, & Felício, 2013). Internationalization is crucial for SMEs' development, especially for SMEs from small countries. This study builds on the research model by Felício, Caldeirinha, and Ribeiro-Navarrete (2015) by considering how alternative combinations of global mindset attributes may lead to internationalization behavior.

Researching the relationship between CGM and IGM and the effect on firms' internationalization behavior is necessary (Felício, Caldeirinha, Rodrigues, & Kyvik, 2013). Yet, traditional statistical methodologies are unsuitable for analyzing how different configuration of IGM and CGM attributes lead to internationalization behavior. Hence, fuzzy-set qualitative comparative analysis (fsQCA) constitutes a useful tool for studying these issues. Set-theoretic methods (Ragin, 2000, 2008; Ragin & Fiss, 2008; Rihoux & Ragin, 2009) provide tools to study combinations of attributes, emphasizing that these combinations form solutions that explain individual cases. Importantly, set-theoretic approaches differ from conventional, variable-based approaches. Nevertheless, research

that applies fsQCA to study firms is scarce (Linder, 2010; Schneider & Sadowski, 2010; Skoko, Krivokapic-Skoko, Skare, & Ceric, 2006).

The sample in this study comprises 51 Portuguese SMEs: 31 from the metallurgy and metalworking sector (MMS) and 20 from the construction and public works sector (CPWS). These sectors differ in terms of internationalization behavior (tradable vs. non-tradable products, respectively) and are therefore suitable for studying the current research question. The resource-based view (Barney, 1991; Barney, Wright, & Ketchen, 2001), mindset theory (Gollwitzer, 1990, 1999), information-processing theory (Giaglis & Fouskas, 2011; Leonard, Scholl, & Kowalski, 1999), internationalization theory (Rugman, 2005; Rugman & Verbeke, 2004), and fuzzy-set theory (Klir, Clair, & Yuan, 1997; Ragin, 2000) provide the theoretical foundations for this study.

Using fsQCA, this research evaluates combinations of IGM and CGM attributes to understand the recipes that lead to internationalization behavior in SMEs. The study's objectives are to (1) identify the combinations of IGM and CGM attributes that lead to internationalization behavior; (2) evaluate the combinations of IGM and CGM attributes that lead to the internationalization effect, international networking activities, and international know-how activities; and (3) assess how sector affects the recipes leading to each outcome. Another key objective is to demonstrate the value of using fsQCA in studying global mindset. Doing so provides a better understanding of which combinations of attributes lead to internationalization behavior.

This research contributes to the literature by verifying that different combinations of IGM and CGM lead to internationalization behavior. This research also shows that these configurations depend on the firm's sector.

Section 2 develops the theoretical background and propositions. Section 3 describes the research method, research model, attributes and variables, measures, data collection process, and analysis method.

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Section 4 presents the empirical results. Section 5 discusses these results. Section 6 offers conclusions and contributions. Finally, Section 7 highlights some limitations and future research opportunities.

2. Theoretical background and propositions

2.1. Individual global mindset and corporate global mindset

Global mindset (GM) is a complex and multidimensional phenomenon that determines global organizations' success in the international market (Levy, Beechler, Taylor, & Boyacigiller, 2007). Resulting from a dynamic, interactive process (Arora, Jaju, Kefalas, & Perenich, 2004; Smith & Victorson, 2012), GM applies to both individuals and organizations. Perlmutter (1969) offers one of the earliest references to organizational mindset, and subsequent definitions depict GM as an individual characteristic (Lovvorn & Chen, 2011; Nummela, Saarenketo, & Puumalainen, 2004; Story & Barbuto, 2011), an organizational characteristic (Begley & Boyd, 2003), and a simultaneously individual and organizational characteristic (Gupta & Govindarajan, 2002).

