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Turning decision-making logic into international performance among SMEs: Revealing the importance of international entrepreneurial marketing

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ABSTRACT

The international business field lacks research on how decision-making logics lead to SMEs' international performance and what mechanisms are involved. This study examines the relationship between decision-making logics (effectuation and causation) and international performance of SMEs and contributes by highlighting the crucial role of international entrepreneurial marketing. We used structural equation partial least squares in the empirical study with a cross-country sample of 489 internationalizing SMEs from China, Finland, and New Zealand. The results reveal that international entrepreneurial marketing fully mediates the positive effectuation–performance relationship and the mediation effect is stronger among SMEs from developing markets and offering services. We show that international entrepreneurial marketing partially mediates the positive causation–performance relationship and the mediation effect is stronger among SMEs from developed markets and among those that offer products.

1. 1 Introduction

To cope with uncertainties associated with international market development, entrepreneurs of small and medium-sized enterprises (SMEs) can opt for different decision-making logics in their international business endeavors (Deligianni, 2023; Karami et al., 2020; Kusi et al., 2022; Tolstoy et al., 2021). Understanding SMEs' decision-making in international entrepreneurship is an important research topic (Jafari-Sadeghi & Amoozad Mahdiraji, 2023), which can provide fruitful academic and managerial insights to enhance firm performance (Chetty et al., 2024; Merín-Rodríguez et al., 2025). Effectuation theory has provided an important theoretical framework for understanding how entrepreneurs make decisions and take action in uncertain environments (Sarasvathy, 2001; Sarasvathy, 2008). Effectual decision-making logic is means-oriented, considers affordable loss, utilizes partnership, leverages unexpected contingencies, and frames the future as shaped and creative; whereas causal decision-making logic is goal-oriented, considers expected returns, applies competitive analysis, avoids unexpected contingencies, and frames the future as predictive (Dew et al., 2009; Read et al., 2011; Sarasvathy, 2001; Sarasvathy, 2008). These two

decision-making logics have received increasing interest in international entrepreneurship research (e.g., Andersson, 2011; Galkina & Chetty, 2015; Sarasvathy, Kumar, York, & Bhagavatula, 2014; Tolstoy et al., 2021).

The ability to unpack the international performance implications of effectual and causal decision-making logics is essential to SMEs facing mounting uncertainties in international markets. The broader entrepreneurship literature (without international context) has examined the impact of effectuation and causation on firm performance, but reported divergent results on positive (e.g., Brettel, Mauer, Engelen, & Küpper, 2012; Read, Song, & Smit, 2009; Smolka, Verheul, Burmeister-Lamp, & Heugens, 2018), mixed (e.g., McKelvie, DeTienne, & Chandler, 2013), and non-significant direct effects (e.g., Eijdenberg, Paas, & Masurel, 2017; Laskovaia, Marino, Shirokova, & Wales, 2019). Although there are quantitative empirical studies on the international performance implications of effectual and causal decision-making logics, they mainly focus only on one of the logics (e.g., Bai, Johanson, Oliveira, Ratajczak-Mrozek, & Francioni, 2022; Tolstoy, Hännell, & Özbek, 2023), or direct relationships between the logics and international performance (Donbesuur et al., 2022; Tolstoy et al., 2023; Vuorio & Torkkeli, 2023).

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Hence, we lack research on how the decision-making logics lead to SMEs' international performance and what mechanisms are involved (For a recent literature review see [Karami et al., 2020](#)). This urges us to seek a better understanding of how and when effectuation and causation can be turned into performance gains in international business. Therefore, we need more quantitative research focusing on the specific mechanisms connecting both effectual and causal decision-making logics and SMEs' international performance ([Chetty et al., 2024](#)). This will allow us to test theory and offer valuable findings to advance theory for international entrepreneurship and SME internationalization. Moreover, prior research has called for testing theory deductively to develop theoretical explanations for why some mediating variables might enable performance-inducing advantages of effectuation ([Grégoire & Cherchem, 2020](#)), and to explore the mediating factors that can transform the decision-making logic into international performance ([Chetty et al., 2024](#)).

Our literature review reveals that there is no quantitative investigation of connecting both effectual and causal decision-making logics, international entrepreneurial marketing and international performance. This theoretical gap is particularly significant as entrepreneurial marketing has great relevance to effectuation and causation in entrepreneurial process ([Breit & Volkmann, 2024](#); [Sullivan Mort et al., 2012](#); [Yang & Gabrielsson, 2017](#)). We define international entrepreneurial marketing (IEM) as "the proactive identification and exploitation of opportunities to acquire and retain profitable customers through innovative approaches to risk management, resource leveraging and value creation [in international markets]" ([Morris, Schindehutte, & LaForge, 2002](#), p. 5). We consider IEM a critical mechanism in turning effectual and causal decision-making logics into international performance due to the crucial role of marketing in "establishing, developing, and sustaining effective business operations across markets worldwide" ([Samiee, Katsikeas, & Hult, 2021](#), p. 1430–1431).

Therefore, our study addresses the following two research questions: 1) How does international entrepreneurial marketing turn decision-making logics into enhanced international performance among SMEs? And 2) What are the boundary conditions for the relationship between decision-making logics, international entrepreneurial marketing, and international performance? Our *first* research objective is to investigate how IEM mediates the relationship between effectual and causal decision-making logics and SMEs' international performance. Our *second* research objective is to examine how uncertainties rising from service offering and economic development of the home country moderate the proposed mediation relationships. Effectuation theory considers uncertainty as a central boundary condition ([Galkina & Chetty, 2015](#); [Sarasvathy et al., 2014](#)). In particular, we examine two boundary conditions that represent uncertainty: whether or not the SME offers services, and whether the SME is from a developing or developed market. Firms' uncertainty exposure is increased when integrating services with products ([Cui et al., 2019](#); [Kreye, 2017](#); [Rammal et al., 2022](#)) and when originating from developing markets ([Cuervo-Cazurra et al., 2018](#); [Yu et al., 2018](#)). Hence, the two moderators are both theoretically and empirically relevant.

We conducted our empirical study using structural equation partial least squares among 489 internationalizing SMEs from China, Finland, and New Zealand. Empirical settings from several countries provide better generalization among samples across countries and allow us to test our moderators. More importantly, the home market institutional conditions may influence differently the uncertainty of SMEs originating from an emerging market, such as China, compared to those firms originating from developed markets with strong economic and entrepreneurial institutions, such as Finland and New Zealand ([Global Entrepreneurship Monitor, 2020](#)). We find that IEM fully mediates the positive effectuation–performance relationship and the mediation effect is stronger among SMEs from developing markets and offering services. IEM partially mediates the positive causation–performance relationship and the mediating effect is stronger among SMEs from developed

markets and among those that offer products.

This research makes two main contributions. First, our results of the mediating role of IEM in the relationship between decision-making logics (effectual and causal) and international performance and its boundary conditions offer novel knowledge to international entrepreneurship research. Our study adds to and refines the prior literature which has generally argued only for a direct effect of the decision-making logic on firm performance and suggested that both causation and effectuation are positively associated with new venture performance ([Donbesuur, Zahoor, & Boso, 2022](#); [Smolka, Verheul, Burmeister-Lamp, & Heugens, 2018](#)). Second, our study contributes to the effectuation literature that connects effectuation, causation, and entrepreneurial marketing ([Breit & Volkmann, 2024](#); [Sullivan Mort et al., 2012](#); [Yang & Gabrielsson, 2017](#)). We extend this literature by providing empirical investigation from a quantitative study to confirm that these two decision-making logics both enhance international entrepreneurial marketing.

The remainder of the paper is organized as follows. First, we present the theoretical background of the study by focusing on effectuation theory and a review of relevant studies in international entrepreneurship. Then, we develop research hypotheses focusing on the mediator—international entrepreneurial marketing and the moderators. The paper continues with sampling and data collection, as well as results. Thereafter, we discuss the theoretical and practical implications of the results, the limitations, and future research directions.

2. Theoretical background

Decision-making in SMEs involves unique challenges (e.g., smallness and foreignness) and approaches compared to larger organizations in international business. Effectuation theory is crucial for SME decision-making because the theory offers complementary approaches to navigating the complexities and uncertainties of international business environments ([Chetty et al., 2024](#); [Sarasvathy et al., 2014](#)). Effectuation theory suggests that there are two types of decision-making logic on which entrepreneurs and managers can base their international business-related decisions: effectual decision-making, which focuses on marking selections from among the best possible outcomes that can be achieved with the available resources; and causal decision-making, which focuses on selecting the resources needed to create a pre-determined outcome ([Sarasvathy, 2001](#); [Sarasvathy, 2008](#)). Effectuation places little emphasis on prediction but great emphasis on control; conversely, causation places great emphasis on prediction but little emphasis on control ([Karami et al., 2020](#); [Perry et al., 2012](#); [Wiltbank et al., 2009](#)).

Effectual and causal decision-making logics can be differentiated according to the following five principles. (1) Basis for taking action: effectuation has a means orientation whereas causation has a goal orientation; (2) View of risk and resources: effectuation focuses on affordable loss while causation focuses on expected return; (3) Attitude toward outsiders: effectuation values co-creation partnership whereas causation values competitive analysis; (4) Attitude toward unexpected events: effectuation emphasizes leveraging contingency while causation emphasizes bypassing contingency; (5) View of the future: effectuation views future as co-created whereas causation views future as predicted ([Grégoire & Cherchem, 2020](#); [Prashantham, Kumar, Bhagavatula, & Sarasvathy, 2019](#); [Sarasvathy, 2008](#)). Inspired by the prior literature on the effectual logic employed by expert entrepreneurs in venture creation ([Sarasvathy, 2001](#)), this study views effectuation and causation as different decision-making logics in international business ([Sarasvathy et al., 2014](#)), which may cause international behavior to have different performance consequences.

We found articles that have quantitatively investigated the international performance implications of effectuation and causation (see [Table 1](#)). However, the extant quantitative research has mainly focused on one of the logics or the direct effects of effectuation and/or causation

Table 1
Summary of prior empirical studies on effectuation, causation, and performance among internationalizing firms.

