

# Entrepreneurial alertness and business model innovation in dynamic markets: international performance implications for SMEs

Yong Kyu Lew<sup>1</sup> , Nadia Zahoor<sup>2,\*</sup>,  
Francis Donbesuur<sup>3</sup> and Huda Khan<sup>4</sup>

<sup>1</sup>HUFS Business School, Hankuk University of Foreign Studies, 107, Imun-ro, Dongdaemun-gu, Seoul, 02450, South Korea. yklew@hufs.ac.kr

<sup>2</sup>School of Business and Management, Queen Mary University of London, London, E1 4NS, UK. n.zahoor@qmul.ac.uk

<sup>3</sup>University of Leicester School of Business, Leicester, LE2 1RQ, UK. fd122@leicester.ac.uk

<sup>4</sup>Africa-Asia Centre of Sustainability Research, University of Aberdeen, Aberdeen, AB24 3 FX, UK. huda.khan@abdn.ac.uk

**A significant yet rarely probed question in the international entrepreneurship literature is to what extent and when entrepreneurial alertness (EA) manifests into international performance for small and medium-sized enterprises (SMEs). Using survey data from 214 SMEs in the United Arab Emirates, this study investigates the relationships between EA, business model innovation (BMI), domestic market dynamism and internationalisation scope of SMEs. The study finds that BMI (i.e., entrepreneurial action) significantly mediates the relationship between EA (i.e., entrepreneurial capability) and SMEs' internationalisation scope (i.e., international performance). Furthermore, when domestic market dynamism is high, the effect of BMI on internationalisation scope is strengthened. These findings provide theoretical and practical implications for international entrepreneurship research in the SME context.**

## 1. Introduction

Increased competition and limited business opportunities in domestic markets have spurred small and medium-sized enterprises (SMEs) to become increasingly interested in internationalising their operations (Yayla et al., 2018; Buccieri et al., 2020). Internationalisation across multiple foreign markets, known as internationalisation scope (D'Angelo

et al., 2016), offers significant growth for SMEs, especially those that operate in saturated domestic markets. Diversifying across foreign markets allows SMEs to generate value from their limited yet high-cost resources, achieve market positioning, and diversify risks (George et al., 2005). It also enables them to learn from foreign markets and encourages them to invest in developing capabilities (Dai et al., 2014).

### *Entrepreneurial alertness and business model innovation in dynamic markets*

However, SMEs' strategic move to broaden their internationalisation scope entails challenges such as the risk associated with new institutional environments (McCormick and Somaya, 2020) and identifying and developing business opportunities (Dai et al., 2014; Felzensztein et al., 2015). Prior research has primarily viewed entrepreneurial orientation (i.e., entrepreneurial innovativeness, proactiveness and risk-taking behaviours) as a key strategic enabler for SMEs to overcome internationalisation challenges (see, Kuivalainen et al., 2007; Wang, 2008). As argued by Felzensztein et al. (2015), "the more markets a firm enters, the more it is acting entrepreneurially, the more risks it is taking, and the more actively and innovatively it may be pursuing its international strategy" (p. 148). Entrepreneurial orientation is a business-level construct that captures firms' styles when engaging in entrepreneurial activities (Yun, Park, et al., 2016; Kock and Gemünden, 2020) both in domestic and foreign markets. While entrepreneurial orientation is useful in guiding how SMEs could shape their internationalisation drive, the concept is inadequate to help SMEs "make assessments, judgments, or decisions involving opportunity evaluation and value creation" (Mitchell et al., 2002, p. 97). In this respect, this research pays attention to *entrepreneurial alertness* (EA), an entrepreneur's capability to identify opportunities that others overlook (Pirhadi et al., 2021).

Prior studies suggest that the internationalisation efforts of SMEs require the consideration of the characteristics and capabilities of entrepreneurs (Muzychenko and Liesch, 2015; De Cock et al., 2021). Entrepreneurs act as active agents in the markets, and their alertness capabilities can help proactively identify and exploit opportunities for internationalisation scope (McCormick and Fernhaber, 2018). However, despite its intuitive appeal, empirical support for EA and internationalisation scope nexus has so far been lacking (Yang et al., 2020). Yet, understanding the impact of EA on internationalisation scope is vital because not all SMEs are able to expand their businesses by diversifying their foreign markets. As evident in international entrepreneurship literature (Dominguez and Mayrhofer, 2017; Lee et al., 2020), entry into distant markets can potentially threaten the survival and international expansion of SMEs. By investigating how EA affects opportunity identification and retention with respect to internationalisation scope, this study aims to increase the understanding of why some SMEs can expand to diverse markets better than others. This study develops and tests a conceptual model to examine the relationship between EA and internationalisation scope.

Scholars interested in entrepreneurial opportunities further suggest that opportunities are discovered by alert entrepreneurs, but competitive advantage can only be attained by exploiting the identified opportunities (Dimov, 2011; Berglund et al., 2020). Indeed, while EA enables entrepreneurs to recognise opportunities ahead of competitors, entrepreneurial actions are required to exploit the recognised opportunities (Mainela et al., 2014). As such, this research also considers the business model innovation (BMI) of SMEs as an entrepreneurial action that connects EA capability to the diversity of foreign markets SMEs have entered. Specifically, BMI refers to a firm's activities related to "the conceptualization and adoption of new ways of conducting economic exchanges among transaction participants" (Zott and Amit, 2007, p. 184). While EA allows an SME to identify opportunities ahead of others (Tang et al., 2012), BMI reinvents business models to cater to and exploit the identified opportunities (George and Bock, 2011; Guo et al., 2017). BMI enables firms to alter ideologies and strategies for foreign markets in order to cater to the needs of differentiated customers in diverse markets and attain international performance (Asemokha et al., 2019). Thus, we contend that BMI can act as an intermediary mechanism for the relationship between EA and SMEs' internationalisation scope, and raise the first research question: *To what extent does EA affects SMEs' BMI and internationalisation scope?*

Furthermore, these internationalising SMEs' BMI and degree of internationalisation scope – such as the number of foreign markets penetrated and revenues from the diverse markets – may be contingent upon domestic market dynamism. Regarding domestic market dynamism, Clauss et al. (2019) acknowledge the domestic environment as an important contingency factor, arguing that "firms in such environments operate under constant pressure to not only respond quickly to changing market conditions but also learn to proactively anticipate and adapt" (p. 4). Similarly, Spieth et al. (2014) suggest that future studies ought to consider the role of market dynamism in driving BMI for performance outcomes. The extant market literature on domestic market dynamism suggests that in a rapidly changing environment, there is a greater need to innovate business models to keep pace with the market and technological changes (Calantone and Rubera, 2012; Chu et al., 2018; Miroshnychenko et al., 2020). Conversely, the need for BMI is reduced when SMEs compete in environments with low uncertainty. Hence, it can be expected that the role of BMI for internationalisation is more important when domestic environmental dynamism is high.

