

The internationalization of small firms: The relationship between the global mindset and firms' internationalization behavior

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Abstract Some firms in internationally oriented industries are internationalized while other comparable firms in the same sector or industry do not. Observing this difference in strategic behavior among small firms led us to consider how differences in CEOs' attitudes, international orientation, and mindset might explain it. Therefore, this study adopts a cognitive perspective on management to explore the formation of the global mindset and the relationship between the global mindset of small-firm decision makers and their firms' internationalization behavior. A theory-based conceptual model and measurement instrument are developed and—using structural equation modeling—the model is estimated based on empirical data from cross-sectional samples of small Norwegian and Portuguese firms. The study finds: (1) a strong causal relationship between the global mindset and firms' internationalization behavior; (2) the combination of the findings and substantive theory indicates that the main driver of firms' internationalization operates through the global mindset. This study also covers the factors that strongly influence the formation of a global mindset, especially the decision makers' work experience and personal characteristics in terms

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of propensity to interdisciplinary collaboration, cognitive flexibility, and networking capability. Based on these findings, suggestions are made for policies that can foster the internationalization of small firms.

Keywords Small firms · Managerial cognition · Global mindset · Internationalization

Introduction

A review of the literature on small firms' internationalization shows that much has been published on the topic and that a wide range of phenomena presented as explanations and descriptions for why and how small firms approach global markets.

When focusing on firms with 10–50 employees,¹ one should realize that small businesses are not smaller versions of big ones. One should also take into account how unique size- and resource-related issues impact their analysis of and interaction with their environment (Shuman and Seeger 1986; Baird *et al.* 1994). One should also note that small firms' owner-managers' values and goals are indistinguishable from the goals of their businesses and lie at the center of small firms' enterprise behavior (Miller and Toulouse 1986; Lyles and Schwenk 1992; Kotey and Meredith 1997). Thus the Chief Executive Officer's (CEO) cognitive processes reflected in his/her role as the firm's main decision maker, entrepreneur, and facilitator may easily cause or impede internationalization (Levy *et al.* 2007; Kyvik 2011; Gupta and Govindarajan 2002; Chetty and Campbell-Hunt 2003; Mittelstaedt *et al.* 2003; Philp 1998).

We started our study with a review of how resources impact small firms' international strategy (Peng 2001; Knight 2001; Bell *et al.* 2003; Barney 1991; Teece *et al.* 1997). This led to the consideration of how access to external resources through networking might be a solution for resource-strained small firms' internationalization (Peng 2001; Chetty and Campbell-Hunt 2003; Bell *et al.* 2003; Johansen and Vahlne 2003; 2009).

While we recognize that many small firms may not be directly exposed to international competition due to their context, sector, or industry and are mainly geared towards the home market, we still wondered why some firms in internationally oriented industries do internationalize while other comparable firms in the same sector or industry do not. Observing this difference in strategic behavior among small firms led us to consider how differences in CEOs' attitudes, international orientation, and mindset (Calof 1994; Wiedersheim-Paul *et al.* 1978) might explain it. We noted that there was little focus on the role of the CEO's mindset or mental models in the internationalization literature on small firms. Chetty and Campbell-Hunt (2003) specifically point this out as does Kyvik (2011), while several others stress the importance of taking cognitive phenomena into account in the internationalization process (Andersen and Strandkov 1998; Moen and Servais 2002; Townsend and Cairns 2003).

In the managerial cognition literature (Eden and Spender 1998; Hodgkinson and Sparrow 2002; Porac *et al.* 1989; Huff 1997), the global mindset (GM) concept is

¹ EU's definition of a small enterprise (2012)

regarded as a determinant for CEOs' strategic perception of the global market (Nummela *et al.* 2004; Gupta and Govindarajan 2002; Jeanett 2000; Zahra *et al.* 2005; Levy *et al.* 2007; Javidan *et al.* 2007). The GM implies a manager's openness to foreignness, awareness of cultural diversity, and ability to handle it and succeed in a global market (Nummela *et al.* 2004). However, most discussions of the GM focus on large and multinational companies while few efforts have been made to measure the GM in small firms and show its impact on their internationalization. While Nummela *et al.* (2004) made a study of the Finnish Information Technology (IT) industry focusing on export, we wanted to broaden the scope to embrace a more holistic perspective (Bell *et al.* 2003; Fletcher 2001; Peng 2001) as we learned that most of the literature on internationalization was focused on outbound activities (from domestic markets to the international market) and with much less focused on inbound effects that might occur as a result of developing a GM. We therefore decided to focus as much on positive inbound learning effects taking place through networking and interactions with clients and suppliers abroad as on the export of physical goods and services. Accordingly, the study concentrated on answering the following broad questions:

1. What is the relationship between a small-firm CEO's personal background and a GM?
2. What is the relationship between the CEO's work experience and the characteristics of the small firm and a GM?
3. Does the presence of a GM influence the internationalization behavior of the small firm?

Given that a significant proportion of firms in all economies are small, determining the impact of developing a GM in these firms and how this positively influences the internationalization behavior of these firms would help expand on what is now known about small firms' internationalization.

Recognizing the close relationship between internationalization and entrepreneurship, internationalization is defined as the process of adapting firms' operations (strategy, structure, resources, etc.) to international environments (Calof and Beamish 1995) while internationalization behavior represents specific actions and interactions the firm engages in. On the other hand, we view the entrepreneurial CEO as an innovator prepared to depart from "business as usual" to seek wealth, power, autonomy, recognition, and prestige whether in the form of new business projects within an existing operation or as a new business start-up (Dutz *et al.* 2000). We define international business entrepreneurship as business activity that crosses national borders (McDougall and Oviatt 2000).

We developed our conceptual model on how the GM is formed in small companies and the way it shapes internationalization behavior based upon what we saw as a gap in the literature. We then tested the model on samples of small firms in Norway and Portugal from a wide range of industries² that we knew to be both global and active

² Norwegian sample: Construction/real-estate, trade/commerce, maritime industry/shipping, offshore/oil&gas industry, fishing industry, land-based industry, media/publishing, IT and research and development

Portuguese sample: Construction/real-estate, trade/commerce, textile, footwear, chemicals/plastics, agriculture, IT, and research and development

on the international scene. Among the firms in our samples, 66.5 % of the Norwegian firms and 82.1 % of the Portuguese ones said that they already are or have been internationally active while 64.4 and 71.6 % of the CEOs in Norway and Portugal, respectively, reported being exposed to international interactions on a daily basis. The sample thus represents small firms that are exposed to competition from firms abroad in both home and overseas markets.

