





Understanding the De-internationalization of Entrepreneurial SMEs in a Volatile Context: A Reconnoitre on the Unique Compositions of Internal and External Factors

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In recent years, the global business environment has witnessed a wave of de-internationalization not only among multinationals but also among small- and medium-sized enterprises (SMEs). This disengagement of cross-border activities is deemed to be driven by various firm-specific factors, as well as by external factors. Building on the premise of the non-linear internationalization debate and focusing on the dynamic capabilities view and institutional theory, this paper aims to disentangle the extent to which internal factors (IFs) and external factors (EFs) drive SMEs towards de-internationalization. To do this, we take advantage of a hybrid multilayer decision-making mathematical modelling approach to explore SME de-internationalization at two levels. Our findings at the exhaustive level contribute to the de-internationalization literature by proposing distinct frameworks that highlight the interrelationship amongst IFs and EFs. And our results at the subordinate level constitute the identification of four unique compositions leading to different de-internationalization modes. In this vein, we define two categories of factors, namely reducing and terminating factors, which drive SMEs into respectively partial and full de-internationalization.

Introduction

The international entrepreneurship literature has extensively investigated the extent to which small- and medium-sized enterprises (SMEs) internationalize (e.g. Freixanet and Renart, 2020). For instance, research on micro-foundations seeks to explore the psychological and behavioural components of internationalization, such as managerial capabilities and internationalization intention (Vanderstraeten *et al.*, 2020). Also, environmental studies build on external factors such as institu-

tional arrangements to disentangle the hows and whys of the interactions of internationalizers with various settings and institutional systems (Sadeghi *et al.*, 2019). However, it should be noted that internationalization is not always a forward-moving phenomenon but rather an intricate and high-risk process within which firms are likely to fail (Freeman, Deligonul and Cavusgil, 2013). Vissak and Francioni (2013) highlight that internationalization is not merely a linear process, and firms tend to experience a fluctuation in their level of international market engagement. Hence,

internationalized firms are likely to decrease or increase the intensity of their cross-border activities (Lafuente, Stoian and Rialp, 2015) and, irrespective of their initial entry mode, they might partially withdraw from foreign markets, completely discontinue their cross-border commitments, or re-internationalize later (Bernini, Du and Love, 2016).

Despite increasing insights into multinational enterprises, little attention has been paid to exploring de-internationalization among SMEs. This is surprising, because small firms are deemed to be highly fragile in foreign markets (Hagen, Zucchella and Ghauri, 2019), and hence it is more likely for them to de-internationalize. SMEs' limited capabilities and dynamism, along with their liability of newness in the intricate international business environment (Lahiri, Mukherjee and Peng, 2020; Sadeghi *et al.*, 2019), can mean that they are likely to give up their cross-border commitments. Following Morgan's (1997) seminal classification, several external and internal factors push SMEs to de-internationalize. External factors are regarded as being strongly related to environmental institutions (Tang *et al.*, 2021). For example, Kostova, Roth and Dacin (2008) point out that the organizational survival of international firms is highly dependent on their alignment with the external environment. Similarly, Santangelo and Meyer (2011) confirm that, depending on the institutional context, the international commitments of firms can decline. As such, high levels of institutional voids and uncertainty will increase the risk of adaptation to the host market, thus making it more likely for them to decide against internationalization (Dominguez and Mayrhofer, 2017).

In a parallel vein, internal factors explain that insufficient development or a lack of dynamic capabilities can be seen as antecedents of SMEs withdrawing from internationalization. In this regard, Teece (2007) considers dynamic capabilities from the perspectives of sensing, seizing and re-configuring capabilities. Indeed, dynamic capabilities are a portfolio that includes several crucial managerial and organizational competencies that enable ventures not only to promptly anticipate and shape their business environment but also to obtain agility, which is crucial in the complex process of internationalization (Mudalige, Ismail and Malek, 2019; Shams *et al.*, 2021). Furthermore, relying on such capabilities provides dynamism so that firms can be responsive to their ever-changing

environment, such as constant technological evolution or targeting new business opportunities in cross-national markets (Cavusgil, Seggie and Talay, 2007; Uner, Cetin and Cavusgil, 2020). That is, de-internationalization is strongly triggered by SMEs' poor development of their dynamic capabilities (Crick, Crick and Chaudhry, 2020; Weerawardena *et al.*, 2007).

Although the literature does offer insights into external factors (EFs) and internal factors (IFs) that decrease/terminate the cross-border footprint of firms, this research builds on two distinct levels of exhaustive and subordinate analysis to address several shortcomings in SME de-internationalization research. The former (exhaustive level) considers de-internationalization generally as the reduction or termination of SMEs' international commitment regardless of their initial internationalization strategy. In this regard, the literature has a limited understanding of the varying nature of pertinent IFs and EFs, as well as of their inter-relationships, that drive SMEs towards de-internationalization. Accordingly, the exhaustive level of analysis strives to bridge this gap by dividing IFs and EFs into two categories. Causal factors are those that play as root contributors, which directly or indirectly impact the severity of others, and effect factors are those whose intensity is highly dependent on causal factors (Jafari-Sadeghi *et al.*, 2022a). The subordinate level of study, on the other hand, aims to synthesize the alternative under-researched modes by which SMEs de-internationalize. Our rationale is that, as SMEs employ various international commitments, such as exporting, international R&D, and foreign technology licensing (e.g. Davcik *et al.*, 2021), their subsequent de-internationalization can occur in different modes. Accordingly, although the majority of studies have focused on the reduction or withdrawal of direct exports (e.g. Crick, 2004), the subordinate-level exploration assists in identifying the compositions of IFs and EFs that drive SMEs to various de-internationalization modes.

Furthermore, extant de-internationalization studies have extensively focused on more stable countries – such as France (Bernini, Du and Love, 2016) – and there is limited knowledge of divergent contexts in which unique geopolitical characteristics are associated with volatility and restrictions. This is particularly important because geopolitical contexts radically increase

the complexity of international entrepreneurship (Kafouros *et al.*, 2021), meaning that SMEs are more likely to stop their international activities. As such, this research is carried out in the context of Iran, which is characterized by an ever-volatile domestic environment (e.g. high inflation rate, currency fluctuations) and international restrictions, such as sanctions (Caba-Maria, 2021), which disrupt foreign operations. Therefore, the failure to develop dynamic capabilities increases the fragility of Iranian small internationalizers against an unfavourable institutional environment at national and international levels and fosters the propensity to de-internationalize.

This paper therefore underpins the non-linear internationalization debate and builds on the dynamic capabilities view and institutional theory to explore the IFs and EFs that contribute to the cross-border disengagement of entrepreneurial internationalizers in the volatile context of Iran. In this regard, two vivid research questions are posed. First, at the exhaustive level, this paper seeks to address RQ₁: ‘*What are the (cause vs. effect) nature and interrelationships amongst identified IFs and EFs pertinent to the de-internationalization of SMEs?*’ And second, at the subordinate level, this research strives to explore RQ₂: ‘*What are the unique compositions of IFs and EFs contributing towards different modes of SME de-internationalization?*’

To address our questions, we employed a hybrid multilayer decision-making mathematical modelling method, through which we approached 15 Iranian entrepreneurial SMEs that have de-internationalization experience. Such entrepreneurial SMEs are characterized as being currently managed by the person or group of people who founded them (Crovini, Santoro and Ossola, 2020). In this vein, a multilayer decision-making approach was conducted to address the first research question. This includes various methods, such as interpretive structural modelling, a decision-making trial and evaluation laboratory, and an analytical network process. Furthermore, to consider the uncertainty of exiting a market in the multilayer decision-making stage, intuitionistic fuzzy numbers and operators are employed. To address the second research question, we designed a novel mathematical model based on integer programming to extract the possible combination of factors that lead to different de-internationalization modes.

This paper provides various contributions to de-internationalization research. Despite the scant studies that have focused on de-export, our contribution extends the de-internationalization of SMEs to other dimensions, such as the reduction/termination of foreign operations, foreign market engagement, cross-border offerings, and cross-border value-adding activities. Furthermore, our analysis proposes a unique model of internal factors that enriches Tecce’s ‘sensing-seizing-reconfiguring’ classification by highlighting that de-internationalization-driven dynamic capabilities have non-linear and non-sequential relationships. Similarly, our study advances the extant research on the role played by institutions by providing a model of external factors that balances the institutional dynamics of home and host countries as well as the roles of distance and supranational institutions. Finally, we propose an integrative framework to map the unique compositions of the most influential IFs and EFs leading to SMEs’ partial versus full de-internationalization. In this regard, we introduce the reducing factors and terminating factors for four different de-internationalization modes.