Study (in chronological order)	Data	Empirical results/findings summary	Mediator	Moderator	Performance outcome
Gabrielsson & Gabrielsson (2013)	Qualitative data from four industrial international new ventures from Finland	Effectuation can enable rapid international commercialization of products and is reflected in the way industrial international new ventures leverage the resources of business partners in distribution and marketing in an uncertain environment.	None	Decision-making logic (effectuation versus causation)	None
Kalinic, Sarasvathy, & Forza (2014)	Qualitative data from five manufacturing internationalizing SMEs from Italy	“Unplanned” internationalization does not necessarily involve non-logic decisions. Effectuation can help accelerate the internationalization process. The switching from causation to effectuation may assist in overcoming the liabilities of outsidership.	None	None	None
Nummela, Saarenketo, Jokela, & Loane (2014)	Qualitative data from three software born global companies in Finland, Ireland, and Israel	The decision-making of born global firms is characterized by alternating periods of causation and effectuation. Triggers for amending the logic include change of key persons and the search for external funding. Co-existence of the two decision-making logics is possible, due to different degrees of uncertainty in market and technology or multiple decision-makers involved.	None	None	None
Sarasvathy, Kumar, York, & Bhagavatula (2014)	Qualitative data from an internationalizing firm in India	The study shows how an effectual approach can help resolve four central conflicts and knowledge gaps identified in two recent comprehensive reviews of international entrepreneurship. The illustrative case study provides an intriguing comparison with the most recent modification of the Uppsala model to integrate with effectuation theory.	None	None	None
Chetty, Ojala, & Leppäaho (2015)	Qualitative data from 10 internationalizing software firms from Finland and New Zealand	Entrepreneurs differentiate between foreign market selection and foreign market entry during their internationalization process, potentially using different decision-making processes in them. They tend to interweave effectuation and causation logics as substitutes in their decision-making. Entrepreneurs who have existing relationships in foreign markets tend to use effectuation to select and enter foreign markets. Uncertainty during foreign market entry is not always a barrier because it can provide opportunities depending on the logic used.	None	None	None
Galkina & Chetty (2015)	Qualitative data from seven internationalizing SMEs from Finland	Entrepreneurs who network effectually enter markets wherever an opportunity emerges and commit to network relations that increase their means. Network relations become an integrating point for effectuation theory from entrepreneurship research and the revised Uppsala model from international business.	None	None	None
Crick, Crick, & Chaudhry (2020)	Qualitative data from sixteen small knowledge-intensive internationalizing and de-internationalising start-ups from the UK	All management teams were proactive, took risks, exploited innovation, and engaged in opportunity-driven plus resource leveraging behavior. Conversely, creating adequate ‘customer value’ did not occur. In particular contexts, certain facets of an effectuation approach outweigh others and the notion of ‘affordable losses’ is viewed in both financial and non-financial terms.	None	None	None
Bai, Johanson, Oliveira, & Ratajczak-Mrozek (2021)	Quantitative survey of 469 internationalizing SMEs from Brazil, China, and Poland	The knowledge circulating in the firms’ business networks negatively moderates the relationship between non-predictive strategy and affordable losses, while social networking mediates the	Social networking, affordable loss	Business network knowledge circulation	Internationalization performance

(continued on next page)

Table 1 (continued)

Study (in chronological order)	Data	Empirical results/findings summary	Mediator	Moderator	Performance outcome
Evers & Andersson (2021)	Qualitative data from four high-tech international new ventures from Ireland and Sweden	relationships between both non-predictive strategy and affordable losses, on the one hand, and internationalization performance, on the other. The study suggests causation and effectuation in the innovation processes for international new venture creation. There is sequential ambidexterity in the exploration and exploitation of innovations in high-tech international new ventures.	None	None	None
Tolstoy, Nordman, Hånell, & Özbek (2021)	Qualitative data from three international retail SMEs from Sweden	Substantial initial investments in relevant resources (e.g., an e-commerce system) and a willingness to undertake risk are prerequisites for companies to develop capabilities relevant to international e-commerce. Digital business capabilities have a strong positive effect on companies' e-commerce development, while marketing capabilities have a moderately positive effect.	None	None	None
Donbesuur, Zahoor, & Boso (2022)	Quantitative survey of 228 international new ventures from Ghana	The effectuation approach to international network formation is associated with stronger post-entry performance. The causation approach to international network formation is associated with stronger post-entry performance. Both network formation approaches jointly drive post-entry performance when home market institutional support is low.	None	Home market institutional support	Post-entry performance
Karami, Chandra, Wooliscroft, & McNeill (2022)	Quantitative survey of 164 internationalizing small firms from New Zealand	Partnership for new opportunity creation, and gaining new knowledge are two important mediation mechanisms in the focal association between effectual control and international performance.	Partnership for new opportunity creation, gaining new knowledge	None	International performance
Kusi, Gabrielsson, & Baumgarth (2022)	Quantitative survey data from 235 internationalizing SMEs from Finland	Causation mediates the relationship between international marketing planning experience and international brand orientation, whereas effectuation partially mediates the relationship between international entrepreneurial experience and international brand orientation. A higher level of international brand orientation enhances financial performance among internationalizing SMEs.	Effectuation, causation	None	Financial performance
Bai, Johanson, Oliveira, Ratajczak-Mrozek, & Francioni (2022)	Quantitative survey data from 758 internationalizing SMEs from Brazil, China, Poland, Italy, and Sweden	Formal institutional distance and cultural differences affect the use of non-predictive strategies by SMEs in internationalization decisions. There are also the contingency effects of business network stability and having an emerging market background.	None	Emerging market background, business network stability	None
Deligianni (2023)	Quantitative survey data from 128 internationalizing new ventures from Greece	Effectuation aspects regarding experimentation, maintenance of flexibility and securement of pre-commitments positively moderate the relationship between product and international diversification in new ventures.	None	Effectuation	International diversification
Tolstoy, Hånell, & Özbek (2023)	Quantitative survey data from 99 e-commerce SMEs from Sweden	Effectual market creation has a positive effect on their international performance. Both international networking and international marketing analytics mediate the relationship between effectual market creation and international performance.	International networking, international marketing analytics	None	International performance
Uzhegova & Torkkeli (2023)	Quantitative survey data of 179 internationalizing SMEs from Finland	Effectuation positively affects responsible business practices (RBP) in internationalized SMEs. The RBPs, in turn, positively affect the competitive performance of SMEs.	Responsible business practices	None	Competitive performance

(continued on next page)

Table 1 (continued)

Study (in chronological order)	Data	Empirical results/findings summary	Mediator	Moderator	Performance outcome
Vuorio & Torkkeli (2023)	Quantitative survey data of 144 international SMEs from Finland	Effectuation (flexibility and experimentation) is related to early internationalization, while causation and networking capability are related to high international performance.	None	None	Early internationalization, international performance
Bai, Francioni, Johanson, Oliveira, & Ratajczak-Mrozek (2024)	Quantitative survey data of 680 manufacturing SMEs across five countries	Effectual flexibility moderates the positive relationship between entrepreneurial alertness and international performance. Causal prediction mediates the positive relationship between entrepreneurial alertness and international performance.	Causal prediction	Effectual flexibility	International performance
Chetty, Martín, & Bai (2024)	Quantitative survey data of 140 manufacturing SMEs from Australia	Foreign market entry collaboration fully mediates the influence of both causal foreign market selection and effectual entry decision-making on international performance	Foreign market entry collaboration	None	International performance
The current study	Quantitative survey data of 489 SMEs from China, Finland, New Zealand		International entrepreneurial marketing	Service offering, economic development of home country	International performance

on international performance. For instance, effectuation has a positive impact on international performance (Karami et al., 2022; Tolstoy et al., 2023). Causation and networking capability are related to high international performance (Vuori & Torkkeli, 2023). There are positive relationships between both effectual and causal logics and post-entry performance of international new ventures (Donbesuur et al., 2022). Thus, we lack empirical insights into how decision-making logic leads to SMEs' international performance and what mechanisms are involved (For a recent literature review see Karami et al., 2020). Table 2

Moreover, the extant studies have investigated effectual decision-making logic narrowly only from the control aspect or using only one or a few dimensions (flexibility; non-predictive strategy; affordable loss), which differs considerably from the original conceptualization of effectual logic by Sarasvathy (2001) and Read et al. (2009). This casts doubt on whether these prior studies are actually measuring effectual logic or just part of it. Moreover, we can notice that only Chetty et al. (2024) have investigated whether causal logic has a simultaneous effect on international performance through the proposed mediator foreign market entry collaboration, the rest of the studies have limited their investigations only to effectual logic. The unsystematic treatment of both effectual and causal logic and the use of only a limited part of the theoretically conceptualized dimensions hints that the claimed

mediators seem to work only partially and more research is needed to find a mediator that transfers both effectual and causal logic to international performance in internationalizing SMEs. Therefore, we still need more quantitative studies focusing on the specific mechanisms connecting both effectual and causal decision-making logics and international performance in SMEs.

Furthermore, the extant empirical research on the boundary conditions of the relationship between international performance and both effectual and causal decision-making logics is very scarce. We found only the study by Donbesuur et al. (2022) that discovered that perceived home market institutional support strengthens the effect of simultaneous use of both effectual and causal logic on post-entry performance of international new ventures. We need to test the boundary conditions of the specific mechanisms connecting the two decision-making logics and international performance. We argue that particularly service offering and the economic development of home country are two important boundary conditions that function as the first stage moderator to affect the indirect relationships between effectual and causal decision-making logics and international performance via IEM. The rationale is that SMEs' uncertainty exposure is increased when having service offerings (Cui et al., 2019; Kreye, 2017; Rammal et al., 2022) and when being from developing markets (Cuervo-Cazurra et al., 2018; Yu et al., 2018).

Table 2
Correlations between constructs (N = 489).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) ^a	(9)	(10)
(1) International performance										
(2) Effectual decision-making logic	0.34***									
(3) Causal decision-making logic	0.41***	0.55***								
(4) IEM	0.51***	0.53***	0.61***							
(5) Country of origin	0.03	-0.14	-0.32***	-0.14**						
(6) Service	-0.08	0.01	0.02	0.02	-0.01					
(7) Firm age	-0.03	-0.18***	-0.16***	-0.20***	0.15**	-0.04				
(8) Firm size*	0.03	-0.03	0.18**	0.10*	-0.46***	0.08	0.20***			
(9) B2C versus B2B firm	0.16***	0.17***	0.13**	0.17***	-0.07	-0.25***	-0.11*	-0.11*		
(10) INVs	0.21***	0.08	0.06	-0.14**	0.16***	0.01	-0.22***	-0.15***	-0.06	
Mean	4.41	4.54	4.35	4.30	0.75	0.42	11.61	4.01	0.40	0.41
S.d.	1.19	0.86	1.20	1.04	0.44	0.49	7.36	1.82	0.49	0.49
Min.	1.33	1.68	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Max.	7.00	7.00	7.00	6.75	1.00	1.00	35.00	8.00	1.00	1.00

^a 1 = No employees; 2 = 1–4 employees; 3 = 5–9 employees; 4 = 10–19 employees; 5 = 20–49 employees; 6 = 50–99 employees; 7 = 100–249 employees; 8 = 250–499 employees.
* = 5 %,
** = 1 %,
*** = 0.1 % significant.

Such a moderated mediation model brings novelty to extant theorizing and allows us to test and advance theory for international entrepreneurship and SME internationalization. Fig. 1 presents our conceptual model.