IGM is a complex cognitive structure, referring to a predisposition toward adopting, understanding, and linking multiple cultures and strategic realities at the global and local levels (Bowen & Inkpen, 2009; Levy et al., 2007). IGM relates to individual choices and actions involving the firm's posture and strategy toward the international market. IGM refers to the ability to accept diverse cultures and markets and observe common patterns that enable opportunities identification (Evans, Pucik, & Barsoux, 2002; Lee, Ribeiro, Olson, & Roig, 2007; Rogers & Blonski, 2010). IGM reflects a knowledge structure intrinsic to the manager's way of thinking and acting. Specifically, IGM is the ability to bring together different cultures and markets in a global approach focusing on high differentiation and high integration (Govindarajan & Gupta, 2001; Rhinesmith, 1995). IGM encompasses behavior (Gupta & Govindarajan, 2002; Levy, 2005; Nummela et al., 2004), global knowledge (Arora et al., 2004; Gupta & Govindarajan, 2002), and cognition (Arora et al., 2004; Maznevski & Lane, 2004; Story & Barbuto, 2011).

The firm's organizational model and heritage limit the firm's adaptability and influence the firm's corporate mindset. Firms adopt routines, deliver products and services, and perform activities that involve interaction among diverse cultures. Such processes require adaptation and appropriate responses to succeed in highly competitive contexts (Ananthram et al., 2010; Cohen, 2010). CGM reflects the degree to which firms learn to think, act, and operate according to their structure, organization, routines, operating practices, processes, and behaviors, all of which stem from experience, relationships, and social conventions (Beechler, Levy, Taylor, & Boyacigiller, 2004; Begley & Boyd, 2003; Jeannet, 2000). CGM refers to the organizational system within which individuals participate and interact to shape their own mentality and influence each other. Interaction and mindset sharing among individuals within the organization creates values and norms leading to a social identity and common working behaviors that enable strategy implementation and performance improvement (Paul, 2000; Sørensen, 2014). An integrative, multidimensional aptitude (Beechler & Baltzley, 2008; Beechler & Javidan, 2007; Kedia & Mukherji, 1999; Lahiri, Perez-Nordtvedt, & Renn, 2008; Paul, 2000; Yin, Johnson, & Bao, 2008), CGM reflects the dominant organizational culture and the resources the organization is able to mobilize at each moment. These elements are part of the firm's heritage, shaping the firm's organizational behavior and overall strategic direction in the global market. CGM comprises analytical posture, risk-taking posture, aggressive posture (Talke, 2007; Venkatraman, 1989), situational posture (Begley & Boyd, 2003; Jeannet, 2000), and strategic posture (Jeannet, 2000). Proposition 1 follows from this theoretical background:

Proposition 1. *IGM and CGM attributes combine to form alternative internationalization behavior solutions.*

2.2. Internationalization behavior and sector

Market knowledge and the ability to assimilate information are important components of a firm's internationalization process (Oviatt & McDougall, 2005; Yeoh, 2004) because these abilities allow the firm to develop appropriate products and remain ahead of the competition (Knight, Madsen, & Servais, 2004). Hence, client contact is propitious to internationalization, and successful internationalization requires specialized, market-focused knowledge (Cumming, Sapienza, Siegel, & Wright, 2009; Keupp & Gassmann, 2009; Soriano & Dobon, 2009).

Firms seek partners to complement their own skills in target markets (Oviatt & McDougall, 1994). Networks are fundamental for obtaining resources, discovering opportunities, and reducing the risk and uncertainty inherent in international operations (Liesch et al., 2002). Such networks facilitate knowledge acquisition and resource development (Nerkar & Paruchuri, 2005; Selnes & Sallis, 2003). Organizations that compete internationally are aware of the importance of hiring managers with GM, and such organizations consider that managers' contributions toward internationalization is the organizations' most powerful resource for development and growth (Crowne, 2008; Earley & Peterson, 2004; Lovvorn & Chen, 2011; Peng & Delios, 2006). IGM lets international firms improve their competitiveness (Gupta, Govindarajan, & Wang, 2008), seize international business opportunities (Bowen & Inkpen, 2009; Nadkarni, Herrmann, & Perez, 2010), and avoid globalization pitfalls (Dewhurst, Harris, & Heywood, 2011). Research shows that CGM positively affects international strategy and the performance of international operations (Yin & Bao, 2007; Yin et al., 2008).