The rest of the paper is organized as follows. The second section further extends the theoretical background and presents the hypotheses. The third section explains the methodological approach, the fourth outlines the empirical results, and the fifth provides a discussion. The sixth and last section describes the limitations of the study and the scope for future research.

Theoretical framework and hypothesis

The broader aim of the study was to understand the logic of small firm CEOs as they face growing competition from foreign firms in the home market and their often simultaneous exploration of business opportunities abroad. Internationalization was traditionally explained as a gradual, stage-wise learning and development process (Johansen and Vahlne 1977). More recently, there has been a shift towards describing the discovery of international markets in terms of innovation (Liesch and Knight 1999; Simmonds and Smith 1968), as an outcome of a strategic search for opportunities (Knight 2000; Peng 2001) or as a result of successful network collaboration (Welch and Welch 1996). In particular, smaller firms often start their internationalization as participants in larger firms' global value chains (Dana 2001; Gimenez and Ventura 2005) and thus forge direct strategic network contacts abroad that foster interaction with potential customers and suppliers overseas and drive more independent, pro-active innovative actions in the international market. Both McDougall and Oviatt (2000), Jones and Nummela (2008), and Arbaugh *et al.* (2008) recognize that internationalization, especially of small firms, represents an intersection of entrepreneurship and internationalization theory. They see overlapping constructs, and that the role of the entrepreneur as an innovator, broker, and facilitator remains crucial as the firm perceives and explores opportunities for driving further expansion overseas.

Emphasizing different themes, most approaches to internationalization describe how the firm adapts to the international market after only operating in the home. However, the 1990s saw the launch of the "born global" model to describe small entrepreneurial firms with a global focus from the outset and embarking on rapid internationalization (Moen and Servais 2002; Bell *et al.* 2003; Oviatt and McDougall 1994, 1999). Many of these firms have a business model founded on a knowledge-based competitive advantage—often in the form of managerial and/or technological innovation. In the case of "re-born global firms" (small enterprises re-born as global firms), the change in strategy is often triggered by a critical incident—often a takeover or a management buy-out leading to a sudden change in leadership. While fairly few firms are born (or re-born) global, their start-up and evolution indicate a pre-existing vision of the firm as global, implying a *pre-existing* GM. While "born global" firms are not the focus of this study, there are entrepreneurial firms in both

samples that qualify as such as they are start-ups geared towards the global market or firms that have strategically re-invented themselves with a new, global strategy.

From a cognitive lens to conceptual model

Mindsets cannot be measured so we used a “global orientation” variable, based on responses to questions about global orientation as the indicator for GM (Calof 1994; Knight 2001; Nummela *et al.* 2004). The indicators of global orientation include: a wish to grow internationally, an owner/manager who is pro-internationalization, management that evaluates the firm’s international affairs, a CEO who sees the world as one big marketplace, a CEO with a holistic and global vision of foreign markets, a CEO open to foreign ideas and cultures, a CEO willing to consider working abroad. The indicators for the dependent variables are summarized in Table 1.

However, we not only want to study the process of becoming aware of international opportunities and threats and adapting firms’ operations (strategy, structure, resources, etc.) to international environments (Calof and Beamish 1995; Wiedersheim-Paul *et al.* 1978; Welch and Luostarinen 1993) but also the consequences of this process in terms of “internationalization behavior”. We expect that this awareness will be expressed in decisions to engage in importing and/or exporting goods and services, sharing innovations, and participating in international networking activities to get ideas, gather information, secure the supply of resources, and market the firm abroad. According to Johansen and Vahlne (2009), a firm’s setting is made up of *social* networks and this has implications for how we learn, build trust, develop commitment, identify, and exploit opportunities in home and overseas markets. Finally, the ultimate objective of internationalization is a measurable improvement in performance as an outcome of an international strategy. Gains may take several forms: bigger profits; greater knowledge over the longer term that leads to technical innovation; intangible benefits such as enhancement of the firm’s image from going international (Dörrenbächer 2000; Nummela *et al.* 2004; Zahra *et al.* 2005; Johanson and Vahlne 2009).

Thus our *internationalization behavior* construct is built from the following bricks:

- Inward–outward international connections (import and export of products, services, and information)
- International networking (for information, resources, supplies, marketing)
- International firm performance (financial results, knowledge, image-effects as a result of internationalization)

The specific indicators for this construct are detailed in Table 1.

Management scholars, as well as CEOs, usually assume a causal relationship between cognitive processes and behavior and that thinking precedes behavior. Simply put, we think and then we act. According to Weick (1984, p. 222), thinking is inseparably linked to action and “[...] managers behave thinkingly”. Other scholars (Senge 1990; Argyris and Schön 1996; Porac *et al.* 1989; Wind and Crook 2005; Baron 2004a) likewise assume a positive *causal* relationship between managerial thinking, individual behavior, and the collective behavior of the firm.

Table 1 Measurement instrument-dependent variables

Latent constructs		Indicators/construct	Cronbach's α				
			Norway	Portugal	References		
Global orientation	Internationalization to grow						
	Owner/manager pro-internationalization						
	Management-time spent on international planning	7	0.905	0.846	1; 2; 3; 22		
	Vision of world as one marketplace						
	Holistic global vision (market/school)						
	Openness to international ideas/cultures						
	CEO's international career propensity						
Firm Internationalization Behavior	Inward/outward international connections	Raw-material import					
		Semi-manufacture import					
		Import finished products					
		International consultancy sourcing					
		Participation international exhibitions (inbound)	10	0.924	0.609	4; 5; 6; 7; 8; 9; 10	
		Raw-material export					
		Semi-manufacture export					
		Export finished products					
		International consultancy					
		Participation international exhibitions (outbound)					
International networking	International networking for information						
	International networking for resources					6; 11; 12; 13;	
	International networking for marketing (outbound)	4	0.943	0.933	14; 15; 16; 17; 18; 19		
	International networking for supplies (inbound)						
International firm performance	Positive financial effects of internationalization						
	Positive knowledge effects of internationalization	3	0.972	0.923	1; 14; 20; 21		
	Positive image-effect of internationalization						

References: 1) Nummela, Saarenketo and Puumalainen (2002) 2) Gupta and Govindarajan (2002) 3) Levy et al. (2007) 4) Andersen and Rynning (1994) 5) Yang, Leone and Alden (1992) 6) Wiedersheim-Paul, Olson and Welch (1981) 7) Reid (1981) 8) Simmonds and Smith (1968) 9) Welch and Luostarinen (1993) 10) Fletcher (2001) 11) Mittelstaedt, Harben and Ward (2003) 12) Hedlund et al. (1990) 13) Havnes and Senneseth (2001) 14) Johansen and Vahlne (2003, 2009) 15) Bell et al. (2003) 16) Chetty and Campbell-Hunt (2003) 17) Johannisson & Mønsted (1997) 18) Peng (2001) 19) Welch and Welch (1996) 20) Dörrenbächer (2000) 21) Zahra, Korri and Yu (2005) 22) Dichtl, Koeglmayr and Mueller (1990)