3. Research hypotheses

3.1. The mediating role of international entrepreneurial marketing (IEM)

IEM was born of the research progress at the marketing-entrepreneurship interface in international business (Crick et al., 2020; Yang, 2018), and practitioners' needs to cope with increasing uncertainty due to rapid changes in technology and customer preferences (Alqahtani & Uslay, 2020; Bachmann et al., 2021). It comprises seven elements based on extant research (Bachmann et al., 2021; Hallbäck & Gabrielsson, 2013; Morris et al., 2002). These are (1) International proactive orientation, which refers to addressing the future needs of SMEs' international customers (Acedo & Jones, 2007; Jantunen et al., 2008). (2) International opportunity-driven, referring to creating or discovering new international market opportunities by seeking new or untapped market positions abroad (Sullivan Mort et al., 2012; Yang et al., 2020). (3) International risk management, the use of creative and low-cost mechanisms to reduce risks associated with SMEs' new international marketing activities (Figueira-de-Lemos et al., 2011; Kuivalainen et al., 2007). (4) International customer intensity, understanding the voiced and latent needs of international customers in the SME's international marketing efforts (Andersen & Buvik, 2002; Presutti et al., 2016). (5) International innovation-focused, pursuing creative approaches to international marketing that differ from conventional practices (Andersson et al., 2016; Laforet, 2013). (6) International resource leveraging, doing more international marketing activities with less own resources by stretching, sharing or borrowing resources (Sullivan Mort et al., 2012; Zahra et al., 2003). And, (7) International value creation, seeking new and unique ways to generate more value for international customers (Doern & Fey, 2006; Verdu et al., 2012).

We believe that effectual decision-making logic can enhance IEM in SMEs for the following reasons. First, the means-based approach in the effectual logic builds on the existing resources of the entrepreneur, spurring SMEs to be proactive and innovative (Sullivan Mort et al., 2012; Yang & Gabrielsson, 2017). Second, affordable loss enables SMEs to discover opportunities abroad and manage the risk by limiting losses to an acceptable level (Hunt et al., 2021; Sarasvathy et al., 2014). Third, the partnership approach enhances IEM by leveraging resources and sharing risks with committed partners, in the search for new international market opportunities (Bai et al., 2021; Hallbäck & Gabrielsson, 2013). Fourth, leveraging environmental contingencies is critical to IEM, as it spurs a proactive orientation and new market creation abroad (Blocker, Flint, Myers, & Slater, 2011). Finally, creative effectual decision-making logic encourages trial and experimentation and

involves shaping the future with customers and other stakeholders (Karami et al., 2020). That in turn enables the value creation and customer intensity essential to IEM. Thus, applying effectuation as the decision-making logic has a positive impact on IEM.

With regard to causal decision-making logic, we expect it to facilitate SMEs' IEM as well due to: First, goals that are set as stable over time can provide direction for high-quality new product development and comprehensiveness in international marketing management (Atuahene-Gima & Murray, 2004; Murray & Chao, 2005), which can, in turn, deliver positive outcomes in innovation (Futterer et al., 2018). Second, expected return is a useful criterion for managing risks involved in SMEs' international market expansion (Figueira-de-Lemos et al., 2011; Oviatt et al., 2004). Third, the practice of conducting competitive analysis supports SMEs in understanding their strengths and weaknesses compared with their peers, thus preparing the SME to better address international customers' needs to build customer intensity and create value for their international customers (Falahat, Ramayah, Soto-Acosta, & Lee, 2020). Fourth, a causal decision-making logic that strives to avoid unexpected events can support SMEs to better leverage their more limited resources (Partanen, Kauppila, Sepulveda, & Gabrielsson, 2020) compared with larger international firms, and make the best use of them without encountering unexpected changes. Finally, the predictive logic inherent to causation encourages in-depth monitoring of international market information, in order to proactively utilize first-mover advantage and discover new market opportunities abroad (Frynas, Mellahi, & Pigman, 2006). Accordingly, we expect the application of causal decision-making logic to have a positive impact on IEM.

Furthermore, IEM has a positive effect on SMEs' international performance because of the positional advantage that results from enhancing innovativeness and proactiveness (Knight, 2000), creating customer value and achieving lower costs (Day & Wensley, 1988). International entrepreneurship research has provided qualitative evidence that IEM enhances the performance of international new ventures and born global firms (Hallbäck & Gabrielsson, 2013; Kocak & Abimbola, 2009; Sullivan Mort et al., 2012). In addition, quantitative research in the domestic context has found that entrepreneurial marketing has, overall, a positive impact on firm performance (Alqahtani & Uslay, 2020; Eggers et al., 2020; Sadiku-Dushi et al., 2019). Therefore, we believe that IEM enhances the international performance of SMEs by enabling them to navigate the complexities of international markets more effectively.

Based on the above, both effectual and causal decision-making logics can have a positive impact on IEM separately and IEM has a positive effect on SMEs' international performance. Therefore, we argue that IEM is the missing international behavior that serves as the mediating mechanism linking decision-making logics to performance outcomes in international entrepreneurship. Hence, we hypothesize:

Hypothesis. (H1a). *IEM mediates the positive effect of effectual decision-making logic on SMEs' international performance.*

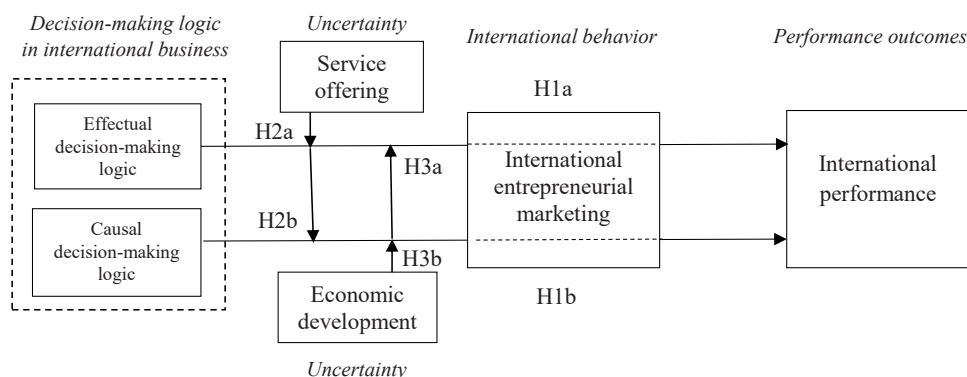


Fig. 1. Conceptual model of the study.

Hypothesis. (H1b). *IEM mediates the positive effect of causal decision-making logic on SMEs' international performance.*

3.2. The moderating role of service offering

Effectuation theory advocates effectual decision-making logic under high uncertainty (Sarasvathy, 2001; Sarasvathy, 2008). We argue that whether an SME offers services has a crucial impact on the indirect relationships between decision-making logics and international performance through IEM because having service offerings increases the uncertainty in international business environments. The complexity and heterogeneity of the service sector can expose the firm to the influence of multidimensional uncertainty (Sanchez-Peinado & Pla-Barber, 2006). This stems from intangibility making service less concrete (Rammal & Rose, 2014), perishability limiting inventory, the simultaneity of production and delivery, and heterogeneity in customer implementation (Kreye, 2017; Kreye, 2018). A firm's service offering may comprise only services (e.g., Bello, Radulovich, Javalgi, Scherer, & Taylor, 2016), or services be integrated with its physical products (i.e., servitization, see for example Agnihotri, Bhattacharya, Yannopoulou, & Thrassou, 2022). The role of services has been emphasized by the service-dominant logic, which requires co-production and customer involvement in service delivery (Vargo & Lusch, 2004). Effectuation emphasizes the co-creation of the future with network members including customers (Read, Dew, Sarasvathy, Song, & Wiltbank, 2009). Thus, the characteristics of uncertainty in service delivery act as the first stage moderator between decision-making logic and IEM to strengthen the effectiveness of effectual decision-making logic in undertaking IEM, leading to higher international performance. This is supported by the finding by Cui et al. (2019) that effectuation is adopted when integrating demanding services into physical products to deal with increased uncertainty.

In contrast, when examining the moderating effect of service offering on the indirect relationship between causal decision-making logic and international performance through IEM, the very same uncertainty characteristics of service (Kreye, 2017; Kreye, 2018) make causation less effective when dealing with uncertainty related to offering services. This is because formalized planning processes, inherent to causal decision-making logic, are less efficient in developing services than products (Henard & Szymanski, 2001). Hence, the existence of a service offering is expected to act as the first stage moderator to weaken the effectiveness of causal decision-making logic in undertaking IEM, leading to lower international performance. Thus, we hypothesize the following moderated mediations:

Hypothesis. (H2a). *The positive relationship between effectual decision-making logic and IEM will be stronger among SMEs that offer services than SMEs that do not, leading to higher international performance.*

Hypothesis. (H2b). *The positive relationship between causal decision-making logic and IEM will be weaker among SMEs that offer services than SMEs that do not, leading to lower international performance.*

3.3. The moderating role of economic development

Effectuation theory suggests the adoption of effectual decision-making logic in conditions with high uncertainty and the use of causal decision-making logic in environments with low uncertainty (Sarasvathy, 2001; Sarasvathy, 2008). We expect whether SME's economic development of the home country is a developing or developed market has an important impact on the indirect relationships between decision-making logics and international performance through IEM because the uncertainty level is higher in developing markets compared to developed markets. Scholars have emphasized the importance of the institutional environment to international entrepreneurship (Sadeghi et al., 2019; Szyliowicz & Galvin, 2010). Entrepreneurs and managers of SMEs face three categories of institutional forces: (i) regulative institutions, such as governmental legislation, industrial agreements, and

standards; (ii) normative institutions, such as values that define what is considered proper, and norms that suggest how things are to be done; and (iii) cognitive institutions, such as culture, language, and other taken-for-granted and preconscious behavior (Scott, 1995; Scott, 2007).

In SMEs from developing markets, effectual decision-making logic is expected to be more efficient in facilitating IEM for better international performance, compared to SMEs from developed markets. First, those SMEs face more regulatory institutional voids (Khanna, Palepu, & Sinha, 2005), such as a paucity of fully developed political and economic legislation to effectively protect business transactions (Gao et al., 2015; Peng, 2003); Thus, utilizing the affordable loss principle of effectuation is more beneficial to find creative, low-cost marketing methods. Second, ambiguous situations and sudden changes (Eiteman, 1990) are more accepted as normative institutions (i.e., values and norms) for SMEs from developing markets. Hence, applying effectual decision-making logic to operate with vaguely defined targets and integrate surprising results, would equip the SME to act quickly on new international market opportunities or break some of the "rules of the game" for innovative marketing. Third, entrepreneurs and managers from developing markets are more accustomed to cognitive institutions where business is driven or dominated by networks of informal relationships and the exchange of favors (Lovett, Simmons, & Kali, 1999). Therefore, the effectual decision-making logic of utilizing existing means and resources, and establishing relationships, would better foster IEM behavior for SMEs from developing markets, for example, using other people or firms' resources to accomplish their international marketing compared to SMEs from developed markets. Hence, the economic development of an SME's home country—a developed market (compared to a developing one) will act as the first stage moderator between the decision-making logic and IEM to weaken the effectiveness of effectual decision-making logic in undertaking IEM, leading to lower international performance.