According to Gabrielsson, Sasi, and Darling (2004) and Weerawardena, Mort, Liesch, and Knight (2007), global firms benefit from access to international business partners and specialists (e.g., universities, other firms, and industrial associations), but these firms require managers with international experience and GM to gain this access. The degree of external cooperation with clients and suppliers is important yet depends on the firm's sector. Firms require skills and resources to compete internationally (Sapienza, Autio, George, & Zahra, 2006). The type of activity influences the firm's structure and organization as well as managers' behavior. Seemingly, firms from different sectors have different internationalization behaviors. The following four propositions are consistent with this theoretical framework.

Proposition 2. *Different combinations of IGM and CGM lead to the internationalization effect.*

Proposition 3. *Different combinations of IGM and CGM lead to international networking activities.*

Proposition 4. *Different combinations of IGM and CGM lead to international know-how activities.*

Proposition 5. *IGM and CGM attribute combinations affecting internationalization behavior differ according to sector.*

3. Method

3.1. Research model

The research model explores the presence or absence of GM attributes when internationalization behavior outcomes occur. The model also explains how these attributes combine to form different configurations for each internationalization behavior outcome and for each sector (Fig. 1).

3.2. Attributes and variables

The literature supports the choice of attributes appearing in the research model. The research model has 8 attributes resulting from 30

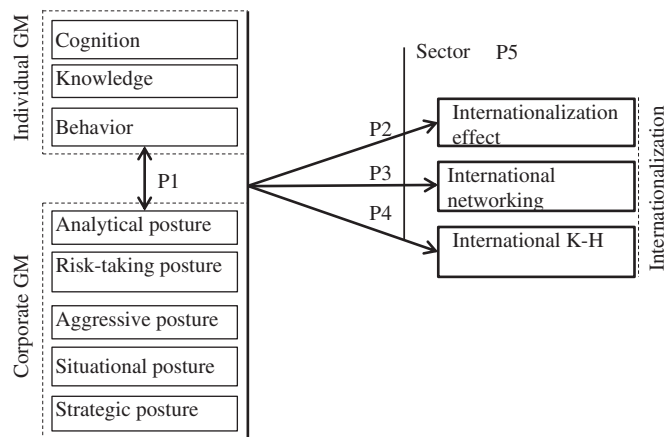


Fig. 1. Research model.

observed variables and 3 outcomes resulting from 8 variables. The IGM attributes are cognition, knowledge, and behavior. The CGM attributes are analytical posture, risk-taking posture, aggressive posture, situational posture, and strategic posture. The internationalization behavior outcomes are internationalization effect, international networking activities, and international know-how activities.

3.2.1. Individual GM

Cognition (Earley & Ang, 2003; Kedia & Mukherji, 1999; Yin et al., 2008) comprises four observed variables: The senior manager (1) encourages cross-disciplinary collaboration; (2) is able to listen to others and change his/her opinion; (3) believes that he/she can influence what happens around him/her; and (4) is an active member when working in a team.

Knowledge (Earley & Ang, 2003; Kedia & Mukherji, 1999; Yin et al., 2008) comprises three observed variables: The senior manager (1) is in daily contact with international clients, suppliers, and employees; (2) has experience from international travel; and (3) has other relevant experience.

Behavior (Earley & Ang, 2003; Kedia & Mukherji, 1999; Yin et al., 2008) comprises five observed variables: (1) internationalization is the only way to achieve the firm's growth objectives; (2) the manager/owner is willing to lead the firm into the international market; (3) managers spend considerable time planning international operations; and (4) managers see the world as a single, vast market; and (5) managers see the world not only as a playground but also as a school.

3.2.2. Corporate GM

Analytical posture (Talke, 2007; Venkatraman, 1989) comprises five observed variables: (1) market-planning activities explicitly consider long-term future developments; (2) R&D is the firm's main way of guaranteeing sustainable competitive advantage; (3) the firm performs continuous analysis of the potential of new technologies; (4) the firm makes systematic predictions of trends in innovation; and (5) the innovation and development strategy has a long-term focus.

Risk-taking posture (Talke, 2007; Venkatraman, 1989) comprises three observed variables: (1) a progressive, bold attitude to making important decisions; (2) a tendency to support promising projects even if their likelihood of success is uncertain; and (3) a tendency to take risks when making important market-related decisions.