Several scholars note the significance of the relationship between CEOs' cognitive processes and their firms' internationalization behavior (Jeannet 2000; Baron 2004b, Javidan *et al.* 2010; Kyvik 2011). Chetty and Campbell-Hunt (2003) specifically identify the decision makers' determination, social networking skills, and risk propensity as major driving forces in the internationalization process. They conclude that "The implications

for theory are that to improve understanding of the internationalization of SMEs (Small- and Medium-Sized Enterprises) researchers need to integrate internationalization theories with the characteristics of SMEs. Moreover, it is important to determine to what extent the attitudes and motivations of decision makers in the SMEs determine the path and pace of internationalization. The implications for managers are that they need to be aware of the importance of their own attitudes and motivations, timing, coherence, managed growth, business networks and learning in the internationalization process. In fact, managers need to be aware that the *mental models* they have could be their main barriers to internationalization” (Chetty and Campbell-Hunt (2003), p. 814, italics added).

We argue that if the CEO of a small firm has developed a GM, then this will have a positive influence on the firm’s international behavior, i.e., the specific actions the firm engages in during its internationalization process. Greater sensitivity, awareness, vision, and willingness to take risks in building cross-border relationships will be reflected positively in the way the CEO perceives and explores international business opportunities and in how international projects are enacted (Busenitz and Barney 1997).

So, our main hypothesis is that there is a strong positive causal relationship between a CEO having a GM and the behavior of the firm in the internationalization process. This causality is commonly accepted for large firms (Javidan *et al.* 2010; Jeannet 2000) and Javidan *et al.* (2007) also suggest a clear theory-based link between having a GM and effective global management. Thus, we hypothesize that this causality also holds for small firms:

H1: *A CEO with a GM will be positive about business opportunities in the international market, open to learning and developing ideas from abroad and willing to spend time on planning international projects. This will have a direct and positive impact on the internationalization behavior of the firm.*

However, at the same time, one might argue that the CEO of a small firm already active in international markets and transactions will learn from his/her experience (Johansen and Vahlne 2003; Gupta and Govindarajan 2002; Chetty and Campbell-Hunt 2003; Peng 2001) and through it, reinforce and further develop his GM. Also, as already described for “reborn global” firms, one may consider the situation whereby the small firm changes owner/CEO and consciously employs someone with an international orientation and who already has a GM (Gosling and Mintzberg 2003; Kyvik 2011). Based on the thinking that the CEO and other small firm managers may be positively influenced by their international experience, one may hypothesize that the opposite causal relationship of the one specified in H1 also holds true, namely that:

H2: *The experiences and learning from the firm’s engagement, activities, and transactions on the international markets will lead to a positive strengthening of the CEO’s GM.*

Factors determining the global mindset

According to Gupta and Govindarajan (2002, p. 120—italic added): “Curiosity and openness about how the world works reflect an attitude, an element of the individual’s personality make-up. Like other elements of personality, it is shaped heavily by *early*

childhood experiences and becomes more resistant to change with age". The grounding of a GM, according to the authors, can be ascribed to a person's cognitive knowledge structure, though they also point out the importance of creating a curiosity about the world during childhood. Similarly, discussing global leadership capability, Jokinen (2005, p. 212) comments, "From the point of view that global leadership competencies are not task-but context specific (that context being the global environment), childhood and family background should also be assessed as possible predictors of global leadership potential". Thus in line with the perspectives of Baron (2004b) and Scherer *et al.* (1989) on the relevance of exposure to entrepreneurship and entrepreneurial role-models during childhood, we reason that a GM similarly may be formed by growing up in a family setting that sets store by international experiences and studies. It is likely that childhood grounding as a construct formed by a family atmosphere supportive of international affairs during childhood (Table 2) is an explanatory variable for the forming of a GM.

Thus we hypothesize:

H3: *Childhood grounding: Growing up in an atmosphere which shows an appreciation of international experiences and encourages teenagers to study abroad will contribute positively to the forming of a GM.*

The internationalization literature in general reports a positive relationship between educational level (Andersen and Rynning 1994; Holzmüller and Kasper 1990), foreign language skills (Dichtl *et al.* 1990; Leonidou *et al.* 1998; Reid 1981) and internationalization. More specifically, Gupta and Govindarajan 2002 point to foreign language skills as one of the variables contributing to the forming of a GM. Drawing on notions from cognitive psychology and organizational theory, the authors note that the mindset acts as a cognitive filter, that "We are selective in what we absorb and biased in how we interpret it" (p. 116). Thus higher education in general offers increased knowledge and competences while foreign language skills may be seen to offer an increased decoding capability and a cognitive bridge to foreign markets. Based on this logic, and in line with the literature, it is claimed that educational level and/or knowledge of a foreign language(s) or languages facilitate the understanding of foreign markets and cultures, stimulating curiosity and interests beyond national borders. It is thus hypothesized that the construct education (Table 2) is an explanatory variable for the forming of a GM.

H4: *Education: Formal education and foreign language skills contribute positively to the forming of a GM.*

In the literature, several descriptive variables of what characterizes a decision maker are identified. Some of these variables may be seen as closely linked to the forming of an individual's international orientation. Gupta and Govindarajan (2002) stress the skill of cross-disciplinary collaboration as a formative characteristic for the development of a GM. Flexibility and reflectiveness (Leonidou *et al.* 1998) are seen as providing an internal locus of control (Jenkins and Johnson 1997; Hodgkinson and Sparrow 2002). Networking propensity (Havnes and Senneseth 2001) and networking skills (Mittelstaedt *et al.* 2003; Wiedersheim-Paul *et al.* 1978; Hedlund *et al.* 1990) are also discussed. What these decision-making characteristics and skills have