In contrast, for SMEs from developed markets, causal decision-making logic is expected to be more efficient in enhancing IEM for better international performance, compared to SMEs from developing markets. First, the regulatory institutions are relatively more stable and provide greater support for entrepreneurial activities abroad (Guerrero et al., 2021; Khanna et al., 2005). Thus, applying causation through competitive analysis and expected return is more efficient in collecting comprehensive information (Atuahene-Gima & Murray, 2004) and enhancing competence (Möller, 2006), in creating value for international customers and building customer intensity abroad. Second, having a clear agenda or plan, and honoring agreements without debate, is more common among developed markets as normative institutions. Therefore, being goal-driven and planning-oriented (Sarasvathy, 2001; Sarasvathy, 2008) may enhance high-quality new product development (Salomo, Weise, & Gemünden, 2007) and innovation (Futterer et al., 2018). Third, entrepreneurs from developed markets are more accustomed to cognitive institutions that center on discrete transactions and formal agreements (Lovett et al., 1999), rather than informal relationships. Hence, the causal decision-making logic of predicting the future may be more efficient for SMEs from developed markets, in order to achieve the first-mover advantage of being proactive, and taking a leading position with regard to IEM behavior. Hence, the economic development of an SME's home country—a developed market (compared to a developing one) will act as the first stage moderator to strengthen the effectiveness of causal decision-making logic in undertaking IEM, leading to higher international performance. Based on the above, we hypothesize the following moderated mediations:

Hypothesis. (H3a). *The positive relationship between effectual decision-making logic and IEM will be weaker among SMEs from developed markets than SMEs from developing markets, leading to lower international performance.*

Hypothesis. (H3b). *The positive relationship between causal decision-making logic and IEM will be stronger among SMEs from developed markets than SMEs from developing markets, leading to higher international*

performance.

4. Sampling and data collection

4.1. Empirical data

We developed an online questionnaire, and collected data in 2016 and 2017 in China, Finland, and New Zealand. We used a professional translation service to translate and back translate the questionnaire between English and Chinese, and between English and Finnish. The rationale for selecting those countries was to test the moderating role of the country of origin (developing vs. developed markets). China was chosen because it is the most influential emerging market, based on its highest weight (31.92 %) in the S&P Emerging Broad Market Index (S&P Dow Jones Indices, 2019). Finland and New Zealand are both developed markets (S&P Dow Jones Indices, 2019), and have similar economy and entrepreneurship profiles according to *Global Entrepreneurship Monitor* (2020). We decided to include both of these countries rather than just one as we had good access to them, which we assessed would improve the robustness of the research.

The sampling criteria of SMEs for our study included: (1) the firm is a maximum of 35 years old; (2) has fewer than 500 employees (statistical expression of SME from OECD, 2005), and does not belong to a large group; (3) has at least one foreign market; and (4) has international sales. We collected two survey responses in each firm where possible, in order to avoid concerns around common method bias. The first respondent was the founder and/or CEO, and second the international marketing/sales manager or similar. However, obtaining data from a second respondent was not always possible in smaller firms where there was only one knowledgeable respondent. Accordingly, for companies with two suitable respondents, we employed the response of the founder and/or CEO in our primary analyses. In each country, trained local research assistants collected the data.

In China, we collected data in the Eastern Region of Shanghai, and the southern region of Guangzhou and Shenzhen, where there is a particularly high number of internationalizing SMEs. We purchased contact information for 1264 firms from the reliable Kompass database, of which 612 met our sampling criteria. We contacted them by phone and sent the survey link by email. However, we received only 34 responses through the online survey. Previous research has recognized the challenges in gathering primary data from Chinese firms due to a reluctance amongst managers to respond. Therefore, we used research assistants to visit the companies that did not respond, and provided the firm fulfilled the criteria, left the same questionnaire in hard copy format. The researchers agreed to collect the survey within a few days, but were also tasked to follow up on any unreturned surveys after two weeks, which resulted in 137 responses in hard copy format. In total, we received 171 responses, of which 42 cases did not meet our sampling criteria due to discrepancies in the information between the database and the survey responses; we also rejected one response because the variance across questions was very low. This process produced 128 valid responses. Amongst that group, four responses were second answers from the same company. This resulted in a final sample of 124 internationalizing SMEs, with an overall effective response rate of 20 % in China.

In Finland, we used contact information from the Bisnode and Fonecta databases (two reliable service providers). The research assistants contacted a total of 2608 firms by phone, and invited the 1052 that qualified based on our initial sampling criteria to participate in the study; of that group, 493 firms agreed to participate, and received a web link to the survey questionnaire. Follow-up requests were sent after two weeks, and we eventually received 344 responses, of which 49 cases did not meet our sampling criteria due to discrepancies in the information between the database and the survey responses; three responses were completed in less than 20 minutes, and adjudged insufficiently diligent; in four cases, the variance across questions was very low, and also

judged invalid. This process produced 283 valid responses. Amongst that group of valid responses, 36 were second answers from the same company. This resulted in a final sample of 247 internationalizing SMEs, with an overall effective response rate of 24 % in Finland.

In New Zealand, we contacted organizations supporting internationalizing firms—Export New Zealand, Business New Zealand, and venture investors—for company lists. The research assistants then contacted 1193 firms by phone, of which 805 met our sampling criteria and agreed to participate in the study. We emailed respondents a web link to the online survey questionnaire, and sent follow-ups after two weeks. We received 174 responses, of which there were 39 cases where the firm did not meet our sampling criteria due to discrepancies in the information between the database and the survey responses, one incomplete response, and one case with zero variance across questions that we considered invalid. This process produced 128 valid responses, from which 10 were second answers from the same company. Consequently, the final sample comprised 118 internationalizing SMEs, with an overall effective response rate of 15 % in New Zealand. In sum, this led to the collection of a total sample of 489 internationalizing SMEs in China, Finland, and New Zealand, with an average response rate of 20 %. The sample size of $N = 489$ well meets the rough guideline of the '10-times' rule (e.g., Hair et al. 2021), as the maximum number of arrows pointing to or from a latent variable is 14, i.e., for 'International Performance' (6 measurement items, 3 structural relationships, and 5 controls) detailed in the next section.

4.2. Measurement

The IEM, decision-making logic, and international performance of the sampled internationalizing SMEs were measured on established scales, adapted to suit an international context (see Appendix A). Our measurement model is a combination of reflective and formative constructs (Hair, Sarstedt, Ringle & Gudergan, 2018). The respondents assessed each of these items on a seven-point scale ranging from 1 to 7. We present the details of the measures as follows.

4.2.1. Independent variables

Effectual decision-making logic (in international business). Based on Sarasvathy (2001), we measured this construct with five formative indicators (means orientation, affordable loss, partnership, leveraging contingencies, and co-created future), since we view them as causing, rather than being caused by, the latent variable effectuation (MacCallum & Browne, 1993). Formative indicators are "observed variables that are assumed to cause a latent variable" (Bollen, 1989, p. 65). Based on the measurement of Kusi et al. (2022), for each indicator, we employed four reflective items adapted from the existing literature (Brettel et al., 2012; Chandler et al., 2011; Werhahn et al., 2015).

Causal decision-making logic (in international business). Similarly, we measured this construct with five formative indicators: goal orientation, expected returns, competitive analysis, avoiding contingencies, and predictive future (Sarasvathy, 2001). Based on the measurement of Kusi et al. (2022), for each indicator, we used two reflective items adapted from extant studies (Brettel et al., 2012; Chandler et al., 2011; Werhahn et al., 2015).

4.2.2. Dependent variable

International performance. We measured the international performance construct with six items from extant studies. We asked the respondents to rate their organization's performance in international markets relative to their main competitors, regarding international sales growth, international market share, and international customer satisfaction (Lu, Zhou, Bruton, & Li, 2010), profitability, international profit growth, and return on international investment (Nakos, Brouthers, & Dimitratos, 2014). Given that the subjective performance measurement has a limitation in terms of potential source bias, we also tested our research model using a time-lagged and objective performance

indicator. We were able to obtain access to the financial data of the Finnish sample, which indicated the earnings before interest and taxes (EBIT) margin, and return on capital employed (ROCE), for further analysis.

4.2.3. Mediator variable

International entrepreneurial marketing (IEM). We view IEM as a formative construct because its seven formative indicators cause the latent variable and “omitting an indicator is omitting a part of the construct” (Bollen & Lennox, 1991, p. 308). The seven formative indicators are indicators of international proactive orientation, international opportunity-driven, international risk management, international customer intensity, innovation-focused, international resource leveraging, and international value creation. We used three reflective items for each indicator, adapted from initial unpublished scales by Professor Michael H. Morris and from existing empirical research in the domestic context (Eggers et al., 2020; Fiore et al., 2013; Sadiku-Dushi et al., 2019) to the international context.

4.2.4. Moderator variables

Service offering. We asked the respondents whether the firm produces products and/or services. We assigned firms that offer service a value of 1, and those that only offer products a value of 0.

Economic development of the home country. We assigned firms originating from the developed market a value of 1, and firms originating from the developing market a value of 0.

4.2.5. Control variables

We formulated four control variables for international performance. (1) Firm age: calculated by subtracting the year the firm was founded from 2017, the year data collection was completed. (2) Firm size: using the firm’s total number of employees. (3) B2C versus B2B firms: using business-to-consumer (B2C) as a proxy to control for firm type, we assigned a B2C firm a value of 1, and other firms a value of 0. (4) International new ventures (INVs): we assigned the firms whose foreign sales reached 25 % of total sales within three years of foundation (Jean, Kim, & Cavusgil, 2020) a value of 1, and other firms a value of 0.

4.3. Data quality tests

Common method bias. Survey study designs face the potential problem of common method bias (CMB) influencing the relationship between measures (Chang, Van Witteloostuijn, & Eden, 2010). We dealt with CMB procedurally and statistically (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). During the data collection procedure, we guaranteed the respondents’ confidentiality. Questions related to independent and dependent variables were separately located, reducing the likelihood that respondents would edit their responses in line with perceived social desirability. We tested the survey questionnaire on pilot respondents in all three countries to avoid ambiguous and complex questions. Statistically, we verified our results in several ways, by first replacing the answers from the first respondents with those from the second respondents in part of our model, thus ensuring that the data came from two different respondents within the same firm: the similar results reduce the likelihood of CMB. In addition, by verifying the international performance-related results with secondary accounting data from the sample firms, we considerably reduced any risk of CMB, because the data came from another external data source, which produced similar results to the perceptual measures. Finally, according to Harman’s single factor test, only 21.2 % (New Zealand), 19.6 % (Finland), and 25.8 % (China) of the total variances are explained by a single factor (Podsakoff et al., 2003), which does not indicate CMB.