Following these reasonings, we contend that SMEs that operate within highly dynamic domestic market conditions tend to frequently innovate their business models to respond to market pressures and customer demands, thereby better-exploiting business opportunities in the markets and increasing foreign market diversification. Against the backdrop of the arguments above, this study offers this second question: *Does domestic market dynamism moderate the relationship between BMI and SMEs' internationalisation scope?*

This study contributes to the international entrepreneurship literature in two important ways. First, it conceptualises and validates a rarely discussed phenomenon – the relationships between EA, BMI and internationalisation scope in the SME context (Miroshnychenko et al., 2020; Bhatti et al., 2021). Specifically, our research proposes the notion of BMI (entrepreneurial action) as an important conduit through which EA (entrepreneurial capability) affects SMEs' international market diversification (internationalisation scope). Second, in responding to research calls by Ciampi et al. (2021) and Spieth et al. (2014), our conceptual model considers the moderating effect of domestic market dynamism on the relationship between SMEs' BMI and internationalisation scope. The study findings demonstrate that the nature of the domestic markets within which SMEs operate is a key contingency factor for strengthening the effect of BMI on internationalisation scope.

## 2. Literature and hypothesis development

### 2.1. Entrepreneurial alertness

Entrepreneurial alertness (EA) is a key construct in the venture creation process and subsequent performance in business entrepreneurship research (Gaglio and Katz, 2001). Initially, EA has been defined as the ability of a decision-maker to sense opportunities that are overlooked by others (Kirzner, 1973, 1999). Kaish and Gilad (1991) argued that alert entrepreneurs have distinctive readiness for environmental scanning to identify opportunities. Similarly, Kirzner (1999) contended that creative actions are involved in alertness and might “impact the type of transactions that will be entered into future market periods” (p. 10).

Among scholarly work on EA, Tang et al. (2012) developed and validated EA as consisting of three complementary elements: (1) “scanning and searching for information, (2) connecting previously-disparate information, and (3) making evaluations on the existence of profitable business opportunities” (p. 77).

The first dimension of ‘scanning and searching’ entails the entrepreneurial cognition process of perusing the environment continuously and searching for new ideas, knowledge, and market changes (Mitchell et al., 2007). The second dimension, ‘alert association and connection’, relates to integrating different information and transforming them into coherent alternatives (Campos, 2017). The third dimension is the evaluation and judgement of changes or information, and deciding if the changes present an opportunity with profitable returns (Pirhadi et al., 2021). When entrepreneurs possess high EA, they become responsive to search for market changes and endeavour to spot business opportunities (Valliere, 2013). In this vein, alertness helps entrepreneurs access information about arbitrage conditions to re-establish market position or information about the market and technological development to create greater value (Fatima and Bilal, 2020). EA is conceptually distinct from subsequent opportunity development and activities that are undertaken to exploit identified opportunities (Rezvani et al., 2019). Hence it is regarded as “a state of mind that is open to opportunities at all times” (Busenitz, 1996, p. 43).

These elements of EA, such as ‘scanning and search’, ‘association connection’ and ‘evaluation and judgement’ (Campos, 2017; Tang et al., 2021), are akin to the notion of recently studied micro-foundations of dynamic capabilities in terms of the role of enterprising individuals within the organisation (Salvato, 2009; Felin et al., 2012; Agarwal et al., 2014; Helfat and Peteraf, 2015). In the literature, EA is often considered the ability of an individual (entrepreneur) (Sharma, 2019), whilst dynamic capability is regarded as firm-specific capabilities at the aggregated level (Felin et al., 2012). Put differently, a firm’s “dynamic capability is enacted when the organisational development is actually undertaken” (Kevill et al., 2017, p. 885). Indeed, there have been recent calls to shed light on micro-foundations of the firm’s capabilities in consideration of the lower-level entities and practical realities of the organisation (e.g., Felin et al., 2012; Helfat and Peteraf, 2015; Castellano et al., 2021).

Following the views on the tenets of capabilities above, EA can be considered a unique entrepreneur’s capability that sparks and facilitates SMEs’ innovative business activities (as entrepreneurial actions) in dynamic overseas business environments. Also, recent scholars have attempted to advance EA concepts by considering various cognitive processes and capabilities, such as previous knowledge, identification of patterns, processing of information and judgement and movement towards entrepreneurial ‘actions’ (Gaglio and Katz, 2001;

Mitchell et al., 2007; Campos, 2017). Thus, entrepreneurial capabilities (i.e., EA in this study) could co-evolve with entrepreneurial actions that are EA-driven innovative activities and practices in turbulent market conditions. Specifically, appropriate entrepreneurial actions are needed to make use of entrepreneurial capabilities for competitive advantage. Therefore, as we reviewed in the next section, this study views BMI as a concrete entrepreneurial action to utilise the value of EA for SMEs' internationalisation scope.

## 2.2. Business model innovation

The concept of business model gained prominence due to firms' growing interest in understanding and operationalising new business ideas that are conducive to new revenue mechanisms (Zott et al., 2011; Snihur and Wiklund, 2019; Yun and Zhao, 2020). While there is a lack of consensus on its definition (Coombes and Nicholson, 2013; Evans et al., 2017), a business model can be perceived as the process through which a firm can create and capture value (Spieth et al., 2014). In other words, the business model refers to "the structure of the value chain (an activity-based concept), creating value, thereby addressing the underlying logic of how the firm delivers value to its customers" (Zott and Amit, 2010, p. 219). A firm with unique structures, contents and governance configurations for generating and seizing value for all stakeholders is considered to have a sustainable business model (Reficco et al., 2020).

When firms operate in turbulent and dynamic market environments, they need to adapt and modify their business models (Berends et al., 2016; Yun et al., 2019), ultimately giving rise to the concept of business model innovation (BMI) (Markides, 2013; Evans et al., 2017; Miroshnychenko et al., 2020). Specifically, BMI concerns how a firm needs to reconfigure and modify (where necessary) the existing business model to a new one that is innovative and useful to the market in which the firm operates (Casadesus-Masanell and Zhu, 2013; Mezger, 2014). In the special issue on BMI in *R&D Management*, Spieth et al. (2014) reviewed different aspects of BMI and proposed three different roles of BMI (i.e., explaining, running, and developing the business), and emphasised that successful BMI can serve as an important source of a firm's competitive advantage. Firms must pursue BMI in a timely and effective manner when opportunities are discovered (Cosenz and Bivona, 2020), thereby leading to competitive advantage by reconfiguring the business models that make them hard to replicate by existing firms or new entrants (Teece, 2010).

BMI can include introducing new products or services to satisfy customer needs, implementing efficient production systems or processes, developing new technologies, arranging new financial means, or bringing in new partners (Massa et al., 2016). Such initiatives may be new to the firm, new to the industry and/or the result of changes in the external environment, competitors' behaviours or strategies (Foss and Saebi, 2016; Saebi et al., 2017). In this respect, BMI allows SMEs to exploit new products or services across borders to realise competitive advantage (Verbeke et al., 2018). Bohnsack et al. (2020) suggest that internationalisation does not only depend on whether resources and capabilities are exploited in foreign markets but also on whether BMI as a whole can create and retain values internationally. In a similar vein, Wei et al. (2014) argued that BMI allows firms to fit value propositions and commercialise their technology in new markets. Thus, SMEs must combine a new technology with a suitable business model – that is, the configuration of a range of activities that can create value and allow SMEs to utilise and exploit the technology in the foreign market (Arregle et al., 2019). Against this backdrop, we view BMI as a critical entrepreneurial action to alter or reinvent the business operations of SMEs for their internationalisation outcomes.