Table 2 Measurement instrument-independent variables

Latent constructs	Indicators	Indicators/ construct	Cronbach's α		References
			Norway	Portugal	
Childhood grounding	Recommend teenagers to study abroad Appreciation of international experience	2	0.804	0.770	1; 2; 3; 4 5; 6; 7
Education	Highest level of formal education Language skills (English, German, French, Italian, Spanish, Russian, Chinese)	8	0.759	0.700	6; 9; 1; 25 5; 7; 9
Decision-maker characteristics	Cross-disciplinary collaborator Cognitive flexibility Locus of control Networking team-player	4	0.806	0.782	1 7 10 12; 13; 14; 15
Work experience	Sales-marketing experience General management work experience Daily international work experience International travel experience	4	0.657	0.719	7 16; 24 5; 6 1; 8
Firm characteristics	products/services R&D in-house Access to resources for growth Clients' needs constantly change Market global in nature Competitors internationalized	6	0.799	0.636	17; 14 18; 1; 19 20; 21; 22 8; 17 8; 23 8
Domestic firm performance	Domestic performance satisfaction Domestic networking-activity	2	0.551	0.646	5; 9; 10; 12; 14; 15; 26 13; 27; 28; 29; 30
References:		1) Gupta and Govindarajan (2002)	16) Bundersen and Sutcliffe (1995)		
		2) Jokinen (2005)	17) Andersson, Gabrielson and Wictor (2004)		
		3) Wind and Crook (2005)	18) Simmonds and Smith (1968)		
		4) Gardner (2004)	19) Townsend and Cairns (2003)		
		5) Dichtl, Koeglmayr and Mueller (1990)	20) Maignan and Lucas (1997)		
		6) Holzmüller and Kasper (1990)	21) Welch and Luostarinen (1993)		
		7) Leonidou, Katsikeas and Piercy (1998)	22) Fletcher (2001)		
		8) Nummela, Saarenketo and Puumalainen (2004)	23) Baird, Lyles and Orris (1994)		
		9) Andersen and Rynning (1994)	24) Baron and Ensley (2006)		
		10) Reid (1981)	25) Haynie et al. (2008)		
		11) Hodgkinson and Sparrow (2002)	26) Philp (1998)		
		12) Havnes and Senneseth (2001)	27) Bell et al. (2003)		
		13) Mittelstaedt, Harben and Ward (2003)	28) Gimenez and Ventura (2005)		
		14) Wiedersheim-Paul, Olson and Welch (1978)	29) Reve and Stokke (1994)		
		15) Hedlund et al. (1990)	30) Dana (2001)		

in common is that most likely they are formed over time, are partly of a cognitive nature, and that as a whole they influence the forming of a GM as part of a social learning process. Thus it is hypothesized that the construct decision-maker characteristics (Table 2) contribute to the forming of a GM.

H5: *Decision-maker characteristics: Cross-disciplinary collaboration skills, cognitive flexibility, locus of control and networking capability contribute positively to the forming of a GM.*

Much research has identified work experience (Bundersen and Sutcliffe 1995; Leonidou *et al.* 1998) and exposure to internationalization through work or travel (Dichtl *et al.* 1990; Holzmüller and Kasper 1990; Gupta and Govindarajan 2002; Nummela *et al.* 2004) as concepts explaining a positive attitude to internationalization and thus as implicitly contributing to the forming of a GM. Also, the finding that life/work positively influences recognition of business opportunities (Baron and Ensley 2006). In this, the opportunities are international ones. The way in which entrepreneurs overcome bounded rationality through entrepreneurial (work) expertise (Mitchell *et al.* 2007) may be seen as supporting this positive relationship. It is further reasoned that exposure to interdisciplinary general management (especially to social-intensive disciplines such as Sales and Marketing) fosters openness to internationalization as an inter-human and social process. Also, often internationally developed IT equipment and programs and use of other new technologies in firms form part of a contextual evolution that further strengthens the positive effect of general management experience on the formation of a GM. Based on this, it is hypothesized that the construct work experience (Table 2) contributes to the forming of a GM.

H6: *Work experience: Sales-marketing experience, general management experience, international work exposure, and international travel experience contribute to the forming of a GM.*

Literature focusing on smaller firms' internationalization underlines experience and home market success as paving the way for international expansion (Reid 1981; Andersen and Rynning 1994; Havnes and Senneseth 2001; Wiedersheim-Paul *et al.* 1978). Though Johansen and Vahlne's description of a stage-wise internationalization process (Johansen and Vahlne 1977) has been criticized (Bell *et al.* 2003) and later revised (Johansen and Vahlne 2003; 2009), many scholars still favor the idea that internationalization implies gaining knowledge and expertise on the one hand and fine-tuning processes and procedures on the home market before internationalizing on the other. The issues stressed range from having experience of a number of customer and product/service categories tested out in the home market to having a stable and well-performing successful home operation (Reid 1981; Havnes and Senneseth 2001) and having sufficient resources (Mittelstaedt *et al.* 2003) before thinking of international expansion. Since we are looking at very small firms (10–50 employees), the company as a whole will be strongly encouraged to think about foreign prospects when the CEO/owner is both happy with home market performance and sees good international business opportunities (Kotey and Meredith 1997; Peteraf and Shanley 1997). Success in the home market will create confidence and positively influence the firm's overall perception of business opportunities abroad (Dichtl *et al.* 1990; Philp 1998). In line with Johansen and Vahlne (2003) and further stressed by the same authors in their 2009 revision of their Uppsala Model (now redubbed "The Business Network Internationalization Process Model"), Bell *et al.*, (2003), Havnes and Henneseth (2001), and Dana (2001) stress domestic networking activity as a precursor not only to innovation but also as vital for achieving critical mass (especially for small firms) either before or during internationalization (Mittelstaedt *et al.* 2003; Hedlund *et al.* 1990; Johansson and Mönsted 1997). Many small firms, both

in Norway and Portugal, begin their internationalization as part of a larger, already internationalized firm's value chain or supplier network (Bell *et al.* 2003; Gimenez and Ventura 2005; Reve and Stokke 1994; Dana 2001). The collaboration may be on an arms-length basis in the home market where the firm supplies products or services as part of a local transaction, or takes the form of deliveries to an international value chain partner as the export of products or services. It seems reasonable to assume that small firms' GM will be enhanced by working with and learning from internationalized partners in the firm's home market.

Based on the foregoing discussion, it is hypothesized that the construct domestic firm performance (Table 2) contributes to the forming of a GM.