The Concept and Modes of SME De-Internationalization

The international entrepreneurship literature builds on theories such as the Uppsala internationalization process model (Johanson and Vahlne, 1977) or the born global approach (Oviatt and McDougall-Covin, 2005) to explain the international engagement of SMEs. However, the development of new patterns of SME internationalization confirms that internationalization is not necessarily a unidirectional, incremental, and ‘one-way’ process (Kuivalainen *et al.*, 2012). That is, the underpinnings of this paper rely on the non-linear internationalization debate (e.g. Schweizer and Vahlne, 2021). The paper considers de-internationalization as the process by which internationalizing firms decide to lower their international activities (Turner and Gardiner, 2007). Kafouros *et al.* (2021) highlight that de-internationalization can be either *full* or *partial*. Full-scale de-internationalization refers to the complete termination of a firm’s international engagements, whereas in partial de-internationalization, although a firm tends to

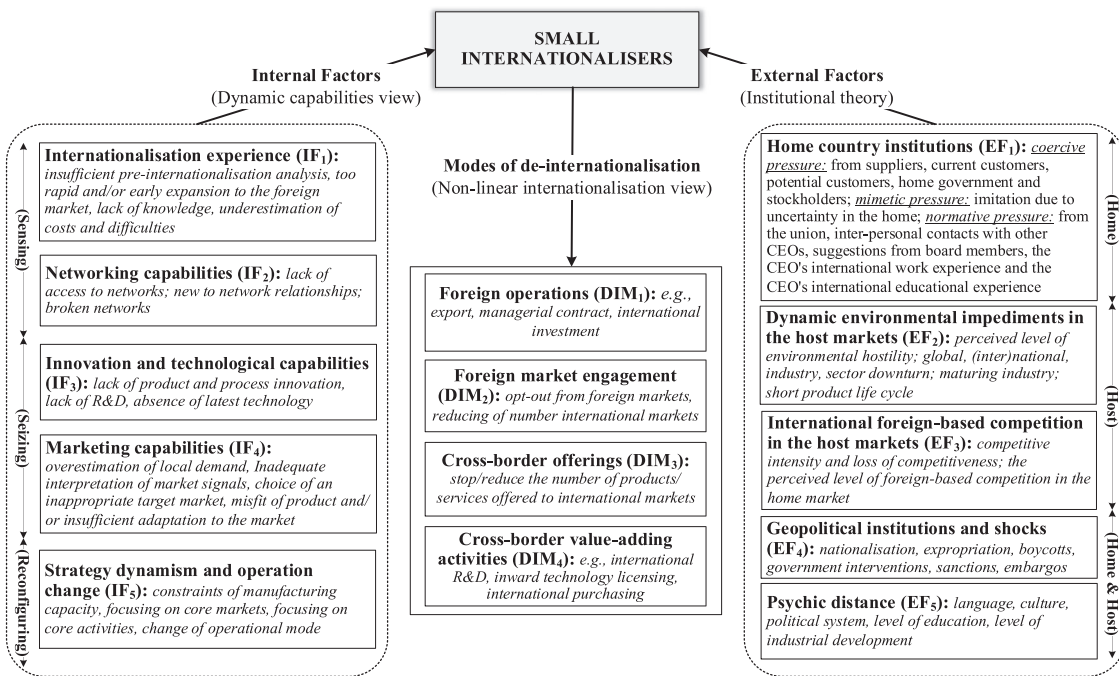


Figure 1. Internal and external factors leading towards various de-internationalization modes

reduce its commitments on current investments and operations in a given market(s), it still operates internationally.

In light of the fact that SMEs apply various strategies to internationalize (e.g. Brouthers and Nakos, 2004; Schwens *et al.*, 2018), their subsequent de-internationalization can take place in different modes (see Figure 1). Accordingly, international entrepreneurs may decide to change or downgrade the level of *foreign operations* (Jones and Coviello, 2005), such as export, managerial contract, or foreign direct investment (FDI). Moreover, Crick (2004) highlights that, depending on the level of international commitment, SMEs are likely to de-internationalize from *foreign market engagement* in either the short term or the long term. The former refers to ‘disappointed’ SMEs that have temporarily discontinued their export but plan to re-internationalize to the given market, whereas the latter refers to ‘disinterested’ SMEs that have no intention of re-entering the market they have withdrawn from in their long-term strategy. Another de-internationalization mode pertains to SMEs’ *cross-border offerings*. In this regard, firms with multiple offerings normally build their core competencies on a specific prod-

uct/service line and are less dependent on others, and hence when facing intense competition in global markets, they might decide to offer more specialized products and drop marginal offerings (Iacovone and Javorcik, 2010). Finally, there is evidence that de-internationalization can take place in the form of *cross-border value-adding activities*, such as international R&D, inward technology licensing, and international purchasing (e.g. Vrontis and Christofi, 2021), that shape their degree of internationalization (Trąpczyński, 2016).

Given that firms’ international commitment is not a linear process (and they can balance their operational modes), minimizing one operational mode does not necessarily terminate the firm’s overall international operation (Vissak and Francioni, 2013). That is, de-internationalization can be considered at two levels: the exhaustive level that explores de-internationalization in general and regardless of a firm’s initial internationalization strategy, and the subordinate level that disentangles alternative internationalization modes. However, several IFs and EFs contribute to the de-internationalization of SMEs, which will be discussed below.

*Internal Factors towards SME**De-Internationalization*

The literature builds on the wealth of resource-based view (RBV) to explain the contribution of SMEs' unique resources and organizational capabilities to their cross-border survival and growth (e.g. Hollender, Zapkau and Schwens, 2017; Mudambi and Zahra, 2007). Nevertheless, as a relatively static view, the RBV has limitations in addressing the extent to which firms reconfigure their capabilities to sustain their competitive advantage in intricate and dynamic international markets (Khan and Lew, 2018). In contrast, the dynamic capability view (DCV) highlights the ability of firms to create, adapt, and reconfigure internal capabilities to address the constantly changing external environment (Teece, Pisano and Shuen, 1997). Teece (2007) conceptualized dynamic capabilities in the three dimensions of sensing, seizing, and reconfiguring, and argued that 'the enterprise will need sensing, seizing, and transformational/reconfiguring capabilities to be simultaneously developed and applied for it to build and maintain competitive advantage' (p. 1341). When it comes to non-linear internationalization, the literature highlights that the likelihood of unintended (forced) de-internationalization is decreased by developing dynamic capabilities (Khalid and Larimo, 2012; Khan and Lew, 2018). Hence, it is legitimate to build on Teece's 'sensing-seizing-reconfiguring' dimensions to explore the internal antecedents of the de-internationalization of SMEs. The remainder of the argument discusses five inclusive categories of dynamic capabilities that constitute de-internationalization (see Figure 1).

Accordingly, the first dimension is sensing, which focuses on the capability of firms to identify and shape new opportunities in international markets. Teece (2007) stated that sensing deals with several activities, such as scanning, learning and interpretation, as well as creation, that require firms to develop various capacities. For instance, past *internationalization experience* is key for international ventures in order to reduce the risk of exiting new markets (Sandberg, Sui and Baum, 2019). Prior international business experience mitigates the risk of foreignness that encourages young internationalizer firms to penetrate similar foreign markets (Amankwah-Amoah, Boso and Antwi-Agyei, 2018). As result, SMEs with less

experience in international market expansion have a less realistic perception of the given international markets, as they underestimate the complexity of the internationalization process and enter unknown foreign markets too rapidly and/or early (Reiljan, 2004). Moreover, the disruption of business networks is another sensing factor that inevitably leads to reverse international expansion (Leppäaho, Jack and Plakoyiannaki, 2021; Meneses and Pinho, 2019). Being inside a relevant network enables small internationalizers to decide on the targeted geographic markets and entry mode, which are very important for the exploration and exploitation of international market opportunities (Johanson and Vahlne, 2009; Newman *et al.*, 2018). Therefore, limited *networking capabilities*, such as lacking access to networks, joining new and unknown network relationships, or creating broken ties, serve to hinder the ability to sense cross-border market opportunities, hence leading SMEs to de-internationalize.