Non-response bias. We conducted a response time analysis by dividing the responses into two groups based on the median response time. There was no significant difference between the two response time groups when comparing the results of the model, which indicates that

non-response bias is not an issue in this study (Armstrong & Overton, 1977).

Descriptive analysis. Table 1 presents the correlation analysis between the variables in this research, along with means, standard deviations, and minimum and maximum values. The correlations of 0.53 and 0.61 between effectual decision-making logic and IEM and causal decision-making logic and IEM, respectively, indicate the importance of effectual decision-making logic and causal decision-making logic as predictors of IEM. Similarly, the correlation of 0.51 preliminarily indicates the explanatory power of IEM on international performance. The correlation of 0.55 between effectual decision-making logic and causal decision-making logic corresponds to a variance inflation factor (VIF) of 1.4—well below commonly accepted thresholds of disturbing collinearity problems. Overall, the correlations with the control variable are low.

Assessment of measurement models. Because of the formative nature of the second-order constructs of effectual decision-making logic, causal decision-making logic, and IEM, we used structural equation partial least squares (SEM-PLS) of the R software SEMinR package (version 2.3.4) to estimate the path model. The PLS estimation procedure accommodates both formative and reflective measurement models (Fornell & Bookstein, 1982; Ulaga & Eggert, 2006) and is considered appealing in estimating complex models with many constructs, indicator variables, and structural paths, without imposing distributional assumptions on the data (Hair, Risher, Sarstedt, & Ringle, 2019). In our second-order reflective constructs (Hair et al., 2018), we utilize the repeated indicator approach to estimate the higher-order constructs (HOCs) by using mode A estimation for the reflective lower-order constructs (LOCs), and mode B for the formative HOCs with a path weighting scheme (Hair et al., 2018). Statistical significances are based on 10,000 bootstrap samples.

We measured all our first-order constructs reflectively. Following recommended reporting guidelines (Becker et al., 2012; Hair et al., 2019), the assessment is based on indicator reliabilities (loadings), constructs’ internal consistency reliability (composite reliability, CR), convergent validity (average variance extracted, AVE), and discriminant validity (the Heterotrait-monotrait, HTMT, ratio of Henseler, Ringle, & Sarstedt, 2015).

The assessment of the measurement models of the reflective LOCs shows that all the remaining measures are reliable and valid. All loadings are highly statistically significant, and out of the total of 51 LOC loadings, only two (the first item of *means orientation* of effectual decision-making logic with loading 0.244, and the second item of *international risk management* of IEM with loading 0.52) are below the commonly used threshold of 0.7. In particular, the first item of *means orientation* turned out to have even in absolute value a higher cross-loading of -0.36 on *go orientation*, a LOC of causation decision-making logic, we discarded the item from the *means orientation* of effectual decision-making logic. Similarly, even though the loading of 0.52 of the second item of *international risk* of IEMS was clearly higher than the highest cross-loadings of 0.17, we also discarded this item. However, the inclusion of these items did not affect the substantive or qualitative results discussed in the following sections of the study. Despite this, in all subsequent analyses these two items are discarded. Accordingly, after discarding these two items, all the measures appear reliable. Likewise, CRs and AVEs reported in Appendix A exceed the commonly used thresholds of 0.7 and 0.5 respectively (Kandemir et al., 2006; Ramani & Kumar, 2008), which support their reliability, internal consistency, and convergent validity.

Appendix B reports HTMT values to evaluate discriminant validity of the reflective constructs. All values, except that of *competitive analysis* (CA) and *avoiding contingencies* (AC) are below the conservative 0.85 threshold (Henseler et al., 2015). Along with the acceptable HTMTs, the cross-loadings of these other reflective constructs are also below 0.7 and materially below the loadings on their own constructs. CA and AC are LOCs of the formative causal decision-making construct with HTMT

value 0.91. It turns out that the two items of each of these constructs cross-load also highly on each other's. That is, while the two items of CA load highly on it, both equaling 0.96, they load also highly on AC with 0.78 and 0.80. Similarly, while the two items of AC load again highly on it with both values equaling 0.95, the cross-loads on CA are also high, equaling 0.76 and 0.80. Accordingly, these two constructs are not well discriminated from each other. This partially also shows up in the highest VIF values (Appendix A) and a high correlation of 0.82 between the constructs. It is notable, however, that these constructs are LOCs of the higher-order formative construct, *causal decision-making logic*, which is the primary construct in our structural equation model. To resolve the overlapping problem of the two LOCs, one way is to aggregate them into a higher-order construct. Here, however, both LOCs have only two items, therefore, a better technical solution is to aggregate them into one construct. The crucial point here is to preserve the information content they intermediate to the formative causal decision-making logic. It turned out in our subsequent analyses that our main SEM results did not change by any discernible sense whether the two constructs were involved separately or aggregated into a common factor. Therefore, our results below are based on the initial design.

Finally, returning to Appendix A, the VIFs of the formative LOCs of effectual decision-making logic, causal decision-making logic, and IEM shown in Appendix A are all small, with most below 3.0, while even the maximum of 3.62 for the above discussed AC of causal decision-making logic is well below the commonly used threshold of 5.0 (Hair et al., 2019). Therefore, we can safely infer that collinearity is not a critical issue with the formative constructs.

Assessment of measurement invariance between countries. Finally, to justify comparative analyses between the countries, we evaluated the level of invariance of the measurements of their structural models. Full measurement invariance would make it feasible to pool the samples into a single sample, partial invariance would permit a comparison of path coefficients between the groups, and a lack of invariance would indicate that the groups should be evaluated separately (Henseler, Ringle, & Sarstedt, 2016). While assessing measurement invariance is well established in covariance-based SEM (e.g., Jöreskog, 1971; Diamantopoulos & Papadopoulos, 2010), the situation is more complex in the PLS-SEM utilized here. We follow the three-step measurement invariance of composite models (MICOM) procedure by Henseler et al. (2016): (1) configural invariance, (2) compositional invariance, and (3) the equality of composite means and variances. These steps are hierarchically interrelated such that research should proceed with the next step, if the previous step supports invariance (Henseler et al., 2016). Partial invariance is established if steps 1 and 2 are passed, and full invariance if step 3 is also passed.

In our case, the focus is on the constructs depicted in Fig. 1. The first step of configural invariance is satisfied, as our study employs identical indicators, identical data treatment, and identical algorithm settings in its PLS analysis (Henseler et al., 2016). Step 2 of MICOM tests the unity of correlation of composite scores obtained from different groups (Henseler et al., 2016). We utilize pairwise analyses in our permutation tests of the composite score correlations, following the six steps in Henseler et al. (2016). Appendix C reports the results based on 5000 permutation test samples. The first two columns of the table report the correlation tests (MICOM step 2). Column 1 shows that all correlations are remarkably close to unity. Invariance between New Zealand and Finland (Panel A) is statistically established, since none of the four construct correlations deviate statistically significantly from unity at the 1 % level. Statistically, the permutation test rejects the invariance of *Effectual* and *IEM* for both New Zealand and China (Panel B) and Finland and China (Panel C). However, the high correlation (0.983) for *Effectual* between New Zealand and China is a borderline case. Even though the correlation of 0.874 between Finland and China is clearly below the 1 % threshold of 0.971, it is very high and reflects a very high similarity of the constructs between Finland and China. Correlations of *IEM* deviate statistically significantly from unity between both New Zealand and

China (0.985) and Finland and China (0.989). Again, however, the correlations are extremely high and indicate in both cases virtually complete overlaps. Therefore, in all these cases, the high correlations suggested in the constructs reflect in practical terms practically identical concepts in all countries. We confirmed this by considering fixed weights (as suggested by Henseler et al., 2016 for small sample sizes such as those from New Zealand and China). Both approaches produced qualitatively identical results in our PLS-SEM analyses. Consequently, we infer that the results pass step two of the configurational invariance analysis.

Finally, the last four columns of Appendix D report the step 3 results of the full invariance of the MICOM analysis. Between New Zealand and Finland, the differences are only between the construct means, while against China there are highly significant differences between construct variances. As a result, because the PLS-SEM analysis estimates the path coefficients as regression equations, potential effects of the differences in means between New Zealand and Finland can be captured by a country dummy variable in the pooled data set of the two countries (Henseler & Fassott, 2010). Appendix D reports these estimation results of the combined New Zealand and Finland data with a New Zealand country dummy. Panel A of the table reports the baseline coefficients. The focus here, however, is on the country effect reported in Panels B and C of the table. These results reveal that despite the mean differences in Appendix C, neither the mean effects (Panel B of Appendix D) nor the effects on the structural coefficient (Panel C of Appendix D) appear statistically different from zero. This suggests that even though the means of some constructs, reported in Appendix B, deviate from each other, the differences are congruent, such that the levels (intercepts) of the regressions and slope coefficients can be inferred to be the same in both countries. This allows us to utilize the pooled New Zealand-Finland data set to represent developed market economies, and investigate differences compared to developing market economies represented by China. In terms of Hypotheses H3a and H3b the focus on the differences is on the relationships between effectual and causal decision-making logics to international performance via international entrepreneurial marketing. To capture mean-differences in performance between developing and developed markets, we have also introduced the market dummy as a control variable to the performance equation in the model.

5. Results

As noted above, we utilized the R software SEMinR package (version 2.3.4) for partial least squares structural equation (PLS-SEM) analysis in our study. Table 3 reports the results (including estimates, standard errors, t- and p-values, and 95 % bias-corrected and accelerated, BCa, confidence intervals) of our hypothesis testing. We first tested the mediation effects. Here, we follow the mediation analysis steps discussed in Frazier, Tix, and Barron (2004). The results in Panel A show that *IEM* fully mediates the positive relationship between effectual decision-making logic and international performance. That is, all the steps of full mediation are in effect. First, effectual decision-making logic has a positive and significant direct effect on *IEM* ($\beta = 0.416$, $p = 0.000$); second, *IEM* has a positive and significant direct effect on international performance ($\beta = 0.367$, $p = 0.000$); third, effectual decision-making logic is positively and significantly related to international performance (total effect with $\beta = 0.269$, $p = 0.000$); and fourth, the marginal direct effect of effectual decision-making logic on international performance is insignificant ($\beta = 0.116$, $p = 0.134$). The resulting mediation effect (indirect effect) of *IEM* between effectual decision-making logic and international performance is positive and significant ($\beta = 0.153$, $p = 0.000$). Thus, we can conclude that *IEM* fully mediates the positive relationship between effectual decision-making logic and international performance, supporting H1a.