H7: *Domestic firm performance: Domestic performance satisfaction and domestic networking activity contribute to the forming of a GM.*

Factors determining internationalization behavior

We have already discussed the impact of a GM on firms' internationalization at some length. One might expect that other factors also have a direct influence on internationalization behavior. In the literature, variables and processes such as technological level (Andersson *et al.* 2004; Wiedersheim-Paul *et al.* 1978), a firm's research and development orientation (Simmonds and Smith 1968; Gupta and Govindarajan 2002; Townsend and Cairns 2003), access to resources for growth (Maignan and Lukas 1997; Welch and Luostarinen 1993; Fletcher 2001), and the dynamism and degree of market internationalization (Baird *et al.* 1994; Andersson *et al.* 2004; Nummela *et al.* 2004) are used to describe a firm's internationalization and *modus operandi*. Keeping in mind that the focus is on small firms, these variables not only reveal a CEO's attitudes but also his/her reasoning vis-à-vis international markets and the activities and processes the firm already is engaged in. On a cognitively collective level, the construct's indicators also reflect the firm's competitive setting where the market is perceived as global and the firm's competitor is already internationally active. The indicators of the characteristics of the firm construct include dynamic and ongoing processes typical for firms that have already internationalized. Among these firms, there will certainly be some "born global" and/or "reborn global" ones and it is believed that this directly will be reflected in the firm's *ongoing* internationalization behavior rather than via the GM. It is thus hypothesized that the construct firm characteristics (Table 2) will have a direct positive influence on the firm's internationalization behavior.

H8: *Firm characteristics: Technologically advanced operation, internal R&D activities, resource access and dynamism and degree of market internationalization will have a direct, positive influence on the firm's internationalization behavior.*

Based on the hypotheses specified above, a conceptual model of the relationships between the variables is given in Fig. 1.

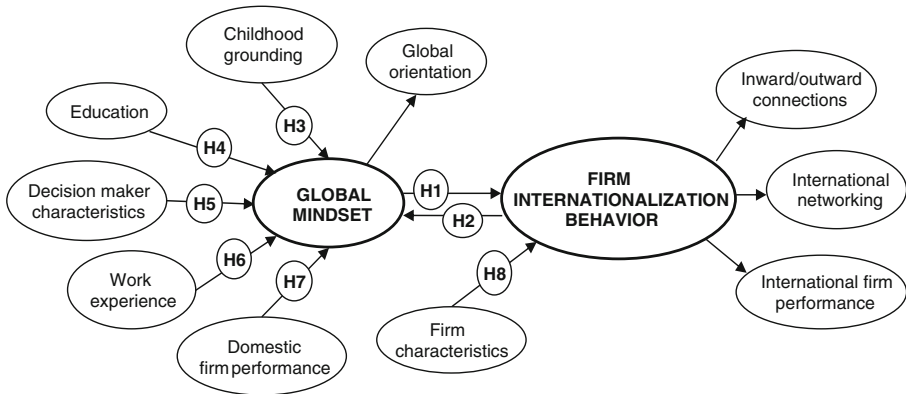


Fig. 1 Conceptual design

Research design

Empirical data for the multiple indicators of the independent and dependent variables of the conceptual model were collected using web-surveys. The instrument was targeted specifically at CEOs and/or owners using the small firm decision maker as key informant (Reid 1981; Andersen and Rynning 1994).

The population selected for the study was initially Norwegian small firms in four counties on the country's southwest coast. The population was restricted to limited companies with 10–50 employees within the fishing,³ mining and quarrying,⁴ manufacturing and shipping industries. In 2009, the study was replicated in Portugal. Here, the data were collected from firms in the following sectors: graphic arts, construction/real estate, metallurgy/metalworking, services, food, textiles, audiovisual, transport, IT/new technologies, agricultural industry, chemistry and pharmaceuticals, research and development, footwear, ceramics, furniture, and wine production.

Given that the study focuses on the GM and firms' internationalization behavior, the sampling frame focused on industrial sectors with the greatest likelihood of being influenced by internationalization and globalization following the same logic as other studies on the international involvement of small firms (Baird *et al.* 1994). The chosen sectors in both countries are among the technologically most advanced, and in which small firms are recognized innovators—often working in close collaboration with larger firms' international value chains and logistical operations (Gimenez and Ventura 2005; Dana 2001). Also, since our purpose was to explore the relationship between the GM construct and internationalization behavior across industries and to allow for a broader interpretation of results, the population was not restricted to any one industry. Rather, to obtain an adequate sample size for statistical tests and to provide a basis for broad interpretation of the results, a multi-industry population was selected (Robinson and Pearce 1983) from the Norwegian Company Registry and from Informa D&B (formerly Dun & Bradstreet) in Portugal, respectively. A total of 1,071 firms were identified in Norway and 2,816 firms in Portugal. Because the size

³ Including fish-farming

⁴ Including oil and gas exploration

of the firms is an important variable, we were concerned that firms of different sizes would be represented proportionally in the sample. Therefore a stratified probability sampling procedure was used to ensure that a proportional number of firms in the various size categories were included in the random sample (Singleton and Straits 1999; Leonidou *et al.* 1998). A random sample was drawn in each stratum proportional to the size of the strata and after adjusting the sample for firms ruled out due to bankruptcies, foreclosures, mergers and acquisitions, etc.

Data was gathered using an e-mail-based survey. The records of the random samples included the name of the firm, telephone number, and the name of the CEO but not his or her personal e-mail address. We therefore contacted each company by telephone to confirm the e-mail address of the CEO, reasoning in line with other studies focused on small firms (Andersson *et al.* 2004; Kotey and Meredith 1997; Miller and Toulouse 1986), that the CEO (often combining the role of CEO, manager, owner, or part-owner) is best-qualified to answer questions about the firm's actual behavior and strategy *vis-à-vis* internationalization and the global market.

The number of responses at the completion of data-collection was 215 in Norway and 257 in Portugal, above the level for a critical sample size of 200 for the chosen data-analysis methodology⁵ (Hair *et al.* 1998) and representing a response rate of 51 % in Norway and 9 % in Portugal—which is either in line or better than similar studies (Nummela *et al.* 2004; Leonidou *et al.* 1998).

However, because we were concerned about the representativeness of the two samples, a comparison was made of early and late respondents, with the latter being assumed to be similar to non-respondents. This was performed to assess a potential non-response bias (Armstrong and Overton 1977; Voogt 2004). Using the decision-maker characteristics construct as a test, the difference in means for responses from early and late respondents was found not to be significant. A comparison was also made of the firm-size distribution of the sampling frame and the observed sample. Likewise, no significant differences were found. These results suggest that the samples of firms are likely to broadly reflect the population of firms targeted by the study.

Measurement and data quality

The operationalization of the GM and firm international behavior construct requires the specification of other constructs that are direct consequences of these latent variables, leading to a second-order factor model where only the first-order concepts have direct indicators. The indicators for the first-order concepts are specified in Table 1.

One question was included in the surveys for each individual indicator of a construct. Indicators of both the explanatory variables for the forming of a GM and the dependent internationalization behavior variables were identified in existing literature and adapted to the study during the conceptual research phase.