Aggressive posture (Morgan & Strong, 2003; Paul, 2000; Talke, 2007) comprises four observed variables: (1) sacrifice profitability to increase leadership in innovative products or services; (2) generally engage in aggressive market activities; (3) prioritize launching new products before competitors do; and (4) focus the product development strategy on aggressive innovation.

Situational posture (Begley & Boyd, 2003; Jeannet, 2000) comprises three observed variables: (1) the products/services are technologically advanced; (2) the firm performs its own R&D; and (3) the firm has access to resources that enable the firm to grow.

Strategic posture (Jeannet, 2000) comprises three observed variables: (1) the firm focuses on obtaining global resources; (2) the firm has entered new markets under the influence of global competition; and (3) the perception of the firm's policies and organizational practices is relevant to resolving the challenges arising from globalization.

3.2.3. Internationalization

The internationalization effect (Felício, Caldeirinha, & Rodrigues, 2012; Felício et al., 2013) comprises three observed variables: internationalization positively affects the firm's (1) specialization, (2) know-how, and (3) image.

International networking activities (Felício et al., 2012, 2013) comprises three observed variables: the firm participates in international networks, especially to (1) acquire information, (2) explore market resources, and (3) create or maintain contacts with suppliers.

International know-how activities (Felício et al., 2012, 2013) comprises two observed variables: frequent attendance of congresses, conferences, and fairs to (1) acquire knowledge and establish contacts with new suppliers; and (2) present skills, technologies, and products to international markets.

3.3. Measures, data collection, and analysis method

Data collection took place through an online survey during the first quarter of 2014. The sample of 11,462 Portuguese SMEs came from merging the Amadeus and Informa D&B databases.

Measurement of all items took place on a seven-point Likert scale ranging from *totally disagree* (1) to *totally agree* (7) (Felício et al., 2013; Talke & Hultink, 2010). A selection process yielded complete responses by 31 firms from the metallurgy and metalworking sector and 20 firms from the construction and public works sector.

This study uses fuzzy-set QCA, a set-theoretic analysis technique, to analyze the causal conditions that lead to internationalization behavior outcomes. The aim of QCA is not to prove the existence of causal relationships but rather to reveal patterns that support the existence of causal relationships (Schneider & Wagemann, 2010). Set-theoretic analysis examines causal patterns, focusing on relationships among subsets. This study first uses fsQCA to evaluate the group of attributes comprising the subsets of IGM and CGM attributes and then identifies the combinations of attributes that relate to internationalization behavior. FsQCA uses Boolean algebra and algorithms to reduce a large number of complex causal conditions to a small set of configurations that lead to a certain outcome.

The fsQCA 2.5 software provides an output consisting of a complex solution, a parsimonious solution, and an intermediate solution (Mas-Verdú, Ribeiro-Soriano, & Roig-Tierno, 2015). Rihoux and Ragin (2009) argue that the intermediate solution is superior and has considerable benefits over the other two solutions.

Findings by Felício et al. (2015) support the validity of each factor in the model. Because of the nature of fsQCA, summated scales (Hair, Black, Babin, & Anderson, 2010) provide the method for computing attributes and outcomes.

4. Empirical results and analysis

The presence of necessary and sufficient conditions is relevant. Nevertheless, some conditions may be unnecessary, and the combinations that may exist are unknown. A separate analysis for each internationalization behavior outcome appears in this section. Calibration of the original variables to fuzzy variables is necessary, with 0.499 replacing the 0.5 point of maximum ambiguity (Crilly, Zollo, & Hansen, 2012).

For each outcome, eight conditions appear in the truth table. Hence, the number of possible combinations is 256. The next steps are to remove the logical remainders and analyze the raw consistency (Feurer, Springenberg, & Hutter, 2015; Fiss, 2011; Ragin, 2008), and to analyze the parsimonious and intermediate solutions (Fiss, 2011). The presentation of results uses the same notation as that of Crilly et al. (2012), and Ragin and Fiss (2008).