## 2.3. The mediating effect of BMI on the relationship between EA and internationalisation scope

### 2.3.1. EA and BMI

While establishing the nomological validity of EA, Tang et al. (2012) relied on organisational innovation literature and argued that being alert would enable entrepreneurs to discover something new and increase firms' innovations. Despite this revelation, theoretical specification of the relationship between EA and BMI remains unclear. By drawing insights from the entrepreneurial opportunity process (Lumpkin and Lichtenstein, 2005), we contend that EA is conducive to BMI. Specifically, alert entrepreneurs can discover an opportunity in the marketplace (Rezvani et al., 2019) but to remain ahead of competitors, certain entrepreneurial actions are required to seize and exploit the identified opportunities (McMullen and Shepherd, 2006). As contended by Kirzner (1999), entrepreneurship involves a process of opportunity identification and the entrepreneurial actions that follow. The fundamental act may involve developing and exploiting new products or processes or creating new markets to innovate and address social and economic



circumstances (Meijer et al., 2010; Watson, 2013). In particular, BMI often “requires managers to experiment to discover what can work and what fails, and communicate and institutionalize learning mechanisms (incorporating new knowledge and skills) into systems, procedures and structures across all echelons of the organization” (Sosna et al., 2010, p. 385). By exploiting EA, entrepreneurs can scan the environment, identify opportunities, and adopt alternatives to their existing business model (Campos, 2017; Romero et al., 2021).

More importantly, EA represents the heterogeneous capabilities of entrepreneurs to sense the opportunities in their environment (Helfat and Peteraf, 2015). In this way, EA contributes to SMEs’ pursuit of entrepreneurial actions for experimentation with identified opportunities, thereby gaining competitive advantage faster than rivals (Sirén et al., 2019). As Teece (2014) argued, entrepreneurial capabilities and actions co-evolve, which must be consistent, coherent, and accommodating to help achieve competitive advantage. As such, we suggest that EA (i.e., entrepreneurial capability) enhances an SME’s BMI (i.e., entrepreneurial action). SMEs with high alertness can monitor market changes and trends ahead of their competitors (Campos, 2017; Rezvani et al., 2019) and evaluate the competitiveness of their business model (Hock-Doepgen et al., 2020). To exploit value from identified threats or opportunities, entrepreneurs concentrate on BMI by making changes to individual components of business models, such as novelty in the way a firm produces and delivers value (Alshawaaf and Lee, 2020). Following the above reasoning, we contend that EA enables the BMI of SMEs.

### 2.3.2. BMI and internationalisation scope

BMI supports SMEs in configuring business models on the types of products and process innovations that create and capture values for firms (Yun et al., 2019). With BMI, SMEs can better respond to the competition or institutional-environment dynamics, and cope with external contingencies (Ferrerias-Méndez et al., 2021). BMI is vital for firm differentiation (Romero et al., 2021) and sustainable competitive advantage (Guo et al., 2017; Xiao et al., 2021). Some studies also show that BMI is germane to SMEs’ internationalisation (Onetti et al., 2012; Child et al., 2017). The different market and institutional conditions require changes to business models for international markets (Cooke, 2019; Colovic, 2021). In this regard, Futterer et al. (2018) contend that BMI on different dimensions, such as product range, information

technology, consumer value, internet and media, and order completion, can help firms to address challenges when entering international markets. By innovating their business models, SMEs not only can fulfil the previously unmet needs of existing customers but also attract a new customer base to enhance international performance (Asemokha et al., 2019; Cavallo et al., 2020). To extend this line of reasoning, this study contends that BMI can serve as an entrepreneurial action to facilitate SMEs’ internationalisation across multiple foreign markets, i.e., internationalisation scope (Jean et al., 2020).

The global marketplace is composed of differentiated local markets that require SMEs to be knowledgeable about “a country’s product standards, industry norms, customer needs, as well as the practices and capabilities of local competitors” (Sapienza et al., 2005, p. 445). Because BMI helps SMEs assess foreign market preferences (Colovic, 2021), achieving high levels of BMI would facilitate the adaptation of the novel and unique offerings for multiple foreign markets (Cooke, 2017). By innovating their business models on different dimensions (e.g., organisational strategy, structure, production, technology and administrative procedures), SMEs can successfully cater to the differential customer characteristics and needs across a more diverse set of markets (Tallman et al., 2018). BMI solutions allow SMEs to adapt to market requirements and commercialise their products by selecting appropriate value propositions (Ferrerias-Méndez et al., 2021). In this regard, BMI acts as an internal mechanism to support value creation and broaden SMEs’ internationalisation scope (Azar and Ciabuschi, 2017; Kano et al., 2020).

While innovating a business model is certainly one of the key processes SMEs undertake during internationalisation (Asemokha et al., 2019; Colovic, 2021), relatively few studies have examined the mediating effect of BMI on international performance (Asemokha et al., 2019). In this study, we posit that EA of entrepreneurs influences the process of BMI, thereby ensuring internationalisation scope outcome. While EA acts as an entrepreneurial capability to identify foreign market opportunities ahead of others (Helfat and Peteraf, 2015; Rezvani et al., 2019), being alert to opportunities in itself might not lead to enhanced internationalisation scope. Instead, SMEs need to pursue BMI to exploit identified opportunities for internationalisation scope by engaging in a range of activities, including knowledge management,

organisational system reconfiguration, networking and technological advancement (Evans et al., 2017; Cosenz and Bivona, 2020). Specifically, BMI as an entrepreneurial action is needed to capitalise on EA for SMEs' internationalisation scope.

We suggest that EA acts as an entrepreneurial capability to facilitate the anticipation of entrepreneurial opportunities and to sense environmental disruptions (Roundy et al., 2017). Highly alert entrepreneurs have a greater ability to monitor market changes and trends, which allows them to quickly seek BMI (Pirhadi et al., 2021). In turn, BMI enables SMEs to generate new sources of value creation for promoting internationalisation scope. Innovative business models can specify business logic, create commercial opportunities, promote competitive interactions, and strengthen positional advantage in a value chain (Xiao et al., 2021). In particular, BMI can help SMEs commercialise their products and adapt to the requirements of multiple markets, thereby leading to increased internationalisation scope. Therefore, an actively internationalising SME may deploy its entrepreneurial capabilities such as EA to rebuild the core competence of its business model to help expand its internationalisation scope (Child et al., 2017; De Silva et al., 2019). Based on the above, we argue that BMI serves as an intermediary mechanism through which EA leads to SMEs' internationalisation scope. Hence, we hypothesise:

H1 BMI mediates the relationship between EA and internationalisation scope of SMEs.

#### 2.4. Domestic market dynamism as a moderator

Market dynamism generally describes the unstable and unpredictable nature of markets and the business environment within which firms operate. Highly dynamic markets are characterised by changes or uncertainties in customer preferences, regulatory frameworks, technologies or market conditions (Jansen et al., 2006, p. 1664). These dynamic market conditions can influence SMEs' entrepreneurial actions, including product and process innovations (Wang and Chen, 2010; Chan et al., 2016). The dynamic and changing environment requires SMEs to improve their capacity for innovation and business dynamics (Lopes et al., 2021). The tenets of organisational ecology opine that the environment within which firms operate influences how resources are mobilised and capabilities deployed (Narver et al., 2004). Thus, perceived dynamism within the domestic markets affects entrepreneurial behaviour and innovation potential (Cao et al., 2012; Zhang

et al., 2020) and internationalisation scope of SMEs (Torkkeli et al., 2012; Hilmersson, 2013; Håkanson and Kappen, 2017). In this regard, we reason that domestic market dynamism can cause "infrastructural and behavioral influences" (Gao et al., 2017, p. 172) on the relationship between BMI and internationalisation scope, and this association is likely to be stronger under high levels of market dynamism. In the presence of greater changes in competitors' strategies, technological dynamism, market conditions and customer demands (Roundy et al., 2017), alert entrepreneurs are required to identify opportunities (associated with such dynamism) in high magnitudes that can lead to the pursuit of entrepreneurial activities or actions in the shape of BMI. Stating differently, under conditions of high domestic market uncertainty, SMEs become more alert to unpredictable changes in the environment and pursue BMI to drive internationalisation scope. The following two reasons justify our moderation hypothesis.