On causation, our results show that *IEM* only partially mediates the relationship between causal decision-making logic and international performance. This is because, in addition to the positive and significant

Table 3
Mediation, Moderation, and Moderated Mediation (N = 489).

	Coeff.	Std Err	p-val	2.50 %	97.50 %
Panel A. Mediation					
First order effects					
Effectual decision-making logic -> IEM	0.416	0.060	0.000	0.293	0.526
Causal decision-making logic -> IEM	0.290	0.065	0.000	0.164	0.416
IEM -> International performance	0.367	0.069	0.000	0.231	0.498
Marginal direct effects after controlling IEM					
Effectual decision-making logic -> International performance	0.116	0.078	0.134	-0.037	0.263
Causal decision-making logic -> International performance	0.159	0.074	0.032	0.010	0.304
Total effects (marginal direct effect + indirect effect)					
Effectual decision-making logic -> International performance	0.269	0.073	0.000	0.122	0.405
Causal decision-making logic -> International performance	0.266	0.075	0.000	0.118	0.412
Mediation effects (indirect effect)					
Effectual decision-making logic -> IEM -> International performance	0.153	0.036	0.000	0.089	0.231
Causal decision-making logic -> IEM -> International performance	0.106	0.030	0.000	0.057	0.177
Panel B. Moderation					
Direct effects of moderators					
Market -> IEM	-0.030	0.042	0.468	-0.110	0.052
Service -> IEM	0.019	0.035	0.591	-0.048	0.089
Moderation effects					
Effectuation x Service -> IEM	0.088	0.043	0.043	0.004	0.173
Causation x Service -> IEM	-0.099	0.045	0.028	-0.187	-0.009
Effectuation x Market -> IEM	-0.087	0.042	0.038	-0.172	-0.007
Causation x Market -> IEM	0.208	0.048	0.000	0.112	0.298
Controls					
Firma Age -> IEM	-0.053	0.038	0.162	-0.128	0.021
Firm Size -> IEM	0.119	0.044	0.007	0.034	0.205
B2C -> IEM	0.117	0.040	0.004	0.041	0.197
INVs -> IEM	0.109	0.037	0.003	0.038	0.185
Market -> IP	0.132	0.045	0.003	0.046	0.223
Firm Age -> IP	0.111	0.042	0.008	0.034	0.196
Firm Size -> IP	0.026	0.046	0.576	-0.066	0.113
B2C -> IP	0.090	0.041	0.028	0.010	0.170
INVs -> IP	0.145	0.042	0.001	0.059	0.225
R-Square (IP)	0.374				
Panel C. Moderated Mediation: Effectual Decision-Making Logic					
Economically Developing Markets					
Effectual decision-making logic -> IEM [Production]	0.490	0.094	0.000	0.301	0.672
Effectual decision-making logic -> IEM [Service]	0.668	0.100	0.000	0.474	0.866
Effectual decision-making logic -> IEM -> International performance [Production]	0.180	0.048	0.000	0.098	0.290
Effectual decision-making logic -> IEM -> International performance [Service]	0.245	0.057	0.000	0.145	0.374
Economically Developed Markets					
Effectual decision-making logic -> IEM [Production]	0.291	0.080	0.000	0.130	0.437
Effectual decision-making logic -> IEM [Service]	0.468	0.082	0.000	0.301	0.620
Effectual decision-making logic -> IEM -> International performance [Production]	0.107	0.036	0.003	0.048	0.188
Effectual decision-making logic -> IEM -> International performance [Service]	0.172	0.043	0.000	0.099	0.268
Panel D. Moderated Mediation: Causal Decision-Making Logic					
Economically Developing Markets					
Causal decision-making logic -> IEM [Production]	0.018	0.114	0.877	-0.194	0.245
Causal decision-making logic -> IEM [Service]	-0.183	0.132	0.167	-0.451	0.071
Causal decision-making logic -> IEM -> International performance [Production]	0.006	0.042	0.879	-0.073	0.097
Causal decision-making logic -> IEM -> International performance [Service]	-0.067	0.051	0.191	-0.182	0.019
Economically Developed Markets					
Causal decision-making logic -> IEM [Production]	0.495	0.074	0.000	0.352	0.635
Causal decision-making logic -> IEM [Service]	0.295	0.087	0.001	0.122	0.464
Causal decision-making logic -> IEM -> International performance [Production]	0.182	0.042	0.000	0.109	0.275
Causal decision-making logic -> IEM -> International performance [Service]	0.108	0.035	0.002	0.050	0.193

effect of causal decision-making logic on IEM ($\beta = 0.290, p = 0.000$) and total effect on international performance ($\beta = 0.266, p = 0.000$), the direct marginal effect of causal decision-making logic on international performance remains positive and borderline significant at the 5 % level ($\beta = 0.159, p = 0.032$). The mediation effect (indirect effect) of IEM between causal decision-making logic and international performance is positive and significant ($\beta = 0.106, p = 0.000$). Hence, given that the marginal effect of causal decision-making logic and international performance is significant, IEM only partially mediates the positive relationships between causal decision-making logic and international performance. As a result, H1b is partially supported.

Next, we tested the moderation effects. The results are reported in Panel B of Table 3. As we coded internationalizing SMEs that offer services as “1” and those that do not as “0”, our results show service has a significant positive moderation effect between effectual decision-making logic and IEM ($\beta = 0.088, p = 0.043$), and a significant negative moderation effect between causal decision-making logic and IEM ($\beta = -0.099, p = 0.028$). This suggests that the effect of effectual decision-making logic on IEM is stronger among SMEs that offer services, supporting H2a; the effect of causal decision-making logic on IEM is weaker among SMEs that offer services, supporting H2b.

As we coded SMEs from the developed market as “1” and those from the developing market as “0”, our results indicate that the developed market has a significant negative moderation effect between effectual decision-making logic and IEM ($\beta = -0.087, p = 0.038$). Hence, the effect of effectual decision-making logic on IEM is weaker among SMEs from developed markets, in other words, stronger among SMEs from developing markets (because of the coding mechanisms of “1” and “0” and positive coefficient between IEM and performance, $\beta = 0.367, p = 0.000$). This supports H3a. Regarding causal decision-making, our results show that the developed market has a significant positive moderation in the relationship between causal decision-making logic and IEM ($\beta = 0.208, p = 0.000$). This implies the effect of causal decision-making logic on IEM is stronger among internationalizing SMEs originating from developed markets. Combining this with the positive relationship between IEM and performance ($\beta = 0.367, p = 0.000$), H3b is supported. We further reinforced these results with H2a through H3b by adding services and market moderations on causal and effectual decision-making direct effects on performance, as well as the IEM effect on performance. None of these moderations were even closely statistically significant, thereby further validating the conclusion of the hypotheses, i.e., the moderations effects are only between those relations hypothesized.

Panels C and D of Table 3 report further details about results by showing detailed moderated mediation effects utilizing conditional process analyses at distinct levels of the moderators (market and service). PLS-SEM is based on mean-centered standardized scores. Therefore, to get a meaningful interpretation of the conditional results, the original scales must be restored. In our case both moderators are 0/1 variables, therefore the sample mean is the fraction, q , of ones in the sample, and the standard deviation equals the square root of $nq(1-q)/(n-1)$, where n is the sample size. Accordingly, when the moderator assumes value 0, the corresponding standardized value is negative of the square root of the product of $(n-1)/n$ and $q/(1-q)$. Similarly, the square root of the product of $(n-1)/n$ and $(1-q)/q$ corresponds to the moderator's value 1. We utilize these transformations in Panels C and D of Table 3.

Recalling that IEM fully mediates the relationship between effectual decision-making and international performance, Panel C and D of the table show that in both markets the mediation effect is stronger among the service-offering firms than those of production firms that do not offer service (e.g., in developing markets, Panel C, among production firms: Effectual \rightarrow IEM $\beta = 0.490, p = 0.000$. while among service offering firms: Effectual \rightarrow IEM $\beta = 0.668, p = 0.000$; also, thereby indirect effects have the same ordering, i.e., among the production firms: Effectual \rightarrow IEM \rightarrow Performance $\beta = 0.180, p = 0.000$, and among the service

offering firms; $\beta = 0.245, p = 0.000$). The story is quite different for causal decision-making logic. As found in the results above, IEM only partially mediates the relationship between causation and performance. Panels C and D of Table 3 show that mediation occurs factually only among firms from developed markets. Panel D shows that none of the coefficients among firms from developing markets (either service offering or production firms) are significant. On the other hand, among firms from developed markets both the direct and indirect effects are highly significant. Furthermore, it appears that opposite to effectual decision-logic, for causal decision-making logic the direct and indirect effects are stronger among production firms (Panel D: Production-oriented; Causal \rightarrow IEM $\beta = 0.495, p = 0.000$; Causal \rightarrow IEM \rightarrow Performance $\beta = 0.182, p = 0.000$; Service offering: Causal \rightarrow IEM $\beta = 0.295, p = 0.001$; Causal \rightarrow IEM \rightarrow Performance $\beta = 0.108, p = 0.002$).

Thus, in summary, while the overall results fully support H2a, partially support H2b, and support H3a and H3b, the conditional process analysis in Panel D reveals that the full mediating effect of IEM on the relationship between effectual decision-making and international performance is strongest among service offering firms from developing markets. On the other hand, the partial or complementary mediation of IEM on the relationship between causal decision-making and international performance occurs only among firms from developed market firms and is stronger for production firms than service-offering firms. Thus, there seems to be no empirical evidence of IEM mediation of the relationship between causal decision-making and international performance among firms from developing markets. In reflection of H3b, this implies that the relation between causal decision-making logic and international performance through IEM is not only stronger among SMEs from developed markets, but there is no empirical evidence that the relation even exists among SMEs from developing markets.

Finally, regarding the control variables, the results show that two control variables, B2C and INVs, both have significant positive effects on IEM and international performance. This suggests the IEM and international performance averages are higher among B2C SMEs than B2B SMEs, and higher among SMEs that are international new ventures (INVs, i.e., foreign sales reached 25 % of total sales within three years of foundation) than not being INVs.

Additional analyses. We conducted further statistical analyses to investigate the presence of potential CMB. As PLS is essentially a regression model among the composites of the model, CMB causes biases similar to missing variables in regression (Siemsen, Roth, & Oliveira, 2010). Our study has one marker variable (Lindell & Whitney, 2001): *Our company has been able to attract an equal share of women and men as employees*. We use this variable as an extra factor explaining IEM and international performance. Including the marker variable as an additional factor to predict performance increased R-square only marginally, by 3.1 percentage points from 0.334 to 0.365. Therefore, the marker variable technique does not indicate the presence of CMB.