The second dimension refers to seizing capabilities, which are very much about the 'seizure' and exploitation of opportunities via innovative processes. Indeed, the DCV posits that innovation capacities are internal assets that confer value to the firm to generate and retain competitive advantage across borders (Azar and Ciabuschi, 2017). It explains why international firms strive to coordinate and integrate various types of innovation capabilities, such as product, process, or marketing innovation, in order to improve their performance in cross-border activities (Oura, Zilber and Lopes, 2016). Therefore, SMEs' poor *innovation and technological capabilities*, such as a lack of proper R&D or product and process innovation, as well as an absence of the latest technology, cause them to lose their international competitive advantage, and hence lead to de-internationalization. Furthermore, small internationalizers leverage *marketing capabilities* to better understand the needs in a given market, appropriately address the preferences of customers, propose unique values, and exploit market opportunities in international markets (Buccieri, Javalgi and Cavusgil, 2020; Weerawardena *et al.*, 2015). Thus, the development of inadequate marketing capabilities, such as overestimating demands and inadequately interpreting market signals that suggest against seizing international opportunities, subsequently drive SMEs towards de-internationalization.

The last dimension is reconfiguring, which stresses the extent to which firms re-design organizational architecture, re-align resources, and adapt processes to sense and seize international opportunities in rapidly changing contexts. Accordingly, the DCV highlights that limited *strategy dynamism and operation change* reduces reconfiguring capabilities, which (among other reasons) contributes to SMEs' international disengagement. Inevitably, small ventures that are competing in global markets are open and flexible in restructuring their business model and their production and operational strategy based on the characteristics and the nature of the demands of the relevant foreign markets (Freeman, Deligonul and Cavusgil, 2013). Thus, SMEs are likely to withdraw from their foreign activities if they are limited in their manufacturing capacity, reluctant to change their operational mode, or very dependent on core activities in their home markets with minimum flexibility (Reiljan, 2004).

External Factors Impacting SME De-Internationalization

Drawing from institutional theory (North, 1991), we expect that external factors, such as an unfavourable institutional environment, will play a crucial role in SMEs' international divestment (Jaskiewicz et al., 2021). Institutional theory is a multidimensional theory that covers cultural and cognitive rules (Gohmann, 2012; Greif and Mokyr, 2017), regulative and governance systems (North, 2005), and even economic institutions (Boudreaux, Nikolaev and Klein, 2019). Stressing that 'what is appropriate in an objective sense, and thus render other actions unacceptable or even beyond consideration', Bruton, Ahlstrom and Li (2010, p. 422) highlighted that institutions are specific to the context. International entrepreneurship scholars employ institutional theory to investigate how and why the success versus failure of entrepreneurial internationalizers is associated with national and international environments (Nasra and Dacin, 2010). Indeed, the institutional environments in the home and hosting contexts affect the decision of SMEs to de-internationalize. For instance, the values, norms, and political institutions of the home country can be against internationalization (Lupton, Behnam and Jiménez, 2021). Nevertheless, from the perspective of the host country, operating in a complex foreign envi-

ronment that is characterized by turbulence and instability can distract managers from core business activities as they need to deal with environmental uncertainties and can increase the likelihood of failure (Berry, 2013). Furthermore, institutional differences between home and host countries create barriers for the survival of internationalizing firms in an institutionally incompatible host market (Li et al., 2018). As such, in the remainder of this section, we discuss five inclusive external determinants (institutions) impacting on the reverse internationalization of SMEs (see Figure 1).

According to Marano et al. (2016), the level of perceived uncertainty, lower international transaction costs, and firms' international performance are strongly associated with the environmental institutions within the domestic market. Thus, the external pressures from the *home country institutions* significantly impact entrepreneurs' decisions to expand or withdraw from international markets (Tan and Sousa, 2020). Such pressures typically originate from the three categories of coercive, mimetic, and normative pressures (Martínez-Ferrero and García-Sánchez, 2017). Cheng and Yu (2008) argued that coercive pressures are informal and formal control and force from the external environment. They also highlighted that small internationalizers might imitate competitors' activities while facing uncertainty in the home market (mimetic pressures). Finally, normative pressures refer to the circulation of social behaviours and facts that are transferred to SMEs and can cause the CEO to discontinue international activities (Li and Ding, 2013).

Regarding host country characteristics, internationalizing firms are required to sense the *dynamic environmental impediments in the host markets* carefully, such as the perceived level of environmental hostility and industrial policies (Zhao et al., 2020). When internationalizers face impediments (e.g. sector downturn) in a high-risk host country, they may behave differently, for example by employing internal and external resources and mechanisms to address these impediments, changing their entry mode, or limiting their operations and de-internationalizing from the hostile countries (Tang and Buckley, 2020). Hence, SMEs are most likely to partially or completely withdraw from a volatile market and to expand to more supportive institutions (Deng and Zhang, 2018). In addition, firms are seen to change their internationalization strategies based

on the *international foreign-based competition in the host markets* (Bowen and Wiersema, 2005). In particular, for young SMEs, the perceived higher level of foreign-based competition in host markets intensifies the complexity of their foreign activities (Freeman, Deligonul and Cavusgil, 2013), which may result in the loss of competitiveness and, eventually, in withdrawal from the given markets.

Institutional variations and differences in home and host contexts influence the de-internationalization decisions of firms (Kafouros *et al.*, 2021). In this regard, *geopolitical institutions and shocks* impact the continuation of the international operations of SMEs (Duarte Alonso and Kok, 2019; Sawant, Nachum and Panibratov, 2021). An example of severe geopolitical change in the home country is the UK's decision to withdraw from the European Union (Brexit), which imposed many challenges to SMEs' operations in European countries, for instance regulatory barriers and increased costs of operation, such as in human resources and supply chains (Brown, Liñares-Zegarra and Wilson, 2019). Conversely, restrictive measures (e.g. sanctions and embargoes), imposed by international authorities, can restrict the global activities of entrepreneurial internationalizers (Sadeghi *et al.*, 2018). For instance, the uncertainty that has occurred following international sanctions resulted in the poor performance and even failure of Iranian SMEs in foreign markets (Ahadi and Kasraie, 2020). However, restrictions have not always been imposed by international authorities or the home country: a host state(s)' interventions, such as tariff barriers to support domestic industry, or other geopolitical shocks such as nationalization and expropriation, can lead to divestment from a given foreign market (e.g. Orazgaliyev, 2018).

Finally, *psychic distance*, known as a set of 'factors preventing or disturbing the flow of information between firm and market' (Johanson and Wiedersheim-Paul, 1975, p. 308), can drive international entrepreneurs to discontinue their activities in a foreign market (Safari and Chetty, 2019). The literature employs this concept to explain the geographical trends of international expansion, whereby internationalizers initially expand to psychic similar markets and proceed farther while gaining more information about operations in the new markets (Nordman and Tolstoy, 2014). This is particularly important for small internationalizers from countries with restrictions and volatility (e.g.

Iranian SMEs), because operating in psychically distant markets escalates the risk of failure and impedes cross-border expansion (Puthusserry *et al.*, 2021). That is, the targeted markets for such SMEs are often neighbouring countries and psychically close markets in order to reduce the risk of failure.

Figure 1 depicts our research framework by summarizing the IFs and EFs that drive SMEs towards de-internationalization.

Methodology

Method and Data Collection

To approach the research questions, we employed a hybrid multilayer decision-making mathematical model. These hybrid approaches are popular in business and management, and their applications have been reviewed in the recent literature (e.g. Carayannis, Grigoroudis and Wurth, 2021). In this regard, to address the first research question (RQ₁: What are the cause versus effect nature and the interrelationships among identified IFs and EFs pertinent to the de-internationalization of SMEs?), while dealing with uncertainty, intangible factors, and experts' opinions, limited options are possible in decision-making models. In this research, we have tried to use all possible models in an integrated framework to provide a reliable, robust, and suitable answer to the first research question. Consequently, a multilayer decision-making approach has been employed, which includes a decision-making trial and evaluation laboratory (DEMATEL), interpretive structural modelling (ISM), and an analytical network process (ANP). Furthermore, to consider the uncertainty of exiting a market in the multilayer decision-making stage, intuitionistic fuzzy (IFS) numbers and operators were applied.