First, when domestic markets are unpredictable and uncertain, SMEs have reduced opportunities in home markets and are forced to pursue alternative strategies to escape the perceived harshness of home markets (Musteen et al., 2014). In this case, SMEs make full use of their BMI to deliberately innovate their core ideas instead of restricting the innovation scope to a single product or service that can lead to greater internationalisation scope (Futterer et al., 2018; Yun et al., 2018). Thus, when domestic environmental uncertainty increases, BMI allows SMEs to create their own values based on the technology they have accumulated internally and transfer it to diverse international marketplaces (Yun, 2015; Yun, Won, et al., 2016).

Second, under conditions of high domestic environmental uncertainty, an entrepreneurial culture is encouraged in SMEs to develop capabilities for innovative business models and better performance (Hock et al., 2016; Yun, Park, et al., 2016; Clauss et al., 2019). As such, in uncertain domestic marketplaces, internationalising SMEs need to own entrepreneurial capabilities (i.e., EA in our study research) that help reconfigure the resources and activities for innovating business models and identifying opportunities in foreign markets (Guo et al., 2017; Miroshnychenko et al., 2020). Paradoxically, domestic market dynamism presents opportunities to alert entrepreneurs to access comprehensive information about market and technological changes (Cao et al., 2018), thus enabling SMEs to introduce creative business models and tap into BMI to expand their international scope.

Taken together, we argue that high levels of domestic market dynamism may facilitate strong links

between EA, BMI and internationalisation scope of SMEs. In contrast, at low levels of domestic environmental uncertainty, market information becomes less tacit and relatively easier to predict the changes in altering existing business models. Accordingly, SMEs are likely to concentrate on minor adaptations in BMI, leading to a low requirement for internationalisation scope. Taken all together, we posit that;

H2 Domestic market dynamism moderates the relationship between BMI and internationalisation scope of SMEs.

Figure 1 provides the conceptual model of this study, illustrating the relationships between EA, BMI, internationalisation scope and domestic environmental dynamism in the context of SMEs.

### 3. Methodology

#### 3.1. Research setting

This research focuses on SMEs in the United Arab Emirates (UAE) for the following reasons. First, UAE is one of the world's most robust and emerging economies with high economic potential. The non-oil sectors, such as tourism, manufacturing, aviation, retail, hospitality, real estate and construction, are experiencing rapid expansion due to economic diversification, which in turn are creating more jobs in the country. Dubai's unemployment rate was just 0.5% in 2018, which is the world's lowest rate (Dubai Statistics Centre, 2018). The GDP of UAE is US\$421.14 billion with a growth rate of 1.60% in 2019 (Trading Economics, 2019). In 2019, the UAE has attracted US\$12.7 billion in foreign direct investment, an increase of 135% year on year. Second, UAE is a mixed free economy where Internet and Media free zones are developed, offering 100% foreign ownership. This has led to an increase in privately owned SMEs. Third, SMEs in the UAE contribute significantly to the development of the economy and continuously engage in new innovations (Pervan et al., 2015). Finally, SMEs in UAE

are more internationally focused with 67% prioritising foreign markets. Therefore, the growing nature, internationally oriented nature of firms and socio-economic background of UAE provide an interesting context to examine the relationships between EA, BMI and internationalisation scope of SMEs postulated in this study.

#### 3.2. Sampling and data collection

The sampling frame is developed from the commercial directory of the Dubai Chamber of Commerce and Industry (DCCI, 2018–19). The firms were screened to meet the study criteria. Specifically, the sample included: (1) independent firms that are not part of any bigger group; (2) firms with less than 250 employees; (3) firms with international business operations; and (4) firms with complete contact details of a senior executive or other senior managers (Boso et al., 2013). We identified 425 SMEs who matched these criteria, of which 378 agreed to participate in the study. Subsequently, the participating SMEs were approached in person with a questionnaire<sup>1</sup>. The questionnaire was designed and administered in the English language because it is the most common first or second language of the organisations in the UAE (Al Ariss and Guo, 2016; Nakos et al., 2019). In the end, the fieldwork yielded 214 useable responses, representing a response rate of 50.35%. The sample of the study is considered ideal as all internationalised firms participated. The respondents had an average managerial experience of 14 years. The respondent firms had an average size of 89 employees and an average age of 22 years. The firms operate in two major industries – manufacturing ( $n = 152$ ) and service ( $n = 62$ ) industry.

#### 3.3. Measures

Prior to data collection, pre-tests exercises were conducted with the managers of SMEs in Dubai who commented on the language and clarity of the questionnaire. Based on their feedback, we made changes to sentences and words to enhance the clarity as well

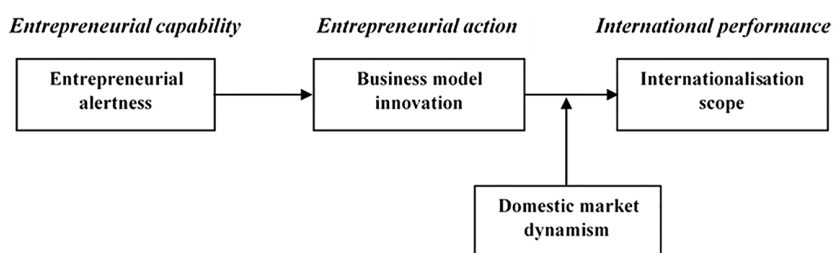


Figure 1. Conceptual framework.

as reflect the Dubai SMEs' context. All the items were measured on seven-point Likert scales.

EA was modelled as a three-dimensional construct. We used the scale developed by Tang et al. (2012) to measure first-order dimensions: (1) *scanning and searching*, (2) *association and connection* and (3) *evaluation and judgement*. Scanning and searching was measured with six items. Three items were used to measure association and connection. Evaluation and judgement were captured using four items.

We measured BMI with nine items derived from Guo et al. (2017). This scale assessed the novelty of business model in terms of connecting with stakeholders and novel combinations of products, services, technology (Zott and Amit, 2007, 2008). Previous BMI studies have adapted and widely used this scale (Wei et al., 2014; Pati et al., 2018; Chen et al., 2020; Soluk et al., 2021). We adapted four items from Waldman et al. (2001) and Pelham and Wilson (1996) to measure domestic market dynamism, where the respondents evaluated the extent to which they perceived their domestic market as being dynamic.

We measured internationalisation scope with three items derived from previous studies (Jaworski and Kohli, 1993; Zahra et al., 2000). It accounts for the geographic reach of an SME and captures exports and revenues from diverse countries (Jean et al., 2020). The respondents were asked to rate the extent to which their firms have entered multiple foreign markets. We relied on subjective measures that capture the diversity and number of exports markets, and revenues from foreign markets given the difficulty in obtaining accurate and complete objective data (i.e., foreign revenues) as well as the limitations in using only the number of foreign markets as a single measure of internationalisation scope (cf. Sullivan, 1994). Particularly, in the SME context, there might not be well-organised formal international business divisions. In this case, the entrepreneur's perceptions are likely to influence the firm's strategy and have a major effect on the internationalisation scope (Alayo et al., 2019; Torkkeli et al., 2019).