4.1. Analysis and results: Metallurgy and metalworking sector

To differentiate the cases belonging to the solution from those not belonging to the solution, the consistency cutoff points are as follows: 0.95 for the internationalization effect, 0.80 for international networking activities, and 0.75 for international know-how activities. Table 1 presents results for the metallurgy and metalworking activity sector.

The results with different solutions for internationalization effect have good consistency and solution coverage (C = 0.92; SC = 0.88), solution 1 and solution 2, both with neutral permutations. The results for networking activities have good consistency and solution coverage (C = 0.75; SC = 0.92), with one solution and neutral permutations. The results for know-how activities also have good consistency and solution coverage (C = 0.90; SC = 0.88), with one solution and neutral permutations. The overall solution for internationalization effect implies first-order (or across-type) equifinality of solutions. The neutral permutations within solution 1 (1a, 1b, and 1c) and solution 2 (2a and 2b) imply second-order (or within-type) equifinality. International networking activities and international know-how activities each have one overall solution with neutral permutations, implying second-order equifinality.

Five solutions lead to the internationalization effect. Solution 1a indicates that combining two CGM attributes (strategic posture and situational posture) with two IGM attributes (cognition as a peripheral condition and behavior as the core condition) leads to the internationalization effect in terms of specialization, know-how, and image. Solution 1b implies that all three IGM attributes (behavior as the core condition and cognition and knowledge as peripheral conditions) combine with the CGM attribute analytical posture to yield the same internationalization effect as in solution 1a. Solution 1c indicates that combining four of the five CGM attributes (strategic, situational, aggressive, and analytical posture) with the IGM attribute behavior as the core condition leads to internationalization effect in terms of specialization, know-how, and image. Solution 2a implies that two attributes of IGM (cognition and

knowledge) combine with two CGM attributes (aggressive posture as a peripheral condition and risk-taking posture as the core condition) to lead to the internationalization effect. Finally, Solution 2b indicates that combining cognition and knowledge from IGM with analytical posture and risk-taking posture (core condition) from CGM leads to internationalization effect.

Three solutions lead to international networking activities. Solution 1a suggests that the combination of two IGM attributes (cognition and knowledge) and two CGM attributes (analytical and risk-taking posture) leads firms to engage in international networking activities to acquire information, explore market resources, and obtain or maintain contacts with suppliers. Solution 1b implies that international networking activities occur when all IGM attributes (cognition, knowledge, and behavior) combine with analytical posture. Finally, solution 1c indicates that international networking activities occur when two IGM attributes (behavior and cognition) combine with four CGM attributes (strategic, situational, risk-taking, and analytical posture).

Finally, four solutions lead to international know-how activities. Solution 1a suggests that combining two attributes of CGM (the core condition analytical posture and the peripheral condition risk-taking posture) with two attributes of IGM (the peripheral conditions cognition and knowledge) leads firms to engage in international know-how activities. Solution 1b implies that the CGM attribute (analytical posture as the core condition) combines with all three IGM attributes (cognition, knowledge, and behavior as peripheral conditions) to lead the firm to engage in international know-how activities. Solution 1c implies that combining four of the CGM attributes (strategic, situational, and aggressive posture as peripheral conditions and analytical posture as the core condition) with the IGM condition behavior (peripheral condition) leads firms to undertake international know-how activities. Finally, solution 1d indicates that four CGM attributes (strategic, situational, and risk-taking posture as peripheral conditions and analytical posture as the core condition) combine with two IGM attributes (behavior and cognition) to lead firms to engage in international know-how activities.

4.2. Analysis and results: Construction and public works sector

To differentiate cases belonging to the solution from those not belonging to the solution, the consistency cutoff points are 0.84 for internationalization effect, 0.84 for international networking activities, and 0.90 for international know-how activities. Table 2 presents the results for the construction and public works sector.

Table 1

Configurations for internationalization effect, international networking activities, and international know-how activities (metallurgy and metalworking).