A mean composite score was calculated over the set of items for each construct (Diamantopoulos and Siguaw 2005). The *Cronbach's alphas* for each construct were calculated. Table 1 shows the results, which indicate that all values are higher than 0.6—indicating good reliability. These composite scores are the indicators for the latent constructs GM and firm internationalization

⁵ Structural equation modeling (SEM)

behavior. The relationships between the first-order factor and the variable of interest, the GM, were very high (0.95 in both countries) and the same was true for the relationship between the three first-order factors and the variable of interest firm internationalization behavior which in Norway and Portugal were 0.96 and 0.68 for inward/outward connections, 0.98 and 0.69 for international networking and 0.92 and 0.54 for international firm performance.

Results for the independent variables are shown in Table 2. This table reveals that—with the exception of the domestic firm performance construct in the Norwegian sample—the reliabilities lay at 0.60 or above (that is, ranging from acceptable to good reliability). For the domestic firm performance construct, the Cronbach's alpha is 0.551 in Norway. The results for both the dependent and the independent variables strongly indicate that a correction for measurement error is required.

Method and data analysis

The data-analysis was made using SEM, an approach characterized by its flexible interplay between theory and data—thus bridging the gap between theoretical and empirical knowledge for a better understanding of the real world (Fornell 1982). The model was estimated using maximum likelihood estimation available in the LISREL⁶ program. The correlation matrices of the main constructs were used as input data for both countries with the Cronbach's alphas inserted on the diagonal (see Appendix 1) to correct the estimates for measurement error (Saris and Gallhofer 2007).

An essential requirement in interpretation of the results of the estimation of an SEM model is that the model does not contain serious misspecifications (Hu and Bentler 1998). This means that the test used for detecting misspecifications must be powerful enough to do so. Saris *et al.* (2009) have shown that the standard procedures ignore the power and therefore can lead to wrong conclusions on model fit. The same authors have developed a technique for detecting misspecifications by taking the power of the test into account. The software program *JRule* (Van der Veld *et al.* 2009) is used to detect misspecifications in this model and the χ^2 value and the RMSEA-value of each model are shown in Table 3. The *JRule* program is used to determine whether misspecifications are present and when to stop model correction (which is when no more misspecifications are found).

Results

First, the conceptual model was estimated for both Norway and Portugal. The results are shown as model 1 in the second and fourth columns of Table 3, respectively. The standard tests indicate that the model has to be rejected in both countries because the $\chi^2=52.2$ and 62.0 , respectively, with 23 degrees of freedom and a RMSEA of 0.077 and 0.081 for Norway and Portugal, respectively. The program *JRule* indicates that there are misspecifications in the model. For the Norwegian data, the program suggests that the effect of the decision-maker characteristic on internationalization

⁶ LISREL 8.72 (Jöreskog and Sörbom—Scientific Software International, Inc, 2005)

Table 3 Standardized coefficients estimated in Norway and Portugal

	Norway		Portugal	
	Model 1 (conceptual model)	Model 2	Model 1 ^a (conceptual model)	Model 2
Effects on global mindset				
Firm internationalization behavior	0.11	0.05	0.77 ^b	0.59^b
Childhood grounding	0.05	0.05	0.02	0.05
Education	-0.06	-0.05	0.01	-0.15^b
Decision-maker characteristics	0.20 ^b	0.24^b	0.03	0.14^b
Work experience	0.69 ^b	0.71^b	0.07	0.27^b
Domestic firm performance	-0.19 ^b	-0.19	-0.01	-0.03
<i>R</i> ²	0.65	0.63	0.97	0.85
Effect on firm internationalization behavior				
Global mindset	0.61 ^b	0.69^b	1.09 ^b	0.69^b
Firm characteristics	0.29 ^b	0.30^b	0.05	0.21^b
Decision-maker characteristics	-	-0.16^b	-	-
Education	-	-	-	0.24^b
<i>R</i> ²	0.47	0.70	1.02	0.96
Chi ²	52.2	42.8	62.0	47.4
<i>Df</i>	23	22	23	22
RMSEA	0.077	0.066	0.081	0.067
Misspecifications	ga23	-	ga22	-

ga23 effect of decision-maker characteristics on firm internationalization behavior; ga22 effect of education on firm internationalization behavior

^a This model is clearly misspecified

^b Coefficient significantly different from zero (in bold in model 2)

behavior has to be introduced and for the Portuguese data, the program suggests introducing the effect of education on international behavior.

Since both effects are not mutually exclusive, they were introduced and the model estimated again. The model improved in terms of the standard fit measures while JRule did not indicate any more misspecifications.

The estimated values of the parameters of the restated model are shown in columns 3 and 5 (model 2) of Table 3.

It was clear that the values of the parameters did not change much. The reciprocal effect between GM and firm internationalization behavior was significant for Portugal but not for Norway, while the effect of the GM on firm internationalization behavior was high (0.69) and significant both for the Norwegian and the Portuguese small firms. These findings thus strongly confirm H1, while H2 is confirmed for the Portuguese but not for the Norwegian firms. The strong positive confirmation of H1 appears highly relevant as it highlights the effect on small firms' internationalization of strengthening

the GM and shows (supported by theory) that the main force driving firms' internationalization behavior operates through the GM.

The strength of the explanatory power of the model is illustrated by achieving a squared multiple correlation (R^2) for the structural equations of 0.63 and 0.85 for Norway and Portugal, respectively, for the GM construct, and 0.70 and 0.96 for Norway and Portugal, respectively, for the firm internationalization construct.

With reference to the other hypotheses the following conclusions can be drawn:

Childhood grounding (H3) has a *positive but not significant effect on the GM in both countries.*

Education (H4) has a *not significant but negative effect on the GM in Norway and a significant negative effect on the GM in Portugal.*

Decision-maker characteristics (H5) have a *positive significant effect on the GM in both countries.*

Work experience (H6) has a *positive significant effect on the GM in both countries.*

Domestic firm performance (H7) has a *negative, not significant, effect on the GM in both countries.*

Firm characteristics (H8) have a *positive significant effect on firm internationalization behavior in both countries.*

The findings with reference to H4 and H8 were contrary to what was hypothesized and are commented upon in the following discussion.

Two additional, unexpected, effects had to be added:

Decision-maker characteristics have a significant negative direct effect on the firm international behavior construct in Norway, and

Education has a significant positive direct effect on firm international behavior in Portugal.