For the second research question (RQ₂: What are the unique compositions of IFs and EFs contributing towards different modes of SME de-internationalization?), we designed and applied a novel mathematical model according to the results that emanated from the multilayer decision-making stage. This model is based on integer programming (IP) to extract the possible combinations of the factors that lead to different modes of de-internationalization. Here, to find the best combination and respond to the allocation dilemma, the only possible and applicable approach is to

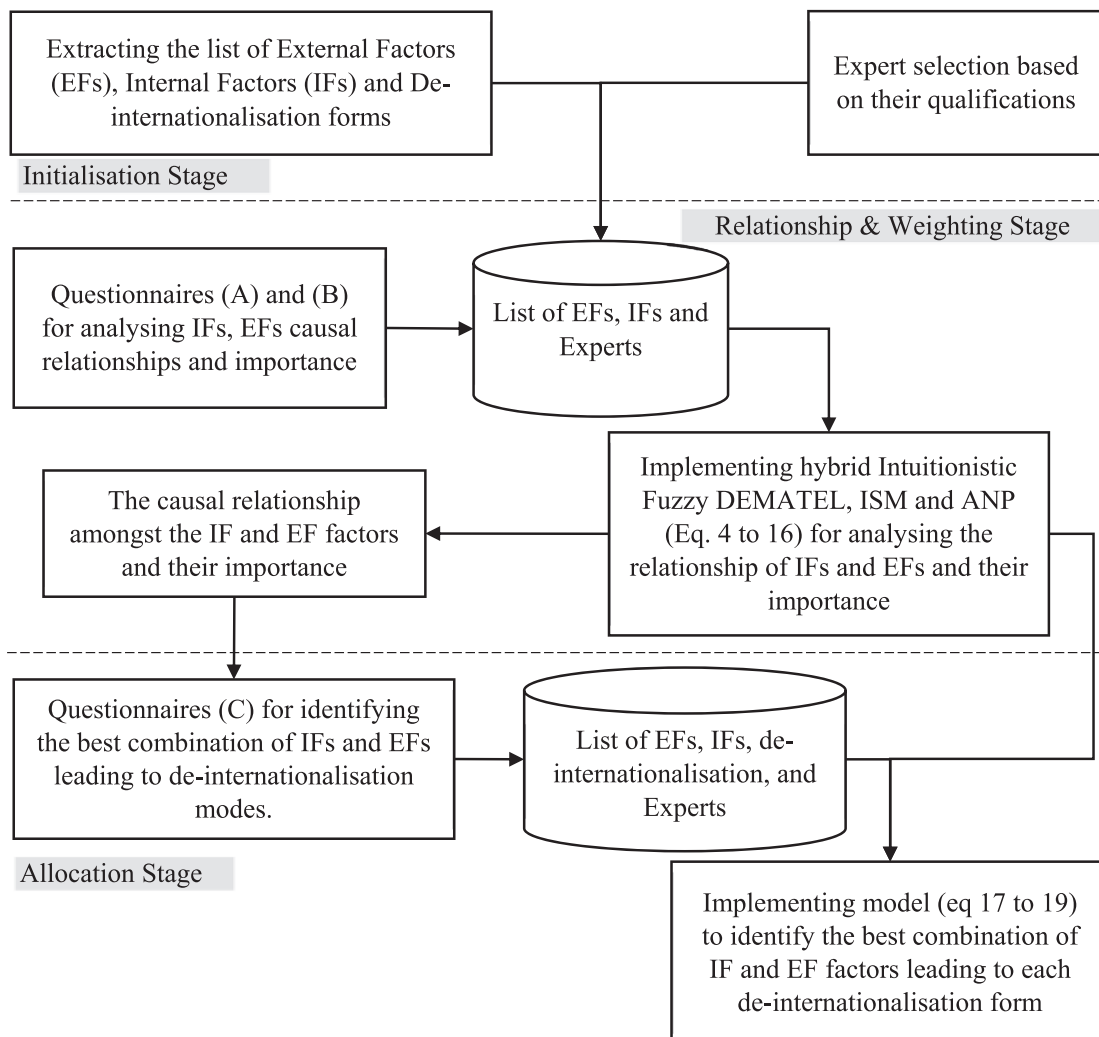


Figure 2. Summary of the method

design a novel allocation model based on zero or one linear programming (ZOLP). Figure 2 depicts the stages of the research methodology.

After extracting the IFs, EFs and de-internationalization factors (DFs) (Figure 1), owing to limited access to real-world data in this area alongside the qualitative nature of identified factors, statistics-based methods (e.g. structural equational modelling) fail to analyse the relationship amongst the factors. Thus, we focused on multi-criteria decision-making (MCDM) models to overcome this issue (Jafari-Sadeghi *et al.*, 2021b). According to MCDM methods, whilst the types of criteria are qualitative and insufficient information exists, experts' opinions are reliable sources for analysing the problem

(Hashemi *et al.*, 2021). The sample size and respondent numbers are sources of debate amongst decision-making and operations research experts (Kasanen *et al.*, 2000). In a nutshell, there is no single answer for this issue, and based on the type and scope of the research, the number of criteria, the complexity of the problem, and the required sample size might change (Saaty and Ergu, 2015). When dealing with intangible and qualitative indicators, some researchers believe that, owing to critical enterprise decisions, opinions from a small group of key executives based on their experience and intuition are sufficient for generating reliable and useful results (Cheng and Li, 2001). Consequently, since 2000, many scholars have applied decision-making

approaches to their research with few participants [e.g. two to four experts (Du and Liu and Liu, 2022; Yazidi *et al.*, 2022), five experts (Shih, 2008), or six experts (Kasanen *et al.*, 2000)]. In contrast to statistical analysis, and while dealing with uncertainty and intangible indicators simultaneously, decision-making approaches are beneficial in areas such as entrepreneurship and international business (Carayannis, Grigoroudis and Wurth, 2021). Some scholars believe that between 2 and 10 experts are sufficient, as more than 10 experts would result in inconsistency and disagreement, as they are all executive and eligible experts in their field (e.g. Tarei, Thakkar and Nag, 2018). However, others believe that between 3 and 15 experts would provide reliable, diverse, and inclusive results (e.g. Hashemi *et al.*, 2021; Jafari-Sadeghi *et al.*, 2022a). Saaty and Ergu (2015) stated that there are 16 indicators to check the trustworthiness of a decision-making method and results that are based on a few participants. These indicators include a logical, mathematical procedure and a comprehensive structure consisting of merit substructures, etc.

Consequently, in the context of this research, we employed a purposive sampling strategy (Funk *et al.*, 2021). The initial pool of participants included 53 cases that were filtered against various criteria to ensure that they were the best fit for the scope of this research. In this regard, the first set of criteria looked into the experts' qualifications to select participants that (i) were a minimum of 30 years old, (ii) had 5 years' experience, and (iii) had a bachelor's degree. Also, given that the focus is on entrepreneurial SMEs, they (iv) should be in a managerial position in the international SMEs that they co-/founded (Crovini, Santoro and Ossola, 2020). Most importantly, they (v) must have had experience of being involved in all four modes of de-internationalization (either in their current business or in their past). As a result, we identified a list of 21 potential candidates, of which 15 agreed to participate in this research. This is one of the highest possible and recommended numbers of participants in such research to avoid technical issues and to follow all 16 trustworthiness indicators mentioned by Saaty and Ergu (2015). The experts' profiles and their qualifications for participating in this research are provided in Table 1.

The experts participated in this research in three stages that required completing a specific questionnaire (A, B, and C). Owing to the COVID-19

pandemic, these questionnaires were sent to the experts via email in January 2021 and received back in March 2021. Before sending each questionnaire, one of the authors met briefly with the experts in a one-hour online session to introduce the research objectives and the structure of the questionnaires, and to explain how to complete them. For each questionnaire, the experts spent, on average, more than three hours completing it.

Analysis

To address RQ₁, questionnaires A and B were initially sent to the experts. These questionnaires led to the identification of the importance of and the cause–effect relationship amongst the IFs and also the EFs. Thus, the structure and the objectives of these two questionnaires were to analyse the impact of and the relationship amongst the IFs (EFs) to determine the impact of each internal (or external) factor on others according to the linguistic terms of MCDM method on a nine-point Likert scale.