Configuration	Solution											
	Internationalization effect					International networking activities			International know-how activities			
	1a	1b	1c	2a	2b	1a	1b	1c	1a	1b	1c	1d
<i>IGM</i>												
Cognition	●	●		●	●	●	●	●	●	●		●
Knowledge		●		●	●	●	●		●	●		
Behavior	●	●	●				●	●			●	●
<i>CGM</i>												
Analytical		●	●		●	●	●	●	●	●	●	●
Risk-taking				●	●	●		●	●			●
Aggressive			●	●							●	
Situational	●		●					●			●	●
Strategic	●		●					●			●	●
Consistency	0.92	0.94	0.96	0.94	0.93	0.81	0.77	0.81	0.92	0.90	0.93	0.95
Raw coverage	0.72	0.73	0.48	0.47	0.63	0.81	0.88	0.73	0.72	0.81	0.55	0.67
Unique coverage	0.07	0.03	0.02	0.02	0.01	0.02	0.09	0.02	0.02	0.10	0.02	0.01
Overall solution consistency	0.92					0.75			0.90			
Overall solution coverage	0.88					0.92			0.88			

Note: ● = core causal condition present; ● = peripheral causal condition present.

For internationalization effect, fsQCA yields one solution with neutral permutations. This solution has good solution consistency and coverage ($C = 0.90$; $SC = 0.73$). For international networking activities, fsQCA yields two solutions with neutral permutations. These solutions have good solution consistency and coverage ($C = 0.86$; $SC = 0.93$). For international know-how activities, fsQCA yields two solutions with neutral permutations. These solutions have good solution consistency and coverage ($C = 0.88$; $SC = 0.85$). Internationalization effect has one overall solution with neutral permutations within this solution (solutions 1a and 1b), which implies second-order equifinality. International networking activities and international know-how activities each have two overall solutions (solutions 1 and 2), implying first-order equifinality. Solutions 2a and 2b for both international networking activities and international know-how activities imply second-order equifinality.

Two solutions lead to the internationalization effect. Solution 1a indicates that combining the CGM attributes situational posture (core condition) and analytical posture with the IGM attributes knowledge and cognition leads to good specialization, know-how, and image effects in internationalization. Solution 1b implies that combining two IGM attributes (cognition and behavior) with three CGM attributes (strategic posture and risk-taking posture as peripheral conditions and situational posture as the core condition) leads to the internationalization effect.

Three solutions lead to international networking activities. Solution 1 implies that the combination of two IGM attributes (knowledge and cognition) with two CGM attributes (analytical and situational posture as core conditions) is conducive to international networking activities. The second-order solution 2a indicates that combining all five IGM attributes (analytical and strategic posture as core conditions and situational, aggressive, and risk-taking posture as peripheral conditions) with the CGM attributes cognition and behavior is conducive to international networking activities. Solution 2b indicates that combining four IGM attributes (analytical and strategic posture as core conditions and aggressive and risk-taking posture as peripheral conditions) with all three CGM attributes (cognition, behavior, and knowledge) is conducive to international networking activities. Hence, solution 2b differs

only slightly from solution 2a. Whereas solution 2b indicates that managers' professional experience is important, solution 2a indicates that having technologically advanced resources is important.

Finally, three solutions are conducive to international know-how activities. Solution 1 indicates that to acquire knowledge and present skills, technologies, and products, the IGM attributes knowledge (core condition) and cognition (peripheral condition) must combine with the CGM attributes situational posture (core condition) and analytical posture (peripheral condition). The second-order solution 2a indicates that three CGM attributes (risk-taking posture and absence of aggressive posture as core conditions and analytical posture as a peripheral condition) combine with two IGM attributes (cognition and knowledge) to lead firms to engage in international know-how activities. Solution 2b also implies that the core conditions of presence of risk-taking posture and absence of aggressive posture combine with two additional CGM attributes (situational and strategic posture as peripheral conditions) and with two IGM attributes (behavior and cognition) to lead firms to engage in international know-how activities. Solutions 2a and 2b differ because solution 2a implies that managers' knowledge and the firm's analytical posture are important, whereas solution 2b implies that managers' behavior and the firm's strategic posture and investment in technological advanced resources are important.