Consistent with previous entrepreneurship and internationalisation studies (Felzensztein et al., 2015; D'Angelo et al., 2016; Ma and Huang, 2016), we controlled for several variables at individual-level and firm-level for their influence on our conceptual framework. At an individual level, we considered managerial tenure because the individuals' working experience might influence their entrepreneurial behaviour for internationalisation (Arregle et al., 2012). It was measured by using the years in which the respondent has been employed in the current firm.

The firm-level variables include firm size, firm age, industry type and international experience. Firm size – measured as the number of full-time employees – was controlled because larger firms have more resource advantage for extensive international investment (Sawant et al., 2021). Firm age – captured as the number of years since a firm was founded – as a control could affect the propensity of SMEs to expand internationally (D'Angelo et al., 2016). Industry type was included as control for industry-related influences on the propensity of foreign investments in diverse locations (Freixanet and Renart, 2020). It was coded as a dummy variable: 0 = manufacturing; and 1 = service. Finally, we controlled for international experience because it can improve the foreign market knowledge and promote internationalisation scope (Jean et al., 2020). It was measured by asking the respondents to indicate the number of years a firm has been exporting.

### 3.4. Bias tests

To test non-response bias, we followed Armstrong and Overton's (1977) approach and compared early *versus* late respondent groups. The Pearson's chi-square test results suggest that the two groups do not differ in terms of managerial education, firm size, firm age, EA, BMI, domestic market dynamism, and internationalisation scope. Thus, we concluded that non-response bias does not influence our study results.

To assess common method bias, we followed two procedures. First, we assessed three competing confirmatory factor analysis (CFA) models: (1) method-only model where all the items are loaded on a single latent construct:  $\chi^2/DF = 1.36$ ; CFI = 0.56; IFI = 0.56; NFI = 0.53; RMSEA = 0.18; SRMR = 0.18; (2) trait-only model where each item is loaded on its respective latent construct:  $\chi^2/DF = 1.35$ ; CFI = 0.98; IFI = 0.98; NFI = 0.93; RMSEA = 0.04; SRMR = 0.05; and (3) method-and-trait model where a common factor was linked to all the items in trait-only model:  $\chi^2/DF = 1.29$ ; CFI = 0.98; IFI = 0.98; NFI = 0.93; RMSEA = 0.03; SRMR = 0.04. The comparison of three CFA models suggests that Model 2 and Model 3 are superior to Model 1, and Model 3 is not substantially superior to Model 2. Second, we followed Lindell and Whitney (2001) approach by including a marker variable that is theoretically unrelated to the main variables of the study. The respondents were asked to rate a statement on a seven-point Likert scale. The statement stated: 'Challenging tasks can cause stress to employees.' Since this statement was not used in the main analysis and there seems to be no



**Table 1.** Measurement details, reliability and validity results

Variable description	Standardised factor loadings
<b>Entrepreneurial alertness</b>	
<i>Scanning and search</i> (CA = 0.95; CR = 0.95; AVE = 0.75)	
1. I have frequent interactions with others to acquire new information	0.78
2. I always keep an eye out for new business ideas when looking for information	0.90
3. I read news, magazines, or trade publications regularly to acquire new information	0.89
4. I browse the Internet every day	0.91
5. I am an avid information seeker	0.85
6. I am always actively looking for new information	0.84
<i>Association and connection</i> (CA = 0.88; CR = 0.88; AVE = 0.72)	
1. I see links between seemingly unrelated pieces of information	0.82
2. I am good at “connecting dots”	0.89
3. I often see connections between previously unconnected domains of information	0.83
<i>Evaluation and judgement</i> (CA = 0.91; CR = 0.91; AVE = 0.72)	
1. I have a gut feeling for potential opportunities	0.76
2. I can distinguish between profitable opportunities and not-so-profitable opportunities	0.89
3. I have a knack for telling high-value opportunities apart from low-value opportunities	0.90
4. When facing multiple opportunities, I am able to select the good ones	0.83
<b>Business model innovation</b> (CA = 0.95; CR = 0.95; AVE = 0.69)	
1. Our business model offers new combinations of products, services and information	0.76
2. Our business model constantly attracts new collaboration partners	0.85
3. Our business model constantly attracts new customer segments and markets	0.81
4. Our business model bonds participants together in novel ways	0.86
5. Our business model always links participants to transactions in novel ways	0.85
6. We frequently introduce new ideas and innovations into our business model	0.84
7. We constantly utilise new opportunities arising from integration of external partners into value creation activities	0.86
8. Whenever needed, we frequently introduce new operational processes, and significantly modify existing ones into our business model	0.85
9. Overall, our business model is novel	0.80
<b>Internationalisation scope</b> (CA = 0.90; CR = 0.90; AVE = 0.76)	
1. We entered to different foreign markets	0.81
2. Our majority of revenues come from diverse foreign export markets	0.94
3. Our export markets are very diverse	0.85
<b>Domestic market dynamism</b> (CA = 0.92; CR = 0.92; AVE = 0.73)	
1. Our domestic market is very dynamic, changing rapidly in technical, economic and cultural dimensions	0.88
2. Our domestic business environment is very risky, one false step can mean the firm’s undoing	0.93
3. Our domestic business environment is very rapidly expanding through the expansion of old markets and the emergence of new ones	0.82
4. In our domestic market, customer needs changes rapidly	0.80

AVE, average variance extracted; CA, Cronbach alpha; CR, composite reliability.

theoretical reason to assume its relationship with the variables of this study, we used this question as our marker variable. The correlations between the marker variable and the main variables in our study were not significant (see Table 1). Together, the results confirm that common method bias is not an issue for our study.

## 4. Results

### 4.1. Reliability and validity

The psychometric properties of our multi-item constructs were assessed using AMOS 27.0. We present the item details, their standardised factor loadings

and the reliability and validity results in Table 1. The results of our CFA model provided adequate data fit:  $\chi^2/DF = 1.35$ ; CFI = 0.98; IFI = 0.98; NFI = 0.93; RMSEA = 0.04; SRMR = 0.05. The values of Cronbach alpha and composite reliability exceeded the threshold of 0.70 (Bagozzi and Yi, 2012). Furthermore, the factor loadings were also positive and significant at 1%, thus confirming the convergent validity of the measures. Also, the convergent validity of the scales was confirmed as all the factor loading were greater than the suggested cut-off point of 0.40 (Kline, 2015). Our results also indicate that the values of average variance extracted (AVE) exceeded the threshold of 0.50 (Bagozzi and Yi, 2012). Moreover, as shown in Table 2, the square root of AVE was greater than the correlation between each pair of the construct (Fornell and Larcker, 1981), thus supporting the discriminant validity. Table 2 provides the inter-variable correlation coefficients, the square root of the AVEs, means and standard deviations for the study variables.

#### 4.2. Tests for hypotheses

The study hypotheses are tested using structural equation modelling (SEM) in AMOS 27.0. We followed the approach by Aiken et al. (2003) to create the multiplicative interaction terms. To attenuate for potential multicollinearity issue due to interactive terms in the model, we mean-centred the variables involved in the moderation (Little et al., 2006). We checked the issue of multicollinearity by calculating the variance inflation factors (VIF) for all the variables. The highest VIF value is 1.25, which is less than the recommended cut-off point of 10, indicating that multicollinearity is not an issue in this study (Aiken et al., 2003). Furthermore, the model fit results show excellent fit to the data:  $\chi^2/DF = 1.25$ ; CFI = 0.99; IFI = 0.99; NFI = 0.97; RMSEA = 0.03; SRMR = 0.02.