Moreover, we utilized *secondary accounting data* to verify our findings, when such data were available (which was only in Finland), and for that purpose constructed measures for performance-based separately on the change in two accounting measures, EBIT margin and ROCE. In each case, we computed the change in the average from 2014 to the year before the response year, and the average of the three years including the response year and two following years, thus measuring roughly the change in performance after the response year. Our analyses employing accounting data on these measures for performance showed that IEM has a significant positive impact on performance in line with H5 in terms of EBIT margin ($\beta = 0.24, p = 0.020$) and borderline significant in terms of ROCE ($\beta = 0.17, p = 0.058$). We conclude that the findings are in line with those extracted based on subjective performance measures, and thus offer further support for our results in developed markets, indicating that our performance measurement is reliable.

Finally, some earlier research (e.g., Smolka, Verheul, Burmeister-Lamp, & Heugens, 2018) has claimed that the interaction of effectuation and causation may affect performance. Therefore, we

examined this effect in our model. The results suggest that the variable *Causal x Effectual* does not have a significant impact on either IEM ($\beta = -0.03$, $p = 0.372$) or performance ($\beta = 0.028$, $p = 0.451$). The mediation effect of IEM between *Causal x Effectual* and international performance is also insignificant ($\beta = -0.01$, $p = 0.375$). This further demonstrates that our hypothesized model in Fig. 1 provides a clearer insight into the phenomenon under investigation.

6. Discussion

Based on the theory of effectuation (Sarasvathy, 2001; Sarasvathy, 2008), this study examined a moderated mediation model asserting that IEM mediates the relationship between decision-making logics and SMEs' international performance, which is further moderated by service offerings and economic development at the first stage. Our research shows support for full mediation of IEM in the positive relationship between effectual decision-making logic and international performance. We find support for a partial mediating effect in the positive relationship between causal decision-making logic and international performance. Moreover, the study suggests the moderated mediation effects of SMEs' service offering and economic development of the home country between decision-making logics and IEM. As expected, service offering strengthens the positive relationships between effectual logic and IEM, leading to higher international performance but weakens the positive relationship between causal logic and IEM, leading to lower international performance. Economic development of SMEs' home country weakens the positive relationships between effectual logic and IEM, leading to lower international performance but strengthens the positive relationship between causal logic and IEM, leading to higher performance. These findings provide empirical support for earlier qualitative work in the domestic context that suggests effectuation is applied in marketing under uncertainty (Read et al., 2009).

Furthermore, different from earlier research in the domestic context, such as Smolka, Verheul, Burmeister-Lamp, & Heugens (2018), our additional analysis suggests that the interaction of effectuation and causation does not have a significant impact on either IEM or international performance. This may be due to the mismatch between the applied decision-making logic and the context regarding the environment or profile of the entrepreneur or the firm (Burke, Fraser, & Greene, 2010). Adding a decision-making logic that is ill-suited to the environmental condition may be harmful, for example, applying causal decision-making logic under a situation when reliable data cannot be gathered or is outdated can be harmful to the SME. It may be better to apply only effectual decision-making logic in such a situation. Similarly, research has found that a particular logic may require a particular experience. For example, Kusi et al. (2022) found that effectual decision-making logic requires international entrepreneurial experience while causal decision-making logic demands more international marketing planning experience. Thus, applying both decision-making logics requires a particularly wide experience from the entrepreneur, which is seldom present. Finally, applying two logics takes additional time from the entrepreneurs, often away from actual entrepreneurial behavior, which cannot be recommended if this does not bring adequate additional benefits to the SME.

6.1. Theoretical and practical implications

This research makes two main *theoretical contributions* to international business research and international entrepreneurship literature. First, it suggests IEM as the missing mechanism between effectual, causal decision-making logics, and international performance. The research enhances our understanding of what international behaviors may convert effectual and causal decision-making logics into SMEs' performance gains, as we know very little concerning what kind of international behavior acts as the mediating mechanism, and under what boundary conditions. Previous empirical results mainly focus only on

one of the logics (e.g., Bai et al., 2022; Tolstoy et al., 2023), or on direct relationships between the logics and international performance (Donbesuur et al., 2022; Vuorio & Torkkeli, 2023). We contribute to extant research by uncovering the critical role of IEM, as an essential international behavior mechanism, which positively mediates these focal relationships. Our study provides quantitative evidence that IEM can turn both effectual and causal decision-making logics into enhanced SME international performance. This contributes to the effectuation literature that connects effectuation, causation, and entrepreneurial marketing (Breit & Volkmann, 2024; Sullivan Mort et al., 2012; Yang & Gabrielsson, 2017). Second, this study advances our knowledge regarding uncertainty as the boundary condition for applying effectual and causal decision-making logics in international business. In response to calls to clarify the boundary conditions (McKelvie et al., 2020), and empirically examine the consequences of effectuation and causation in different uncertainty settings (Karami et al., 2020; Perry et al., 2012), our cross-country empirical study reveals that the use of effectuation in connection with IEM is more important for SMEs from developing than developed markets. In addition, we demonstrate the importance of effectuation in connection with IEM in emerging economies.

Furthermore, our findings shed light on another boundary condition concerning uncertainty for applying effectuation theory in SMEs, that is, whether the firm offers services. The importance of effectuation in the service business is understandable from the service-dominant logic perspective, emphasizing value co-creation with customers (Vargo & Lusch, 2004). However, the complex and heterogeneous characteristics of service (Rammal & Rose, 2014; Sanchez-Peinado & Pla-Barber, 2006) have received limited attention in international entrepreneurship settings. Thus, the results of this study show that using effectuation in connection with IEM is more critical for SMEs that include service in their offerings compared to those that do not.

Finally, our study offers *practical implications* for SME entrepreneurs and managers in international business. We warn them from relying on international and/or entrepreneurial behavior as a general recipe for improved international performance. Instead, they should recognize that it is important to apply it in connection with IEM to safeguard superior international performance. Such IEM behavior involves being proactive and international opportunity-driven, focusing on innovation, value creation, and risk management, as well as leveraging resources and building customer intensity in international markets. Particularly, for internationalizing SMEs that offer services and/or for those originating from developing countries, we suggest considering the use of effectual decision-making logic to foster IEM behavior, whereas causal decision-making logic can be recommended for internationalizing SMEs with physical products, and/or those originating in developed countries. In addition, we advise policymakers and venture capitalists to recognize internationalizing SMEs' IEM capabilities, as these may provide great potential for success in international business.

6.2. Limitations and future research suggestions

This study does have limitations that provide avenues for future research. First, the study concentrated on internationalizing SMEs from three countries representing a limited variety of developed and emerging markets. Hence, we should be cautious when generalizing beyond those three countries. The findings may prove useful in other countries with similar conditions, though more research would be required to verify the extent to which the findings are generalizable in other country contexts. Furthermore, given that secondary performance data were not available in all the SMEs in our study, we relied largely upon perceptual performance measures. In doing so, we could have made the results vulnerable to CMB, despite the procedural and statistical measures taken to minimize it. These measures included using accounting data for verification purposes when available, and multiple informants to verify our results. Therefore, we encourage future research to include international performance measures based on

accounting data whenever possible. We acknowledge that a more balanced sample size could enhance the study. Future research could expand the sample from developing markets or include additional developing markets to further validate and enrich the findings

We recommend future studies test moderators that are not included in this research, such as various contingencies in the external or internal environment of the firm. Moreover, it may be interesting to test other potential mediators between effectual, causal decision-making logics, and international performance relationships, such as networking capabilities or resource utilization. Further, future research could conduct quantitative testing of the antecedents of effectual, causal decision-making logics. It would also be interesting to see more research studying effectuation, causation, and their antecedents and outcomes in different theoretical settings, such as corporate entrepreneurship in larger companies (see Szambelan & Jiang, 2020) in international business, such as multinational enterprises, collective effectuation, and causation among communities (see Murphy, Danis, Mack, & Sayers, 2020) in international business or international teams. Finally, we encourage future studies to apply novel research methods to test their effectuation research models, such as experimental tests (see Kuechle, Boulu-Reshef, & Carr, 2016), and simulations (see Welter & Kim, 2018) in the international business context.

7. Conclusion

The present study aims to advance our understanding of what kind of

international behavior mechanism, and under what boundary conditions, enable effectual and causal decision-making logics to produce international performance gains in SMEs. While IEM fully mediates the positive effectuation–international performance relationship, it only partially mediates the positive causation–international performance relationship. Nevertheless, we can conclude that IEM can convert both effectual and causal decision-making logics into international performance gains. However, effectual decision-making logic has a stronger impact on IEM among SMEs that offer services and those from developing markets, whereas causal decision-making has a stronger impact on IEM among those that do not offer services and those from developed markets, to generate superior international performance. These insights contribute to the continuing theory advancement in the international entrepreneurship field and effectuation research in international business.

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Appendix A. Measurement scales and indices

Effectual decision-making logic (in international business) (Second-order reflective-formative construct) based on Kusi et al. (2022), adapted from Brettel et al. (2012), Chandler et al. (2011) and Werhahn et al. (2015).

Means orientation ($CR = 0.88$; $AVE = 0.71$, $VIF = 1.26$)

1. The target of our international business was vaguely defined at the beginning. (Discarded, loading < 0.7)
2. Existing means/resources have been the starting point for our international business.
3. On the basis of existing means/resources, international business targets were converged.
4. Existing means/resources have significantly impacted the framework of our international business.

Affordable loss ($CR = 0.89$; $AVE = 0.68$, $VIF = 1.35$)

5. We were careful not to commit more resources to international markets than we could afford to lose.
6. Considerations about potential losses were decisive for the selection of the international business option.
7. The selection of the international business option was mostly based on a minimization of risks and costs.
8. Budgets were approved on the basis of considerations about acceptable losses on the international markets.

Partnership ($CR = 0.88$; $AVE = 0.65$, $VIF = 1.58$)

9. We tried to reduce the risks of international business through internal or external partnerships and agreements.
10. To reduce international risks, we started partnerships and received pre-commitments.
11. We used pre-commitments from international customers and suppliers as often as possible.
12. We jointly made decisions with our international partners/stakeholders on the basis of our competences.

Leveraging contingencies ($CR = 0.89$; $AVE = 0.67$, $VIF = 1.53$)

13. We always reacted to surprises—if necessary, the international business target was adjusted.
14. We always tried to integrate surprising results — even though this was not necessarily in line with the original international target.
15. Potential setbacks or external threats abroad were used as advantageously as possible.
16. We were flexible and took advantage of international opportunities as they arose.