5. Discussion

This study confirms that different combinations of IGM and CGM attributes can lead to the same outcomes. This finding holds for both sectors under study (i.e., both the metallurgy and metalworking sector and the construction and public works sector). For firms in both sectors, managers' GM attributes (cognition, knowledge, and behavior) relate to five attributes of the firms' GM: strategy (strategic posture); resources, products' technological advancement, and R&D capacity (situational posture); type of organizational environment and resource enhancement structure (aggressive posture); boldness when making important decisions and support for promising yet uncertain projects (risk-taking posture); and commitment to long-term conditions and sustainable competitive advantage (analytical posture). Results confirm Proposition 1. Based on individual mindset, Perlmutter (1969) acknowledges the importance of the organizational mindset. Begley and Boyd (2003) and Gupta and Govindarajan (2002) first verify this assertion by linking individual and organizational characteristics and then extend this idea to the global mindset perspective. These authors depict global mindset as a capability of the organization.

Different combinations of CGM attributes and IGM attributes allow metallurgy and metalworking sector (MMS) firms and construction and public works sector (CPWS) firms to specialize, accumulate know-how, and build a better image through internationalization. MMS firms that combine behavior as a core condition with cognition, knowledge (IGM), analytical posture, aggressive posture, situational posture, and strategic posture (CGM) as peripheral conditions achieve the internationalization effect. Alternatively, MMS firms that combine the core condition of risk-taking posture with the peripheral conditions of analytical posture, aggressive posture (CGM), cognition, and knowledge (IGM) also achieve internationalization effect. In contrast, CPWS firms that combine situational posture as the core condition and analytical posture, risk posture, strategic posture (CGM), cognition, knowledge, and behavior (IGM) as peripheral conditions achieve the internationalization effect.

To achieve internationalization effect for greater specialization, greater know-how, and better image, MMS firms (tradable goods) and CPWS firms (non-tradable goods) focus on different attributes. Whereas MMS firms focus on IGM attributes such as fostering leadership, planning to seize opportunities, developing new ideas, and adopting bold attitudes toward investment in promising yet highly uncertain projects, CPWS (non-tradable goods) firms support CGM attributes conducive to R&D and access to high-tech resources that enable future

Table 2
Configurations for internationalization effect, international networking activities, and international know-how activities (construction and public works).

Configuration	Solution							
	Internationalization effect		International networking activities			International know-how activities		
	1a	1b	1	2a	2b	1	2a	2b
<i>IGM</i>								
Cognition	●	●	●	●	●	●	●	●
Knowledge	●		●		●	●	●	
Behavior		●		●	●			●
<i>CGM</i>								
Analytical	●		●	●	●	●	●	
Risk-taking		●		●	●		●	●
Aggressive				●	●		○	○
Situational	●	●	●	●	●	●		●
Strategic		●		●	●			●
Consistency	0.89	0.96	0.88	0.98	0.91	0.89	0.91	0.98
Raw coverage	0.67	0.47	0.81	0.47	0.53	0.71	0.45	0.30
Unique coverage	0.26	0.06	0.37	0.03	0.09	0.37	0.11	0.03
Overall solution consistency	0.90		0.86			0.88		
Overall solution coverage	0.73		0.93			0.85		

Note: ● = core causal condition present; ● = peripheral causal condition present; ○ = core causal condition absent.

growth. Hence, results support **Proposition 2**. Yin and Bao (2007) and Yin et al. (2008) find that individuals are integral parts of organizations and that both IGM and CGM positively influence the international strategy and operations in the international market. Taking GM as an element of organizational intelligence, Gupta and Govindarajan (2002) report the influence of individuals within the organization and their effect on firms' policies, strategies, and approaches to the international market.

Some combinations of CGM attribute and IGM attributes lead MMS and CPWS firms to participate in international networks. These international networking activities in turn allow these firms to gather information, ensure conditions for resource exploitation, and maintain contacts with suppliers. MMS firms that participate in international networks combine IGM attributes with the CGM attributes of analytical, risk-taking, situational, and strategic posture. In contrast, CPWS firms combine the core conditions of analytical, strategic, and situational posture and the peripheral conditions of risk-taking and aggressive posture (CGM) with cognition, knowledge, and behavior (IGM). To access and use international networks to acquire information, exploit market resources, and build contacts, CPWS firms (non-tradable goods) differ from MMS firms (tradable goods) in their approach. CPWS firms adopt an analytical posture (CGM) to make long-term investment in R&D and use new technologies to achieve sustainable advantages, invest in technologically advanced products and resources within the organizational environment, and ensure that the firm's corporate policy and organizational practices are capable of securing resources to compete in the global market. These results support **Proposition 3**.