To consider the uncertainty of the environment in this research, a nine-point Likert scale, based on intuitionistic fuzzy numbers, was used to transfer each expert's answer to each question to a measurable number. That is, the experts only used the linguistic terms to complete the questionnaires, but the researchers transferred each linguistic term to a triangular intuitionistic fuzzy number (TIFN) according to Tables 1,2.

The questionnaires were sent to the experts, and, after the data had been collected, the multilayer hybrid intuitionistic fuzzy DEMATEL, ISM and ANP methods (IFDANP) were implemented in the following steps, once for internal and once for external factors. In Appendix A, the required definitions and operators of TIFN are presented, and in Appendix B, the intuitionistic fuzzy DEMATEL and ANP are scrutinized (adopted from Ocampo and Yamagishi, 2020). This process was implemented on the completed questionnaires gathered from international entrepreneurs of SMEs to illustrate the causal relationship, the conceptual model, and the importance of internal and external factors. Note that AP_{*i*} denotes formula *i* in the appendix section. The aggregated matrices of IFs and EFs from TIFNs resulted from implementing equations (AP₄) to (AP₆). Then, by implementing equations (AP₇) to (AP₉), the normalized

Table 1. Expert profiles and firm demographics

Expert characteristics					Firm demographics					
ID	Gender	Age	Education	Position	Experience (yr)	Size	Age	% int. income	Industry*	Market focus
I#01	M	50s	B	Sales manager	23	128	18	34%	PC	International (Latin America)
I#02	M	40s	PhD	Co-founder	13	39	8	12%	CE	Regional (Iraq & Syria)
I#03	F	30s	MSc	Founder	6	31	6	23%	FSC	International (Latin America)
I#04	M	30s	PMSc	CEO	8	48	5	36%	CE	Regional (Syria)
I#05	F	40s	PhD	Board member	12	89	9	68%	FSC	Global
I#06	M	60s	UBSc	Founder	32	225	7	42%	PC	Global
I#07	F	50s	MSc	Founder	25	33	13	25%	FSC	International (Eastern Asian & Africa)
I#08	M	40s	B	Sales manager	14	15	10	25%	FSC	International (Latin America)
I#09	M	50s	DBA	CEO	21	55	12	18%	CE	Regional (Iraq)
I#10	M	30s	MBA	Founder	9	204	8	30%	PC	International (Central Asian)
I#11	M	40s	MSc	Board member	12	118	15	40%	PC	International (Latin America)
I#12	F	30s	DBA	CEO	6	75	18	15%	CE	Regional (Lebanon & Syria)
I#13	F	40s	PhD	Co-founder	10	85	20	25%	PC	International (Africa)
I#14	F	30s	BSc	Founder	8	50	10	55%	FSC	International (Middle East & Russia)
I#15	M	60s	BSc	Sales manager	40	46	9	16%	CE	Regional (Lebanon)

* FISC, food and supply chain; CE, construction and energy; PC, petrochemical.

direct-indirect matrices and total relationship matrices for IFs and EFs emerged. After applying equations (AP₁₀) to (AP₁₃), the causes and effects were determined, and the initial network diagrams have been designed. Moreover, to measure the importance (ranking) of each factor, we used the ANP method by creating a supermatrix and implementing equations (AP₁₄) to (AP₁₆). Note that each supermatrix was powered (multiplied) three times for IFs and EFs.

The final phase of this research attempts to address RQ₂ by exploring the best combination of IFs and EFs leading to each de-internationalization mode. With this aim, a multi-objective zero or one linear programming model (MZOLP) was designed and applied. In this regard, the following steps were considered (Hajiagha *et al.*, 2021).

First, a new questionnaire (C) was sent to experts to determine the impact of each IF or EF on each de-internationalization mode. A nine-point Likert scale, similar to that in Table 2, was used to determine the impact of each factor on each mode. Moreover, in case where an IF or EF does not lead to any de-internationalization mode, the international entrepreneurs could use the 'no impact' option with the value of zero.

Then, the linguistic terms of the questionnaires were transferred to TIFNs according to Table 2, and for 'no impact' responses, the value of zero was used. Note that IF_{ij}^k determines the impact of the ith IF on the jth de-internationalization mode from the kth expert opinion. Furthermore, EF_{ij}^k determines the impact of the ith EF on the jth de-internationalization mode from the kth expert opinion.

Next, the expected value (EV) of each TIFN was measured via equation (AP₄), and then the average values were calculated through equation (1). The average value for the impacts of IFs was noted as IF_i^j, and for EFs as EF_i^j, representing the average impact of the ith factor on the jth de-internationalization mode:

$$\begin{aligned} IF_i^j &= \frac{1}{L} \sum_{k=1}^L IF_{ij}^k \forall_{i \in m, j \in n} \\ EF_i^j &= \frac{1}{L} \sum_{k=1}^L EF_{ij}^k \forall_{i \in m, j \in n}. \end{aligned} \quad (1)$$

Then, the two following objective functions were designed for this research. Note that Z₁ and Z₂ present the first and second objective functions to maximize the possibility of each de-internationalization mode based on the impact of

Table 2. Linguistic terms used in the questionnaire and equivalent intuitionistic fuzzy values according to Keshavarzfar and Makui (2015), developed by the authors

Impact of factors (i) on factor (j)	Code	Triangular intuitionistic fuzzy numbers (TIFNs)	
		Membership	Non-membership
Very very high influence	VVH	(7.5,8,8)	(7,8,9)
Very high influence	VH	(6.5,7,8)	(6,7,8)
High influence	H	(5.5,6,7)	(5,6,7)
Nearly high influence	NH	(4.5,5,6)	(4,5,6)
Neither high nor low influence	NHNL	(3.5,4,5)	(3,4,5)
Nearly low influence	NL	(2.5,3,4)	(2,3,4)
Low influence	L	(2.5,2.5,3)	(1.5,2.5,3)
Very low influence	VL	(1.5,2,2)	(1,2,2)
Very very low influence	VVL	(1,1,1)	(1,1,1)

IFs and EFs, respectively, where XIF and XEF represent zero or one (binary) decision variables to select (1) or not to select (0) an IF and EF leading to a specific de-internationalization mode, respectively.

$$\begin{aligned} \text{Max}Z_1 &= \sum_{IFs} XIF_i \times IF_i^j \forall j \in n \\ \text{Max}Z_2 &= \sum_{EFs} XEF_i \times EF_i^j \forall j \in n. \end{aligned} \quad (2)$$

Based on the causal relationship between the IFs and EFs emanating from the hybrid IF-DEMATEL-ISM, the constraints of the mathematical model were extracted. These constraints are not constant, and alternate based on the results of Stage 2. Thus, two groups of constraints, including IF-based and EF-based relationships, should be considered as the main constraints. As a result, the general form of the MZOLP model for this section is presented in equation (3), which can be solved by any solving software, including LINGO, etc.

$$\begin{aligned} \text{Max}Z_1 &= \sum_{IFs} XIF_i \times IF_i^j \forall j \in n \\ \text{Max}Z_2 &= \sum_{EFs} XEF_i \times EF_i^j \forall j \in n \end{aligned} \quad (3)$$

s.t. (subject to)

EF-based relationships constraints

IF-based relationships constraints

$$XIF_i \& XEF_i \in \{0, 1\}.$$

Given the constraints resulting from the causal relationships amongst the IFs and EFs, alongside model (3), the best composition of these factors leading to each de-internationalization mode is achievable. Here, we focused on the unique composition of factors that result in a specific de-internationalization mode with the highest score/possibility. These scores were gathered via

the third questionnaire (C). Hence, the EV of each response and the average of the responses to each factor leading to the de-internationalization mode emanated from equations (AP₄) to (AP₆). Then, the values are used as IF_i^j and EF_i^j in the objective function Z₁ and Z₂, respectively, in model (3). Subsequently, the models are solved via LINGO 17.0 software to identify the most appropriate composition of factors. We solved the models several times to identify the optimal composition of factors. After solving the above model for all possible conditions of (f), the most appropriate compositions of IFs and EFs for each de-internationalization mode were calculated.

Findings and Discussion

We report the findings of this research at two distinctive levels. At the exhaustive level, this research strives to address the first research question (RQ₁). In this regard, the importance and ranking of the identified IFs and EFs that lead to the de-internationalization of SMEs are presented in Table 3. IF₄ is found to have the highest rank among the internal factors, which confirms that a lack of marketing capabilities is the most promising internal determinant (23% importance) for SMEs to reduce their internationalization, which is followed by inappropriate internationalization experience (IF₅ with 22% contribution). Among the external factors, EF₂ and EF₁ have the highest importance (24%).