Table 3 presents the parameter estimates and t-values for the structural equation models. Models 1–2 contain BMI as a dependent variable. Models 3–7 have internationalisation scope as a dependent variable. Model 1 and Model 3 are baseline models with all the control variables. In Model 2, EA is added as an independent variable. To test H1, we followed the approach suggested by Zhao et al. (2010). First, EA is positively related to BMI ( $\beta = 0.20$ ;  $p < 0.01$ ) in Model 2. Second, BMI positively relates to internationalisation scope ( $\beta = 0.43$ ;  $p < 0.001$ ) in Model 4. Third, EA has a positive relationship with internationalisation scope ( $\beta = 0.19$ ;  $p < 0.05$ ) in Model 5. Finally, in model 6,

when EA and BMI are modelled together, the results suggest that BMI has a positive influence on internationalisation scope ( $\beta = 0.41$ ,  $p < 0.001$ ); however, the effect of EA on internationalisation scope becomes nonsignificant ( $\beta = 0.09$ , ns). Thus, the results provide support for H1 suggesting that BMI mediates the relationship between EA and internationalisation scope.

Model 7 estimates the moderating effect of domestic market dynamism for the relationship between BMI and internationalisation scope. As shown in Model 7 of Table 3, the interaction term for BMI and domestic market dynamism (i.e., BMI  $\times$  DMD) is significant and positive ( $\beta = 0.18$ ,  $p < 0.01$ ), thus confirming H2. To better understand the nature of moderating effect, we created a simple interaction plot with mean-centred values (Aiken et al., 2003). Figure 2 shows that high levels of BMI are related to internationalisation scope when domestic market dynamism is high.

#### 4.3. Robustness checks

To check the robustness of our findings, we estimated the mediation and moderation mechanisms using PROCESS macro (Hayes, 2013). Estimating this moderated-mediation model gives a further complete understanding of the cause and magnitude of internationalisation scope. Specifically, the mediation and moderation analyses shed further light on our conceptual framework (as depicted by Figure 1 and the corresponding hypotheses) by providing evidence to support the hypothesised cause-and-effect relationship, as well as what changes the magnitude and/or direction of this causal relationship (Wu and Zumbo, 2008). For example, while the mediation effect allows us to understand *why* and/or *how* EA influences internationalisation scope, the moderation effect of domestic market dynamism helps to determine the changes (in strength) of the relationship between BMI and internationalisation scope – i.e., *when* or *under* what condition does a given relationship change. Thus, as suggested by the classical grounded theory, this mediating and moderation analysis can help identify and confirm the intervening, interactive and contextual conditions that influence a core phenomenon (Creamer, 2018), such as internationalisation scope.

Accordingly, using Model 4 in PROCESS macro, we find a positive and significant effect of EA on BMI ( $\beta = 0.24$ ,  $p < 0.01$ ). In turn, BMI is positively related to internationalisation scope ( $\beta = 0.36$ ,  $p < 0.001$ ). More importantly, the indirect effect of BMI on the relationship between EA and internationalisation scope

**Table 2.** Descriptive statistics and constructs correlation

No.	Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1.	Managerial tenure <sup>1</sup>	2.53	0.54	1											
2.	Firm size <sup>1</sup>	4.06	1.10	-0.03	1										
3.	Firm age <sup>1</sup>	1.23	0.29	-0.02	-0.09	1									
4.	Industry <sup>2</sup>	0.29	0.46	-0.07	-0.01	0.01	1								
5.	International experience	0.75	0.44	-0.08	-0.03	0.65***	-0.03	1							
6.	Marker variable	5.15	1.60	0.05	-0.02	0.01	0.04	-0.05	1						
7.	Scanning and search	4.79	1.59	0.08	-0.05	0.08	0.03	0.02	0.04	0.87					
8.	Association and connection	5.19	1.35	-0.07	0.02	0.08	0.08	0.09	0.03	0.51***	0.85				
9.	Evaluation and judgement	4.79	1.40	-0.01	-0.02	0.06	0.01	0.12	0.00	0.34***	0.52***	0.85			
10.	Business model innovation	4.84	1.46	-0.02	0.17*	0.08	-0.06	0.07	0.00	0.18***	0.23***	0.09*	0.83		
11.	Internationalisation scope	4.56	1.42	-0.14*	0.15*	0.02	0.01	0.19**	0.01	0.07	0.21***	0.21***	0.43***	0.87	
12.	Domestic market dynamism	5.02	1.43	0.02	0.01	0.01	0.02	0.08	0.01	0.25***	0.36***	0.32***	0.23***	0.25***	0.86

Bold values on diagonal are square root of AVE.

<sup>1</sup>Natural logarithm of the variable.

<sup>2</sup>Dummy variable.

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

M, mean; SD, standard deviation.

Table 3. Results of path analyses

Independent variables	Dependent variables						
	Business model innovation			Internationalisation scope			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<i>Control effects</i>							
Managerial tenure <sup>1</sup>	-0.02 (-0.40)	-0.03 (-0.45)	-0.12 (-1.92)	-0.11 (-1.80)	-0.13 <sup>‡</sup> (-1.99)	-0.12 (-1.96)	-0.15* (-2.49)
Firm size <sup>1</sup>	0.17* (2.36)	0.17* (2.45)	0.09 (1.37)	0.03 (0.54)	0.10 (1.48)	0.02 (0.36)	0.02 (0.31)
Firm age <sup>1</sup>	0.08 (0.85)	0.07 (0.72)	-0.24* (-2.82)	-0.26*** (-3.23)	-0.26** (-3.00)	-0.27** (-3.56)	-0.25*** (-3.32)
Industry <sup>2</sup>	-0.04 (-0.71)	-0.06 (-0.88)	0.02 (0.29)	-0.00 (-0.03)	-0.03 (-0.45)	0.01 (0.05)	0.01 (0.18)
International experience	0.04 (0.38)	0.03 (0.30)	0.43*** (4.87)	0.41*** (4.91)	0.43*** (4.87)	0.40*** (5.22)	0.37*** (4.93)
<i>Main effects</i>							
Entrepreneurial alertness		0.20** (2.94)			0.19* (2.88)	0.09 (1.60)	0.09 (1.43)
<i>Mediating effect</i>							
Business model innovation (BMI)				0.43*** (6.50)		0.41*** (4.78)	0.41*** (4.54)
<i>Moderating effect</i>							
Domestic market dynamism (DMD)							0.12 <sup>‡</sup> (1.96)
BMI × DMD							0.18*** (2.97)
Fit indices							
$\chi^2/DF$	1.24	1.20	1.29	1.24	1.17	1.12	1.25
CFI	0.99	0.99	0.99	0.99	0.99	0.99	0.99
NFI	0.97	0.96	0.97	0.97	0.98	0.98	0.97
RMSEA	0.03	0.03	0.04	0.04	0.03	0.02	0.03
SRMR	0.03	0.03	0.03	0.03	0.02	0.02	0.02

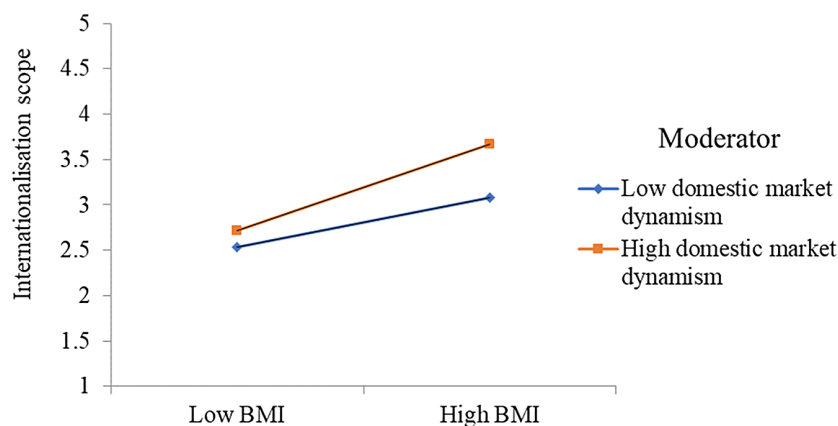
T-values in parentheses.