Co-created future ($CR = 0.92$; $AVE = 0.75$, $VIF = 1.27$)

17. We attempt to influence international trends.
18. We attempt to proactively design our international environment with others.
19. We attempt to shape the international environment we operate in.
20. We attempt to co-create future international markets.

Causal decision-making logic (in international business) (Second-order reflective-formative construct) based on Kusi et al. (2022), adapted from Brettel et al. (2012), Chandler et al. (2011) and Werhahn et al. (2015).

Goal orientation ($CR = 0.92$; $AVE = 0.85$, $VIF = 1.98$)

1. The target of our international business was clearly defined in the beginning.
2. On the basis of set international business targets, required means/resources were determined for our business.

Expected returns ($CR = 0.88$; $AVE = 0.78$, $VIF = 1.90$)

3. Considerations about potential returns from international operations were decisive for the selection of the business options.
4. Budgets for international operations were approved based on calculations of expected returns (e.g., ROI).

Competitive analysis ($CR = 0.96$; $AVE = 0.92$, $VIF = 3.26$)

5. We researched and selected foreign target markets and carried out meaningful competitive analysis.
6. We have made our international decisions on the basis of systematic market analyses.

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Effectual decision-making logic (in international business) (Second-order reflective-formative construct) based on Kusi et al. (2022), adapted from Brettel et al. (2012), Chandler et al. (2011) and Werhahn et al. (2015).

Avoiding contingencies ($CR = 0.95$; $AVE = 0.90$, $VIF = 3.62$)

7. The international business target had the highest priority; we tried to avoid potential surprises (e.g., by conducting upfront market analyses).
8. Through the use of upfront international market analyses, we tried to avoid setbacks or external threats.

Predictive future ($CR = 0.91$; $AVE = 0.84$, $VIF = 1.31$)

9. We attempt to adjust to the international environment.
10. We attempt to predict future markets abroad.

International performance (reflective construct) based on Lu et al., 2010 and Nakos et al., 2014 ($\alpha = 0.92$; $CR = 0.84$; $AVE = 0.71$)

Please rate your organization's performance in international markets relative to your main competitors (1 =much worse, 7 =much better).

1. International sales growth
2. International market share
3. Achieving international customer satisfaction
4. Profitability as a percentage of international sales
5. International profit growth
6. Return on international investment

International entrepreneurial marketing (IEM) (Second-order reflective-formative construct) based on Morris et al., 2002, adapted from Eggers et al., 2020, Fiore et al., 2013 and Sadiku-Dushi et al., 2019)

International proactive orientation ($CR = 0.91$; $AVE = 0.78$, $VIF = 2.16$)

1. My firm is frequently one of the first in the industry to try radical new marketing methods abroad.
2. We tend to be a leader when it comes to international marketing practices.
3. At my firm, we seek to lead international customers rather than following them.

International opportunity-driven ($CR = 0.83$; $AVE = 0.61$, $VIF = 1.97$)

4. My firm's marketing efforts abroad reflect the seeking of new, untapped market positions abroad instead of competing head-to-head with other firms.
5. We regularly pursue new market opportunities abroad regardless of budgetary or staff constraints.
6. When new international market opportunities arise, my firm very quickly acts on them.

International risk management ($CR = 0.80$; $AVE = 0.67$, $VIF = 1.34$)

7. My firm typically uses creative, low-cost ways to reduce risks associated with new marketing activities abroad.
8. Our marketing efforts abroad tend to have a low level of risk for my firm. (Discarded, loading < 0.7)
9. When we decide to pursue a new marketing direction abroad, we do so in stages rather than all at once to reduce the risk involved.

International customer intensity ($CR = 0.88$; $AVE = 0.71$, $VIF = 2.39$)

10. We spend considerable resources continually trying to learn more about each of our international customers.
11. We are a strongly customer-focused company in foreign markets.
12. My firm's international marketing efforts reflect knowledge of what our customers really want from our products/service.

International innovation-focused ($CR = 0.88$; $AVE = 0.71$, $VIF = 2.62$)

13. International marketing is innovative in my firm.
14. My firm's international marketing efforts abroad break some of the "rules of the game" for marketing products in our industry.
15. We communicate with international customers during marketing efforts to identify innovation opportunities.

International resource leveraging ($CR = 0.84$; $AVE = 0.63$, $VIF = 2.36$)

16. We stretch resources much further than others have done in the past in our marketing efforts abroad.
17. We use other people's (or firms') resources to accomplish our own international marketing purpose.
18. We complement one source with another to create higher combined value for our international customers.

International value creation ($CR = 0.90$; $AVE = 0.74$, $VIF = 2.55$)

19. We expect every employee to be looking for ways our international business can create more value for customers.
20. My firm continuously tries to find new ways to create value for our international customers.
21. My firm explores each international marketing mix element in a search for new sources of value for customers abroad.

Service (Single item)

Firms that offer service = 1, firms that do not offer service = 0

Economic development of home country (Single item)

Firms originating from the developed market = 1, firms originating from the developing market = 0.

Firm age (Single item)

Subtracting the year the firm was founded from the year data collection was completed.

Firm size (Single item)

The firm's total number of employees.

Sector (Single item)

B2C = 1, B2B = 0.

International new ventures (Single item) based on Jean et al. (2020)

The firms whose foreign sales reached 25 % of total sales within three years of foundation = 1, other firms = 0.

Appendix B. HTMT matrix for discriminant validity of reflective constructs

		MO	AL	PS	LV	CF	GO	ER	CA	AC	PF	PA	OD	RM	CI	IV	RL	VC
Effectual decision-making	AL	0.46																
	PS	0.42	0.54															
	LV	0.37	0.22	0.54														
	CF	0.10	0.10	0.32	0.52													
Causal decision-making	GO	0.20	0.20	0.45	0.44	0.38												
	ER	0.27	0.37	0.49	0.51	0.48	0.83											
	CA	0.11	0.35	0.39	0.29	0.35	0.65	0.67										
	AC	0.18	0.40	0.46	0.39	0.39	0.68	0.71	0.91									
International entrepreneurial marketing	PF	0.33	0.07	0.38	0.59	0.53	0.46	0.47	0.40	0.53								
	PA	0.08	0.13	0.20	0.29	0.55	0.34	0.44	0.40	0.43	0.33							
	OD	0.13	0.15	0.28	0.44	0.54	0.39	0.40	0.36	0.40	0.53	0.76						
	RM	0.30	0.38	0.43	0.41	0.22	0.41	0.50	0.39	0.42	0.48	0.34	0.64					
	CI	0.25	0.18	0.42	0.58	0.45	0.49	0.55	0.44	0.53	0.59	0.62	0.75	0.56				
	IV	0.14	0.09	0.31	0.44	0.50	0.38	0.44	0.46	0.44	0.42	0.82	0.73	0.46	0.77			
	RL	0.21	0.15	0.45	0.56	0.55	0.46	0.53	0.46	0.54	0.56	0.64	0.73	0.58	0.75	0.83		
	VC	0.33	0.28	0.52	0.57	0.45	0.54	0.53	0.54	0.61	0.59	0.58	0.70	0.59	0.81	0.68	0.81	
Performance	IP	0.18	0.10	0.26	0.42	0.39	0.42	0.42	0.32	0.33	0.37	0.48	0.45	0.27	0.51	0.48	0.43	0.52

Effectual decision-making: MO = Means orientation, AL = Affordable loss, PS = Partnership, LV = Leveraging contingencies, CF = Co-created future; *Causal decision-making*: GO = Goal orientation, ER = Expected returns, CA = Competitive analysis, AC = avoiding contingencies, PF = Predictive future; *International entrepreneurial marketing*: PA = International proactive orientation, OD = International opportunity-driven, RM = International risk management, CI = International customer intensity, IV = International innovation-focused, RL = International resource leveraging, VC = International value creation; IP = International performance.

Appendix C. MICOM results for testing the unity of correlations, differences in construct means, and differences in construct (log) variances between countries

	Construct correlation		-	Construct means		-	Construct variance	
	Sample correlation	1 % bound		Difference	p-value		Log diff.	p-value
Panel A: New Zealand – Finland								
International performance	0.999	0.995		0.303 ^c	0.005		-0.053	0.697
Causal	0.996	0.996		0.338 ^c	0.002		0.104	0.475
Effectual	0.938	0.860		0.130	0.245		-0.151	0.345
IEM	0.999	0.997		0.426 ^c	0.000		0.127	0.389
Panel B: New Zealand – China								
International performance	0.999	0.997		-0.283	0.027		0.027	0.851
Causal	0.999	0.995		0.545 ^c	0.000		-0.454 ^c	0.005
Effectual	0.983 ^c	0.985		0.101	0.422		0.310	0.111
IEM	0.985 ^c	0.996		0.031	0.802		-0.595 ^c	0.001
Panel C: Finland – China								
International performance	0.998	0.996		0.027	0.801		-0.015	0.917
Causal	0.997	0.997		0.819 ^c	0.000		-0.292	0.014
Effectual	0.874 ^c	0.971		0.299 ^c	0.008		0.188	0.224
IEM	0.989 ^c	0.996		0.490 ^c	0.000		-0.405 ^c	0.002

^c significant at the 1 % level. The tests are based on 5000 permutation samples.

Appendix D. Combined New Zealand and Finland data with country differences captured by New Zealand (NZ) country dummy

	Estimate	Std err	p-value
Panel A: New Zealand - Finland structural equation			
EFF → IEM	0.326	0.050	0.000
CAUS → IEM	0.361	0.050	0.000
EFF → International performance	0.136	0.063	0.031
CAUS → International performance	0.107	0.060	0.077
IEM → International performance	0.354	0.062	0.000
Service moderation			
EFF x Service → IEM	0.095	0.049	0.051
CAUS x Service → IEM	-0.107	0.048	0.025
Service → IEM	0.027	0.040	0.490
Controls			
Firm age → IEM	-0.080	0.040	0.047
Firm size → IEM	0.090	0.042	0.031
Service → IEM	0.090	0.039	0.484
B2C → IEM	0.097	0.044	0.026
INVs → IEM	0.107	0.040	0.007
Firm age → International performance	0.091	0.046	0.048
Firm size → International performance	0.095	0.044	0.031
Service → International performance	0.095	0.014	0.502
B2C → International performance	0.076	0.046	0.103

(continued on next page)

(continued)

	Estimate	Std err	p-value
INVs → International performance	0.178	0.045	0.000
Panel B: Country (New Zealand) mean effects			
NZ → IEM	0.068	0.041	0.103
NZ → International performance	0.011	0.047	0.809
Panel C: Country (New Zealand) effects on structural coefficients			
EFF x NZ → IEM	-0.077	0.054	0.153
CAUS x NZ → IEM	0.096	0.050	0.054
IEM x NZ → International performance	0.007	0.041	0.865

Data Availability

Data is confidential.

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