Different combinations of attributes allow MMS and CPWS firms to engage in international know-how activities by acquiring knowledge and by presenting skills, technologies, and new products. MMS firms combine the core condition of analytical posture and the peripheral conditions of risk-taking, aggressive, situational, and strategic posture (CGM) with cognition, knowledge, and behavior (IGM). CPWS firms combine the core conditions of presence of knowledge (IGM), presence of risk-taking posture, and absence of aggressive posture (CGM) with the peripheral conditions of cognition, behavior (IGM), situational posture, analytical posture, and strategic posture (CGM). The recipes that MMS and CPWS firms adopt to engage and participate in international know-how activities differ considerably. MMS firms focus on the analytical approach to ensure long-term R&D-based development and use new technologies to ensure sustainability. CPWS firms, however, focus on investing boldly in promising yet high-risk projects (risk-taking posture) and building an environment conducive to developing technologically advanced products and accessing resources. In addition, CPWS firms avoid intensely competitive organizational contexts and instead compete to offer the best products and technologies. These results support **Proposition 4**.

MMS firms moving toward the effects of specialization, greater know-how, and better image demonstrate greater boldness when making important decisions and greater willingness to take risks by backing promising yet uncertain projects (risk-taking posture). These firms also adopt a strategic and situational posture. Hence, the ability to obtain new resources and compete in new markets leads firms to have technologically advanced products and resources that support growth. Comparing the networking activity of MMS firms with that of CPWS firms reveals that networking activity has higher consistency coefficients for CPWS firms. Hence, firms in the CPWS appear to invest more heavily in strengthening their participation in international networks by gathering information and developing contacts. With regard to international know-how activities, MMS firms adopt long-term strategies to ensure sustainable competitive advantages supported by innovation and new technology to achieve equivalent results. In contrast, CPWS firms invest more in R&D, advanced products, and uncertain but promising projects to avoid competition and focusing on the knowledge of managers. These results support **Proposition 5**.

6. Conclusions and contributions

Studies of firms generally apply conventional variable-based statistical methods, where the causal process to compute results is relevant. In such cases, fsQCA offers a viable methodological alternative. Applying fsQCA to the study of how global mindset affects SME internationalization provides a broader interpretation of results than conventional methods do. Instead of yielding a single solution, fsQCA yields different terms of a solution. This approach hence enhances scholars' interpretation using traditional methods. Several alternative solutions emerge for each proposition. These solutions combine attributes and highlight various terms within the solution for the same configuration. An overall interpretation of these results is thus possible. This research shows that individual global mindset (IGM) and corporate global mindset (CGM) attributes are intrinsic to firms and that these attributes combine to yield multiple solutions.

For example, internationalization effect occurs together with different combinations of IGM and CGM attributes. Hence, several solutions lead to the outcome. A combination of cognition, knowledge, and behavior (IGM) together with strategic posture and situational posture (CGM) leads to the internationalization effect. The same outcome results from the combination of IGM attributes with strategic posture, risk-taking posture, and analytical posture (CGM). The firm's sector affects which combinations of IGM and CGM attributes lead the firm to engage in internationalization behavior.

Applying QCA to the analysis of configurations leading to internationalization behavior constitutes an important contribution to the literature. Another important theoretical and practical contribution of this research lies in providing an understanding of how different solutions can lead to the same result. This insight is helpful in gaining a deeper understanding of firms. Finally, sector affects which combinations of attributes lead to internationalization behavior. This finding is another important contribution of the study.

7. Limitations and future research

QCA is suitable for studying causal relationships with numerous interactions, yet QCA has limitations. Thus, the most appropriate method depends on the context. QCA uses interactive models. Hence, the need to consider all possible configurations means that the data matrices increase in size exponentially as a function of the number of causal conditions.

Future research should analyze other sectors and contexts. Different countries may have different sector combinations, so differences owing to context may actually owe to sector characteristics.

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