Discussion

The strongest positive causal effect parameter is found between the latent GM and the firm internationalization behavior construct (+0.69 in both countries), emphasizing the significance of the GM for small firms' internationalization. We also saw that this effect was larger than the opposite effect in both countries.

Among the constructs determining the GM, the strongest positive causal effect is work experience, with a direct causal effect parameter of +0.71 in Norway's case and +0.27 in Portugal's. The importance of work experience, including exposure to internationalization, is well-documented both in the internationalization (Leonidou *et al.* 1998; Dichtl *et al.* 1990; Gupta and Govindarajan 2002; Nummela *et al.* 2004) and in the entrepreneurship literature (Peterman and Kennedy 2003; Baron and Ensley 2006). It may therefore be concluded that experience including exposure to the international markets is a key element in forming a GM among small firm CEOs.

The decision-maker characteristics construct has the second most important causal effect on the GM (+0.24) in Norway and in Portugal (+0.14), where the indicators cross-disciplinary collaboration, cognitive flexibility, locus of control, and networking team-

player were found to cause the forming of a GM. The construct, however, also has a negative direct effect (-0.16) on firm internationalization behavior in Norway. This particular finding in Norway may at least partly be explained by the fact that “[...] smaller businesses deal with unique size-related issues as well, and they behave differently in their analysis of, and interaction with, their environment” (Baird *et al.* 1994). Here, one should bear in mind that internationalization for such small firms is a cognitively very intensive strategic decision which many CEOs and their firms simply do not have the management resources to consider. It is also hardly surprising that CEOs in often resource-scarce small firms in a small country such as Norway will prioritize home-market business. After all, as Johannisson and Mönsted (1997, p. 114) note, running a business in Norway “[...]is as much an existential as a commercial project”. Calof’s finding regarding (1994, p. 383) the export propensity of Canadian small firms is also of interest: “Executives from these firms indicated that the dominant attitude prior to exporting was that the domestic market was more than large enough, so ‘why export?’” This mindset may have been prevalent when the data for our study was gathered, given that the Norwegian home market was strong at the time.

As hypothesized, the firm characteristics construct with its chosen indicators have a strong, significant, and positive direct causal effect on the firm internationalization behavior construct in both Norway (0.30) and Portugal (0.21). In line with both the cognitively oriented strategy and internationalization literature (Table 2)—particularly the discussion of small “born global” or “reborn global” firms—it seems the following all strongly affect a firm’s operations: (1) context and exposure to advanced technology; (2) emphasis on R&D; (3) having demanding, dynamic customers; (4) embeddedness in an internationalized industry; (5) perception of the market as global. This contextual setting can cause even small firms to directly enter the international market and thus engage in internationalization behavior.

The literature generally argues a positive relationship between higher education levels of CEOs and international orientation (Leonidou *et al.* 1998; Reid 1981; Dichtl *et al.* 1990; Nummela *et al.* 2004). “[...] In addition to increased competence in general management, a high educational level—particularly in Europe—often indicates foreign language skills and travel experience. Such skills are believed to reduce the cost of collecting, transmitting, and interpreting information from the environment in which foreign entry decisions are taken” (Andersen and Rynning 1994, p. 22). However in this study, contrary to what was hypothesized, a significant negative causal effect of education on the forming of a GM was found in Portugal. In Norway’s case, the effect was not significant but was still negative. However, both findings may be specific to these two countries. In Portugal, it may be related to the lack of curricula covering international business at universities combined with a relatively weak promotion of international career opportunities in general. In Norway, other studies report little international orientation among Norwegian leaders with higher education.⁷ The fact that the Norwegian economy was also booming at the time the data was collected (2006) may also have made internationalization less alluring back then. At the same time, a significant positive direct effect is found between education and firm internationalization

⁷ The Administrative Research Fund’s “Leadership Investigation 2002”, the Norwegian School of Economics and Business Administration

behavior in Portugal. This study and the measurement indicators used for the education construct do not elucidate the reasons for this finding.

The domestic performance construct has a negative but insignificant causal effect on the GM in both countries while in H7 we hypothesized a positive relationship between satisfaction with performance in the home market and the formation of a GM based on the idea that firms' internationalization is usually contingent on a successful home business domestic operation and market coverage (Andersen and Rynning 1994; Wiedersheim-Paul *et al.* 1978) and slack resources (Reid 1981; Yang *et al.* 1992; Cyert and March 1963). Possible reasons for this negative causal relationship, though insignificant, are worth commenting on. It may be a combined effect of often limited resources and the fact that by default, small firm CEOs mainly focus on local, regional, or home nation markets,⁸ which they see as big enough. Also considering the small firm sizes covered in this study (10–50 employees), human resource aspects such as limits on managerial capacity and administrative time will also play a role. In addition, scarcity of other resources (such as financial and internationalization skills and production bottlenecks requiring incremental investments for internationalization, etc.) will probably make firms more wary of taking on foreign markets however successful a company is at home.

Recalling that the literature is relatively biased toward bigger firms and that small firms may have a different *raison d'être* (due to more personalized objectives and performance criteria), the negative causal effect may be seen as both plausible and logical. Satisfactory performance at home causes the small firm to continue to focus on the local market and “play safe” rather than embarking on riskier business projects abroad.

Implications

The results of the study indicate that the GM may be developed and “tweaked” to foster the internationalization of small firms. This has consequences for how CEOs and their firms approach internationalization and for how governmental or private agencies push internationalization. In what follows (and with reference to the independent variables in Table 2), a distinction is made between implications of the findings at policy and managerial levels.

Policy implications

CEOs of small firms often combine the roles of entrepreneur, owner and manager, and they are considered to be the key gatekeepers for change and learning. At the same time, small firms' resource scarcity and tendency to focus on operational matters rather than strategy imply there is a sore need for external support in preparing for and implementing internationalization. Thus governmental, regional, and private-body support must first and foremost be based on an understanding of small firms' *modus operandi* (Clegg and Walsh 2004; Kyvik 2011).

A coordinated policy effort through an interest organization (for instance a chamber of commerce) may be used to initiate collaboration between small firms through a network-support system. An approach likely to yield results is one focusing on the formative

⁸ “Born-global” or “reborn global” firms are notable exceptions

indicators of the decision maker and the work experience construct, given that these positively influence the formation of a GM and facilitate such collaboration. An internationalization traineeship program for CEOs and/or their employees may easily be arranged as an exchange program for trainees of firms at different stages on the path to internationalization. Trainees may work as they learn and thus keep costs down for participating firms (Dichtl *et al.* 1990). A great number of small firms have extensive international experience⁹ and this may be taken advantage of by supporting and encouraging increased collaboration and learning between the firms (Nummela *et al.* 2004).