In Table 3, the threshold values were calculated with $(\bar{t} = \frac{1}{n^2} \sum t_{ij})$, and they were determined as 0.896 and 0.781, respectively, for IF and EF matrices. As these values are above 70%, we

Table 3. Total relationship matrix (TRM), and importance and ranking of internal factors (IFs) and external factors (EFs)

TRM	IF ₁	IF ₂	IF ₃	IF ₄	IF ₅	Importance	Rank
IF ₁	1.056	0.977	0.617	1.177	1.044	22%	2
IF ₂	1.154	0.831	0.805	1.209	1.021	20%	3
IF ₃	0.962	0.836	0.663	0.833	0.900	15%	4
IF ₄	1.043	0.952	0.703	1.137	0.791	23%	1
IF ₅	0.688	0.781	0.551	0.895	0.772	20%	3
TRM	EF ₁	EF ₂	EF ₃	EF ₄	EF ₅	Importance	Rank
EF ₁	0.917	0.914	0.863	0.583	0.398	24%	1
EF ₂	1.133	1.123	1.124	0.580	0.606	24%	1
EF ₃	0.856	0.667	0.816	0.528	0.470	23%	2
EF ₄	1.068	1.061	0.821	0.691	0.573	16%	3
EF ₅	0.750	0.934	0.945	0.595	0.500	13%	4

considered these two values for determining the significant relationships amongst IFs and EFs, and highlight those important relationships in red. After applying equations (AP₁₀) to (AP₁₃), the causes and effects were determined, and the initial network diagrams are illustrated in Figure 3(a) and (b).

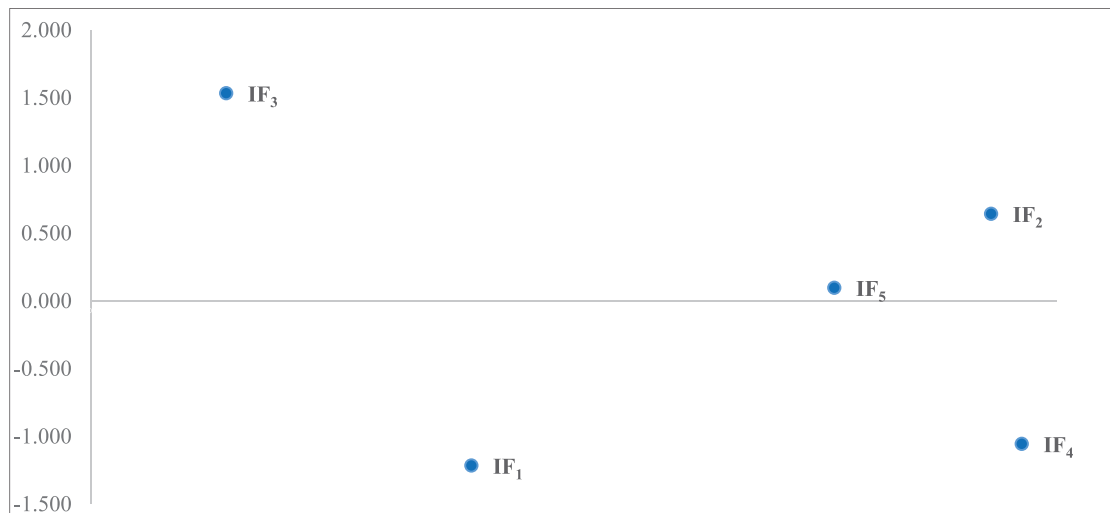
As depicted in Figure 3(a) and (b), the causal factors can be found above the horizontal line (positive E_i values), whereas the effect factors are below it (negative E_i values). Accordingly, the analysis of internals (Figure 3a) highlights that IF₂, IF₃ and IF₅ are causal factors, and that IF₁ and IF₄ are effect factors. In a similar vein, the synthesis of externals (Figure 3b) proposes EF₄ and EF₅ as causes and EF₁, EF₂ and EF₃ as effect factors. In the context of this research, causality refers to root contributors whose absence may prevent or reduce the severity of other, whereas effectuality stresses contributors whose occurrence directly or indirectly relies on causal factors. Indeed, the cause–effect distinction is crucial to explain the extent to which various factors influence each other to drive SMEs towards de-internationalization.

With this in mind, building on the cause–effect nature and the importance of IFs and EFs, we took advantage of the ISM approach to explore their interrelationship and propose conceptual models. Figures 4 and 5 present the causal relationships among IFs and EFs, respectively.

The conceptual model of IFs (Figure 4) highlights that IF₃, as the seizing dimension of the DCV, is a root (main cause) factor, which directly and indirectly impacts all other dimensions of SMEs' dynamic capabilities. Considering that entrepreneurial internationalizers suffer from smallness, foreignness, and newness (Hagen, Zucchella and Ghauri, 2019), they leverage inno-

vative initiatives to provide offerings with quality–price advantages and improve their performance in cross-border activities (Oura, Zilber and Lopes, 2016). Although for SMEs innovative activities are often exogenous and imitate those of larger companies (Nassimbeni, 2001), Rialp-Criado and Komochkova (2017) argued that they assist SMEs in better aligning their other capabilities with evolving international markets. Hence, as confirmed by our findings, SMEs' poor dynamic capabilities and subsequent international failure are most likely to originate from their lack of improvement in workflow efficiency (process innovation) or from not developing new offerings for foreign markets (product innovation) (Freixanet, Monreal and Sánchez-Marin, 2020). Also, our findings suggest that among SMEs' dynamic capabilities, broken international networks (IF₂) and poor strategy dynamism (IF₅) resulting from poor technological innovation can end with inappropriate marketing decisions (IF₄) and negative internationalization experience (IF₁). The central function of IF₂ highlights that having a proper set of networks helps in sensing international opportunities, which avoids the cross-border failure of small internationalizers. The lack of such business ties can hinder SMEs from gaining market knowledge and network experience, which are crucial for the customization of both operational (IF₅) and marketing (IF₄) strategies for a given market. This deters them from preparing adequately to enter an unknown market and ensures a negative experience (IF₁).

When it comes to external factors, our findings (Figure 5) suggest that EF₅ can cause not only EF₃ but also EF₁. This could be due to the huge differences between the two contexts of home (Iran) and host countries, where the market/industry



(a) Cause and effect nature of IFs



(b) Cause and effect nature of EFs

Figure 3. (a) Cause and effect nature of internal factors. (b) Cause and effect nature of external factors [Colour figure can be viewed at wileyonlinelibrary.com]

structure, demographic, and even political systems are deemed to be extensively heterogeneous. Although multinationals can better handle such levels of uncertainty, SMEs can mitigate pressures from home and host countries (particularly in their first internationalization experience) by penetrating markets that are psychically more similar (Nordman and Tolstoy, 2014). Also, Figure 5 highlights that EF₄ is highly influential in SMEs'

failure, as it can increase either EF₁ or EF₂. That is, geopolitical disintegration at the regional and global level consequently forces fragile SMEs to decrease their foreign activities.

At the subordinate level, the findings of this research address the second research question (RQ₂). Accordingly, Figure 6 depicts the unique compositions of IFs and EFs contributing to different modes of SME de-internationalization.