<sup>1</sup>Natural logarithm of the variables.

<sup>2</sup>Dummy variables.

<sup>‡</sup> $p < 0.10$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .





**Figure 2.** Interaction effect of BMI with domestic market dynamism on internationalisation scope. [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

is significant (index = 0.09; 95% confidence interval [lower limit (LL) = 0.02 – upper limit (UL) = 0.16]) – providing support for H1. Furthermore, the results of Model 14 in PROCESS macro support the significant moderated mediation effect (index = 0.05; 95% confidence interval [LL = 0.01 – UL = 0.05]). This robustness test confirms H2 that domestic market dynamism moderates the indirect effect of BMI on the relationship between EA and internationalisation scope.

## 5. Discussion and conclusion

### 5.1. Theoretical implications

This study sets out to examine to what extent EA can impact the degree of internationalisation scope for SMEs. In this regard, we developed and tested a conceptual model that examines the effect of EA on internationalisation scope through BMI, and the extent to which such a relationship is contingent upon the levels of domestic market dynamism. Our findings show that BMI fully mediates the relationship between EA and internationalisation scope (H1 supported). Furthermore, the indirect effect of EA through BMI on internationalisation scope becomes stronger when the domestic market is highly dynamic (H2 supported). Overall, the findings of this study provide several important contributions to the fields of international entrepreneurship and the management of internationalising SMEs.

First, prior research on EA argues that high EA is an important capability that helps SMEs to identify opportunities and expand to international markets (Roundy et al., 2017; Adomako et al., 2018). Although this assertion might be alluring, entrepreneurial opportunity process research suggests that EA might not necessarily influence internationalisation scope (Lumpkin and Lichtenstein, 2005).

Specifically, EA allows the decision-making entrepreneurs of SMEs to recognise the opportunities in the marketplace (Roundy et al., 2017), yet, it has been argued that these firms must exploit and utilise the identified opportunities ahead of others to remain competitive (Mainela et al., 2014; Fatima and Bilal, 2020). Our findings shed light on this conversation by investigating the process through which EA can impact internationalisation scope. Research findings from our structural equation models demonstrate that the effect of EA on SMEs' internationalisation scope is channelled through BMI. In other words, by modelling BMI as a crucial entrepreneurial action, we add to an ongoing conversation (Asemokha et al., 2019), particularly within entrepreneurship literature, which urges SMEs to undertake entrepreneurial actions to exploit the identified opportunities for competitive advantage (Mezger, 2014; Helfat and Peteraf, 2015). This study enriches the entrepreneurship literature by showing that the mechanism through which EA drives internationalisation scope of SMEs is the firm's ability to innovate its business models.

Second, this study proposes that domestic market dynamism may influence the relationship between BMI and internationalisation scope of SMEs. The findings indicate that the effect of BMI on internationalisation scope of SMEs is strengthened when both BMI and market dynamism increase in magnitude. Consistent with the tenets of organisational ecology, our findings contribute to the international entrepreneurship literature by showing that perceived domestic market dynamism plays an important contingency role in enhancing the relationship between SMEs' engagement in BMI and their degree of internationalisation scope. A research implication is that under the conditions of high domestic market uncertainties, SMEs may attempt

to distribute risks outside geographic boundaries (Musteen et al., 2014; Cavusgil and Knight, 2015; Ciampi et al., 2021). Thus, given such conditions, SMEs need high levels of BMI to generate revenues from diverse foreign markets and protect them from the uncertainties that characterise or are prevalent in the domestic markets (Sahaym et al., 2012; Futterer et al., 2018). Thus, during conditions of high domestic market dynamism, SMEs tend to commit more resources and capabilities to BMI to grow and expand internationally instead of being trapped in the domestic markets.

### 5.2. *Implications for SMEs and entrepreneurs*

This study has important implications for the management and growth of internationalising SMEs. First, the findings suggest that EA is an essential disposition to identify opportunities in the external environment. By implication, SMEs should recruit capable managers and leaders who score high on the EA dimensions, i.e., scanning and search, association and connection and evaluation and judgement. It will benefit internationalising SMEs to have organisational systems that help entrepreneurs develop and nurture alertness – as such capabilities and behaviours are vital to recognise opportunities and build connections within the external environment.

Second, we find that EA enables entrepreneurial actions pursuant to BMI, which subsequently drives the SMEs' internationalisation scope. An implication for entrepreneurs and top management of SMEs is that EA should not only be used to identify business opportunities, but also to facilitate the innovations of business models. Such innovations can protect SMEs from competitor imitation whilst enhancing their internationalisation scope. Third, managers should carefully consider the environmental circumstances in domestic markets, as market dynamism is an essential variable that can alter the BMI – internationalisation scope relationship. In highly dynamic markets, SMEs need to develop innovation-creating organisational culture and allocate their resources to improve BMI. Ultimately, this will help SMEs broaden the scope of their international territories and gain a competitive advantage over international competitors using innovative business models.

### 5.3. *Limitations and future research*

This study has limitations that provide paths for future research. First, the study context is SMEs that originate from UAE, an emerging economy.

Such a specific context may limit the generalisability of our research conclusions. To this end, future researchers could test our conceptual framework in other countries to help broaden the perspectives of EA and its consequences, as the levels of EA can vary in different cultural and environmental settings (García-Cabrera and García-Soto, 2008; Swail et al., 2013; Stephan and Pathak, 2016). Thus, future research could investigate whether the effect of EA on internationalisation scope is contingent upon different cultural and institutional settings. Relatedly, our measurement of internationalisation scope is based on subjective assessment given the difficulty in obtaining objective data (e.g., foreign sales revenue, number of exporting countries) in emerging markets (Torkkeli et al., 2019). Future studies could use objective data to test our hypothesised model.

Second, this study acknowledges that EA allows firms to exploit opportunities by pursuing BMI as an entrepreneurial action. An argument can be made that the high alertness of entrepreneurs and their experiences may be associated with entrepreneurial learning capabilities (Boso et al., 2019) that enable the divergence from traditional business models to innovative ones (Sosna et al., 2010; Berends et al., 2016). In this regard, future studies should consider experiential learning as a mediating factor for the relationship between EA and BMI, while adopting comprehensive measures for capturing BMI (see Clauss et al., 2019).