The finding that the domestic performance satisfaction construct impairs the forming of a GM in both Norway and Portugal may be seen to indicate a latent and underutilized potential in many small firms. If these firms are successful in their home markets but not in exploring their international opportunities, it may be due to “satisficing” (Minkes and Foxall 2003). While the firms’ CEOs are content with home market coverage, it may indicate that the firms have a collective “cognitive blind spot” (Kahneman and Lovallo 1994) when it comes to internationalization insofar as decision makers are not “alert” (Shane and Eckhardt 2003) enough to pursue business opportunities abroad. Consequently, the finding may be interpreted as having implications for how public or private resources should be used to heighten awareness of internationalization among small-firm CEOs and to actively foster internationalization. Governmental agency support may encourage such firms to take capitalize on success and networking at home to explore opportunities abroad (Simon 1996). Based on this study, development of the GM becomes a manageable proposition—it has been shown which constructs influence the formation of the GM and turning this knowledge into actionable know-how will ultimately boost firms’ bottom-line and the national economy.

However, SME decision makers (who are often entrepreneurs) are a pretty individualistic bunch and are generally skeptical of network collaboration and governmental red tape. This makes it unlikely that increased network collaboration will take place without prolonged, active governmental, or private administrative support. Also, in line with Storey (2003)’s observation that “... small firm owners are notoriously *reluctant to pay* for advice from outsiders.” (p. 479, italics added), it is believed that any public or private policy initiative must include not only active administrative and knowledge support but also funding to have any effect.

Managerial implications

Peteraf and Shanley (1997) claim that the cognitive processes of the CEO in small firms are the same as those of the company itself. This implies that owner/managers have a homogenous management mindset and that this changes little over time. The danger is that this may lead to biased decision making and cognitive inertia (Hodgkinson and Sparrow 2002; Hodgkinson and Healey 2008). In many small firms, there may simply be too little time for dialogue, debate, and inquiry in the firm’s day-to-day management and operation. The fact that the need for new learning and change of strategic thinking, including internationalization, must go through the all-powerful *smart* small firm CEO (often also playing the role of owner-manager), represents a recognized learning paradox. As pointed out by Argyris (1991), it can be

⁹ In the samples, 66.5 % of the Norwegian and 82.1 % of the Portuguese firms are internationally active.

especially difficult for “smart people to learn”—not because they have little to learn but simply because revealing their ignorance may dent their credibility. Thus, considering the indicators of the decision-maker characteristics and the work-experience constructs from the small firms’ perspective, forming a GM appears to depend on the CEO’s personal perspectives and attitudes. However, added knowledge and consciousness about the specific variables influencing the forming of the construct makes it possible to boost the factors fostering a small firm’s GM.

On a more tactical level, firms’ GM may be changed through a conscious adjustment in hiring and recruitment policy (Gupta and Govindarajan 2002; Johnson *et al.* 2006) so as to recruit individuals with the right combination of international experience and personal characteristics (such as cognitive flexibility and teamwork and interpersonal skills).

In conclusion, this study based on data from Norway and Portugal contributes significantly to both theory and practice by showing that the GM has a strong impact on small firms’ internationalization. The results illustrates how the GM is formed in this size of firms and context and outlines what steps the firm may take to strengthen the GM with direct positive consequences for companies’ internationalization.

Limitations and directions of future research

This study used a cross-sectional sample of small firms in Norway and Portugal and selected industries and sectors deemed to be exposed to international competition. The delimitation of these industries and sectors and the purely quantitative approach to the data-collection and analysis represent a limitation of the study. The study also needs to be replicated in other countries with the objective of further cross-validating the findings and to verify the generalizability of the results. Future research will concentrate on improving the quality of the formative elements of the measurement model and on increasing the number of indicators on childhood grounding and on firms’ home-market performance. Based on a larger number of observations and a more extensive international database, a GM benchmarking instrument for small firms might be developed for measurement and comparative scoring of firms’ GM. Furthermore, based on an international database of empirical observations, methodology, and educational programs for the formation of the GM might be developed and turned into hands-on/minds-on practical know-how and choices for company policies in small firms. As the samples for this study were too small to create sub-samples by industry, future research will also attempt to verify how industrial settings may influence the creation of a GM and evaluate how the findings develop over time based on a longitudinal research design. Also the consequences of relaxing the firm-size restriction and going beyond firms with a maximum of 50 employees will be considered, based on the idea that cognitive processes may change when influenced by more extensive interdisciplinary collaboration and additional resources commonplace in larger companies. Finally, attempts will be made to contrast, enrich, and validate the findings with selective in-depth interviews to collect more contextual data and capture unseen, unspoken, and tacit cognitive phenomena not detected by the design of this study.

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Appendix 1

Table 4 Correlation matrix for the constructs with the Cronbach's alpha on the diagonal

Variable	1	2	3	4	5	6	7	8	9	10
Norwegian sample										
1 Childhood groundings	0.804									
2 Education	0.032	0.759								
3 Decision-maker characteristics	0.343	0.008	0.806							
4 Work experience	0.290	0.209	0.0206	0.657						
5 Firm characteristics	0.138	0.149	0.206	0.432	0.799					
6 Global orientation	0.298	0.135	0.283	0.545	0.561	0.905				
7 Domestic firm performance	0.179	0.002	0.354	0.263	0.281	0.187	0.551			
8 International firm performance	0.226	0.149	0.143	0.490	0.445	0.693	0.148	0.972		
9 Inward/outward connections	0.224	0.174	0.128	0.490	0.474	0.657	0.155	0.893	0.924	
10 International networking	0.200	0.125	0.132	0.493	0.516	0.662	0.186	0.827	0.847	0.943
Notes: $n=215$										
Portuguese sample										
1 Childhood groundings	0.770									
2 Education	0.231	0.700								
3 Decision-maker characteristics	0.213	0.289	0.782							
4 Work experience	0.229	0.470	0.373	0.719						
5 Firm characteristics	0.033	0.167	0.336	0.349	0.636					
6 Global orientation	0.206	0.325	0.449	0.503	0.382	0.846				
7 Domestic firm performance	0.106	0.122	0.299	0.174	0.225	0.169	0.646			
8 International firm performance	0.141	0.301	0.314	0.377	0.336	0.553	0.103	0.923		
9 Inward/outward connections	0.238	0.276	0.263	0.348	0.393	0.441	0.183	0.335	0.609	
10 International networking	0.217	0.356	0.237	0.377	0.283	0.381	0.248	0.365	0.525	0.933
Notes: $n=257$										

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