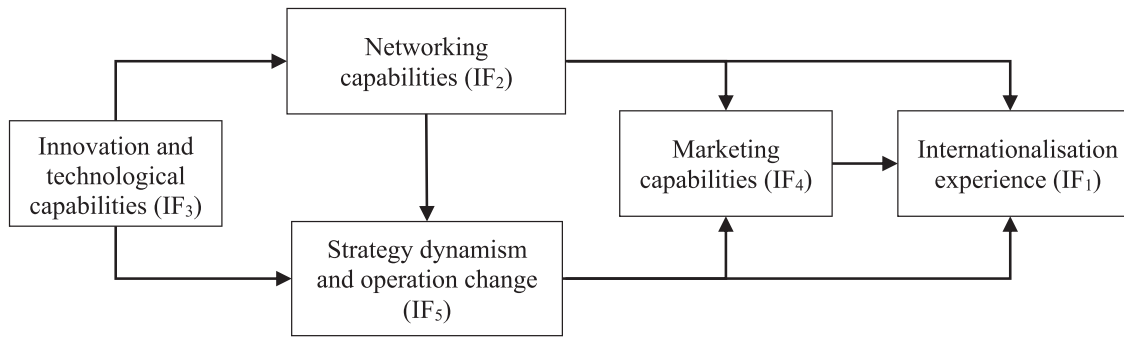


Figure 4. The causal relationship of internal factors leading to de-internationalization

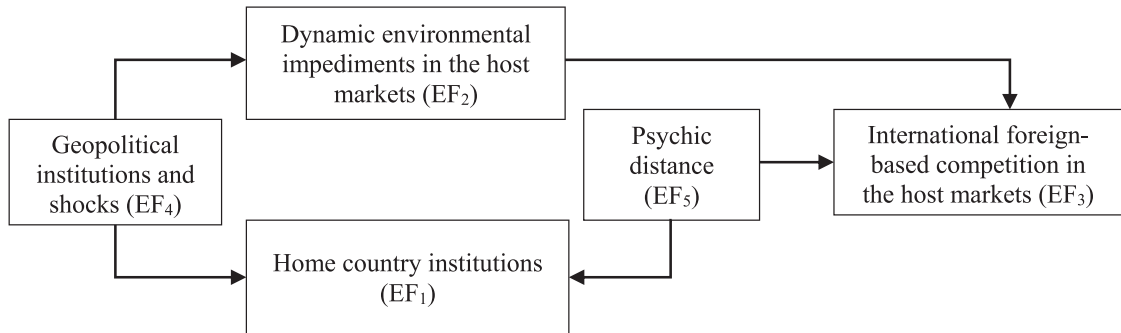


Figure 5. The causal relationship of external factors leading to de-internationalization

As can be seen in Figure 6, each of the subordinate modes of SME de-internationalization is driven by a unique composition of IFs and EFs. Each composition includes two types of factors, namely reducing and terminating factors. The former consists of a total of four factors (two IFs + two EFs) that most likely drive SMEs to mitigate each mode of international commitment (mode-specific partial de-internationalization). This is followed by the identification of a fifth factor (terminating factor) that, if added to reducing factors, most likely forces internationalizing SMEs to completely cut a particular mode of cross-border activity (mode-specific full de-internationalization). In this regard, our findings propose that IF₂, IF₃, EF₄, and EF₅ are reducing factors and EF₁ is a terminating factor, which drives SMEs towards partial and full de-internationalization of their cross-border operations (DIM₁). Also, we found that IF₂, IF₄, EF₂, and EF₄ are reducing factors while EF₅ is a terminating factor towards SMEs' de-internationalization of foreign market engagement (DIM₂). Concerning international offerings (DIM₃), our analysis reveals that the compo-

sition of IF₂, IF₅, EF₂, and EF₄ conforms to reducing factors and IF₄ is a terminating factor. Finally, our findings reveal that SMEs reduce their cross-border value-adding activities (DIM₄) when driven by IF₃, IF₅, EF₄, and EF₅. Also, IF₁ is found to be a terminating factor, leading to the full de-internationalization of value-adding activities.

A comparison of the extents to which each factor drives SMEs towards each of the four de-internationalization modes (partial) suggests some similarities. Although the terminating factors are different, the findings highlight that there are three similar reducing factors for DIM₁ and DIM₄. However, their difference lies in the fact that broken relationships with local stakeholders (IF₂) lead to the reduction of cross-border operations (DIM₁), whereas poor strategy dynamism, constraints in manufacturing capacity, and bias in the core offerings (IF₂) lead to a decrease of foreign value-adding activities (DIM₄). In a similar vein, there is an overlap between factors towards partial DIM₂ and DIM₃, with an exception in which IF₂ contributes to DIM₂ whereas IF₅ leads to DIM₃. Finally, EF₄ has been found to impact all four de-internationalization modes. This could be due to

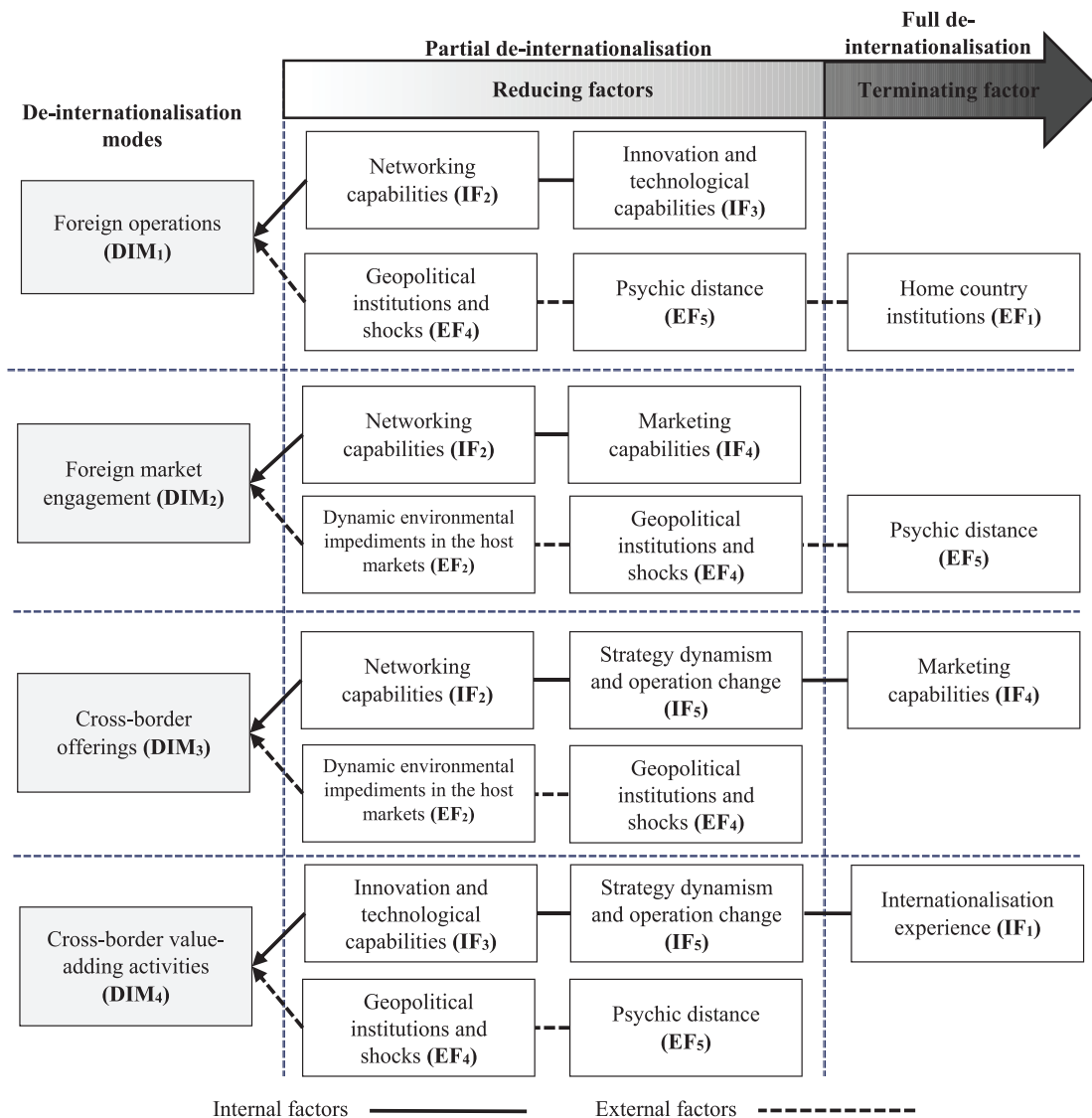


Figure 6. Composition of internal and external factors leading to de-internationalization modes [Colour figure can be viewed at wileyonlinelibrary.com]

the geopolitical context of this research, in that Iran has struggled hard with various political interventions that increase the uncertainty of the business ventures of Iranian SMEs, whether within or outside their national boundaries. This is in line with Jafari-Sadeghi's (2021) argument that geopolitical challenges are Iranian context-specific factors that raise the risk of doing business in the country for several reasons, such as the threat of dual-use violations, lack of proper recordkeeping, etc.

Theoretical Contributions

Our study joins the pioneering research that investigates what drives entrepreneurial internationalizers to undertake a non-linear internationalization strategy. In contrast to the scant research that has mainly considered the de-internationalization of SMEs simply from the export perspective (e.g. Crick et al., 2020), this paper builds on two distinct levels, the exhaustive and subordinate levels, to further our theoretical understanding of the extent to which SMEs de-internationalize differently. We

assert that SMEs' different internationalization strategies, such as international R&D (Davicik et al., 2021) and FDI (Cho and Lee, 2020), lead to the emergence of new de-internationalization modes. As such, in addition to the exhaustive level that considers SME de-internationalization in general terms, this study proposes four subordinate modes, namely the de-internationalization of foreign operations, foreign market engagement, cross-border offerings, and cross-border value-adding activities. Furthermore, we argue that de-internationalization does not take place in isolation; rather, SMEs decide to de-internationalize for several reasons, for example their lack of internationalization readiness or an unwelcoming host market, etc. Hence, building on Morgan's (1997) seminal classification, our research complements this literature by unearthing five internal and five external factors (antecedents) of SME de-internationalization.

Notably, the findings of this research nuance prior debate in the literature around the dynamic capabilities view. We highlight that Tecce's sensing-seizing-reconfiguring classification does not necessarily follow a sequential order. Rather, the unique internal model of this research proposes that IFs can be broken down into various dynamic capabilities, which are interdependent. Accordingly, a lack of or weakness in sensing (IF₁, IF₂), seizing (IF₃, IF₄) and reconfiguring (IF₅) capabilities reveals non-linear relationships that push small internationalizers to decide to decrease their cross-border activities. In this vein, Iran has been the target of various international sanctions (particularly those related to importing dual-use items) that limited the ability of local SMEs to take advantage of the most recent technologies. Thus, the lack of technological capabilities serves against seizing foreign market opportunities (Adomako, Amankwah-Amoah and Danquah, 2022; Zahra, 2020) by driving the shortcomings in other dimensions of SMEs' dynamic capabilities, and hence this lack has a crucial impact on SMEs' de-internationalization.

Correspondingly, given that SMEs are vulnerable to institutional pressures (Boddewyn and Peng, 2021; Deng, Delios and Peng, 2020), this paper also advances research regarding the role of institutional variations in de-internationalization decisions. In fact, we have endeavoured to have a more balanced view of the institutional environment by providing an external model that con-

siders the institutional dynamics of home and host countries as well as the role of distance and supranational institutions. Indeed, our findings on the institutionally volatile context of Iranian SMEs emphasize the significant role of international geopolitics (EF₄) that can alter the institutional environment of both home and host countries. This underlines the fact that international restrictions (e.g. sanctions) can increase the perceived level of environmental hostility in the host or home country and increase the likelihood of de-internationalization. That is, the emerging literature (e.g. Jafari-Sadeghi, 2021) highlights the concept of export compliance, which supports firms against the risk of geopolitical challenges.

At the subordinate level, a promising contribution proposes an integrative framework that maps unique compositions of the most influential IFs and EFs, leading to each of the four de-internationalization modes. Given that minimizing one operational mode does not necessarily impact the firms' other international operations (Vissak and Francioni, 2013), subordinate-level de-internationalization can be 'mode-specific'. On the other hand, inspired by the Uppsala internationalization model (Johanson and Vahlne, 2009), our mapping framework emphasizes that the de-internationalization of each mode follows an incremental process. In the initial stages of the de-internationalization process, several IFs and EFs drive firms to reduce their foreign activities (mode-specific partial de-internationalization). Subsequently, as such factors emerge more strongly, firms are more likely to terminate their cross-border engagements (mode-specific full de-internationalization). Hence, our framework advances non-linear internationalization debates by identifying two types of de-internationalization factors, namely 'reducing' and 'terminating' factors. The former refers to the extent to which factors lead SMEs towards reducing their international activities (partial de-internationalization), whereas the latter deals with complementary factors that, if added to reducing factors, cause full de-internationalization. As such, this study disentangles a unique set of five IFs and EFs, including four reducing factors, along with a terminating factor for each de-internationalization mode, which can assist in reconceptualizing the series of non-linear internationalization debates and SMEs' potential re-internationalization.

Practical Implications

The exhaustive-level findings of this research shed light on the significant function of innovative initiatives that impact the development of other capabilities. Hence, investment in R&D can provide a longer-term solution for international entrepreneurs to avoid poor cross-border performance. However, they can take advantage of the latest technologies to better integrate with the global business environment and provide more novel offerings, thereby decreasing the likelihood of being beaten by well-established competitors. In contrast, our findings warn SME decision-makers that lack of innovation can be manifested in providing disadvantageous offerings, improperly reacting to market signals, developing broken ties with foreign networks, and subsequently having negative international experiences.

Furthermore, our subordinate-level findings emphasize that the poor performance of firms is not the only reason that they de-internationalize; rather, there are several factors that originate from the external environment but that cause international failure (reflecting the composition of reducing and terminating factors). We highlight that geopolitical challenges and the expansion to psychically different markets are the main factors leading towards de-internationalization. Therefore, we suggest that first-time internationalizers expand to markets with characteristics that are close to those of their home country, which reduces the risk of unknown-market surprises. Moreover, our findings posit that geopolitical conflicts at the national and international levels are extremely important because they can terminate the operation of SMEs in a given market. Thus, international entrepreneurs need to constantly monitor the geopolitical conditions of the targeted markets before and during their operations.

Limitations and Future Studies

In conducting this research, we experienced several limitations that future studies can address. To start with, the scope of this paper was limited to four subordinate de-internationalization modes. As such, given that SMEs use various internationalization strategies, we call on scholars to expand our findings on other dimensions of non-linear international expansion strategy, such

as decreasing one internationalization mode in order to switch to other internationalization modes (e.g. de-export to switch to FDI vice versa). On the other hand, this research was limited to the de-internationalization decision of SMEs, regardless of their overall performance. As such, further investigation is required to examine their post-de-internationalization performance. Moreover, non-linear internationalization debate argues that firms are likely to re-engage in foreign activities (Yu, Fletcher and Buck, 2022). Therefore, future studies could investigate the pertinent internal and external drivers of SMEs' subsequent re-internationalization, which has been overlooked in this research.

Furthermore, inquiries regarding the internal analysis have been limited to dynamic capabilities. However, future studies could explore SME de-internationalization from different perspectives. For example, firm-level studies could explore the role of knowledge management and inter-organizational arrangements, whereas individual-level research could look at the contribution of managerial competencies and decision-making processes. Similarly, an external synthesis could build on our institutional view to compare and contrast the extent to which SMEs from different institutional contexts decide to de-internationalize. We also call for more research on the dark side of the evolutionary wave of digital transformation that impacts SMEs' international performance and can push them back from the foreign markets.

Moreover, given the expert-based nature of this research, our participants were limited to entrepreneurs, managers, or main decision-makers who had prior experience in the de-internationalization of their small firms. This ensured the accuracy of responses by employing the most knowledgeable person in the firm (Sadeghi *et al.*, 2019). In this regard, experts were asked to refer to their de-internationalization experience and reflect on their thoughts (self-reporting) in specialized questionnaires, which increases the risk of self-biased responses. Therefore, future studies could recruit statistical methods to verify the findings of the current research with larger samples. Regarding the context of the research, the focus of the current paper was limited to de-internationalizing SMEs in Iran, which represents emerging economies. Considering that factors can be influential in some contexts but not in others

(Jafari-Sadeghi *et al.*, 2020), it is legitimate to call for further investigation of whether the findings of this research can be expanded to other emerging markets.

Conclusion

To address the issue of the scant amount of research on so-called entrepreneurial de-internationalization, this paper has explored and evaluated the extent to which SMEs decrease or terminate their cross-border commitments. At the exhaustive level, the review of the literature suggested four subordinate de-internationalization modes for SMEs. Moreover, we took advantage of the dynamic capabilities view and institutional theory to identify five inclusive internal factors as well as five external factors that cause SMEs to de-internationalize. Hence, we approached 15 international entrepreneurs to employ a hybrid decision-making mathematical model. Our findings at the exhaustive level identified the causal interrelationship amongst IFs and EFs. In addition, our subordinate-level analysis explored a unique composition of reducing and terminating factors leading to each mode of partial and full de-internationalization.

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