Third, we studied domestic market dynamism as a contingency factor on the EA – BMI – internationalisation scope relationships. Other contingency factors that may also influence the links between BMI, EA and internationalisation scope are worthy of investigation. For example, SMEs' international networks and open innovation may act as a means of knowledge acquisition and transfer (Musteen et al., 2014; Brunswicker and Vanhaverbeke, 2015; Idris and Saridakis, 2018), and this investigating this factor may offer fine-grained implications for BMI and internationalisation scope of SMEs. Hence, the international entrepreneurship literature can benefit from future studies investigating the interplay between BMI and international networks and their effects on internationalisation scope of SMEs.

### **Acknowledgement**

This research was supported by Hankuk University of Foreign Studies Research Fund. This research was financially supported by Queen Mary University of London.

## Data availability statement

Data available on request from the authors.

## References

- Adomako, S., Danso, A., Boso, N., and Narteh, B. (2018) Entrepreneurial alertness and new venture performance: facilitating roles of networking capability. *International Small Business Journal*, **36**, 5, 453–472.
- Agarwal, R., Selen, W., Sajib, S., and Scerri, M. (2014) Dynamic capability building in service networks: an exploratory case study. *The Journal of New Business Ideas & Trends*, **12**, 1, 27.
- Aiken, L.S., West, S.G., and Pitts, S.C. (2003) Multiple linear regression. In: Schinka, J.A., Velicer, W.F., and Weiner, I.B. (eds), *Handbook of Psychology*, Vol. 2. Hoboken: John Wiley & Sons Inc.
- Al Ariss, A. and Guo, G.C. (2016) Job allocations as cultural sorting in a culturally diverse organizational context. *International Business Review*, **25**, 2, 579–588.
- Alayo, M., Maseda, A., Iturralde, T., and Arzubiaga, U. (2019) Internationalization and entrepreneurial orientation of family SMEs: the influence of the family character. *International Business Review*, **28**, 1, 48–59.
- Alshawaaf, N. and Lee, S.H. (2020) Business model innovation through digitisation in social purpose organisations: a comparative analysis of Tate modern and Pompidou Centre. *Journal of Business Research*, **125**, 597–608.
- Armstrong, J.S. and Overton, T.S. (1977) Estimating non-response bias in mail surveys. *Journal of Marketing Research*, **14**, 3, 396–402.
- Arregle, J.-L., Hitt, M.A., and Mari, I. (2019) A missing link in family firms' internationalization research: family structures. *Journal of International Business Studies*, **50**, 5, 809–825.
- Arregle, J.L., Naldi, L., Nordqvist, M., and Hitt, M.A. (2012) Internationalization of family-controlled firms: a study of the effects of external involvement in governance. *Entrepreneurship Theory and Practice*, **36**, 6, 1115–1143.
- Asemokha, A., Musona, J., Torkkeli, L., and Saarenketo, S. (2019) Business model innovation and entrepreneurial orientation relationships in SMEs: implications for international performance. *Journal of International Entrepreneurship*, **17**, 3, 425–453.
- Azar, G. and Ciabuschi, F. (2017) Organizational innovation, technological innovation, and export performance: the effects of innovation radicalness and extensiveness. *International Business Review*, **26**, 2, 324–336.
- Bagozzi, R.P. and Yi, Y. (2012) Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, **40**, 1, 8–34.
- Berends, H., Smits, A., Reymen, I., and Podoyntsyna, K. (2016) Learning while (re)configuring: business model innovation processes in established firms. *Strategic Organization*, **14**, 3, 181–219.
- Berglund, H., Bousfiha, M., and Mansoori, Y. (2020) Opportunities as artifacts and entrepreneurship as design. *Academy of Management Review*, **45**, 4, 825–846.
- Bhatti, S.H., Santoro, G., Khan, J., and Rizzato, F. (2021) Antecedents and consequences of business model innovation in the IT industry. *Journal of Business Research*, **123**, 389–400.
- Bohnsack, R., Ciulli, F., and Kolk, A. (2020) The role of business models in firm internationalization: an exploration of European electricity firms in the context of the energy transition. *Journal of International Business Studies*, **52**, 824–852.
- Boso, N., Adeleye, I., Donbesuur, F., and Gyensare, M. (2019) Do entrepreneurs always benefit from business failure experience? *Journal of Business Research*, **98**, 370–379.
- Boso, N., Story, V.M., Cadogan, J.W., Micevski, M., and Kadić-Maglajlić, S. (2013) Firm innovativeness and export performance: environmental, networking, and structural contingencies. *Journal of International Marketing*, **21**, 4, 62–87.
- Brunswick, S. and Vanhaverbeke, W. (2015) Open innovation in small and medium-sized enterprises (SMEs): external knowledge sourcing strategies and internal organizational facilitators. *Journal of Small Business Management*, **53**, 4, 1241–1263.
- Buccieri, D., Javalgi, R.G., and Cavusgil, E. (2020) International new venture performance: role of international entrepreneurial culture, ambidextrous innovation, and dynamic marketing capabilities. *International Business Review*, **29**, 2, 101639.
- Busenitz, L.W. (1996) Research on entrepreneurial alertness: sampling, measurement, and theoretical issues. *Journal of Small Business Management*, **34**, 4, 35–44.
- Calantone, R. and Rubera, G. (2012) When should RD&E and marketing collaborate? The moderating role of exploration-exploitation and environmental uncertainty. *Journal of Product Innovation Management*, **29**, 1, 144–157.
- Campos, H.M. (2017) Impact of entrepreneurial passion on entrepreneurial orientation with the mediating role of entrepreneurial alertness for technology-based firms in Mexico. *Journal of Small Business and Enterprise Development*, **24**, 2, 353–374.
- Cao, L., Navare, J., and Jin, Z. (2018) Business model innovation: how the international retailers rebuild their core business logic in a new host country. *International Business Review*, **27**, 3, 543–562.
- Cao, Q., Simsek, Z., and Jansen, J.J.P. (2012) CEO social capital and entrepreneurial orientation of the firm: bonding and bridging effects. *Journal of Management*, **41**, 7, 1957–1981.
- Casadesus-Masanell, R. and Zhu, F. (2013) Business model innovation and competitive imitation: the case of sponsor-based business models. *Strategic Management Journal*, **34**, 4, 464–482.
- Castellano, S., Khelladi, I., Sorio, R., Orhan, M., and Kalisz, D. (2021) Exploring the microfoundations of

- nomadic dynamic capabilities: the example of flying winemakers. *Technological Forecasting and Social Change*, **163**, 120445.
- Cavallo, A., Ghezzi, A., and Ruales Guzmán, B.V. (2020) Driving internationalization through business model innovation. *Multinational Business Review*, **28**, 2, 201–220.
- Cavusgil, S.T. and Knight, G. (2015) The born global firm: an entrepreneurial and capabilities perspective on early and rapid internationalization. *Journal of International Business Studies*, **46**, 1, 3–16.
- Chan, H.K., Yee, R.W.Y., Dai, J., and Lim, M.K. (2016) The moderating effect of environmental dynamism on green product innovation and performance. *International Journal of Production Economics*, **181**, 384–391.
- Chen, Y., Liu, H., and Chen, M. (2020) Achieving novelty and efficiency in business model design: striking a balance between IT exploration and exploitation. *Information & Management*, **59**, 3, 103268.
- Child, J., Hsieh, L., Elbanna, S., Karmowska, J., Marinova, S., Puthusserry, P., Tsai, T., Narooz, R., and Zhang, Y. (2017) SME international business models: the role of context and experience. *Journal of World Business*, **52**, 5, 664–679.
- Chu, Z., Xu, J., Lai, F., and Collins, B.J. (2018) Institutional theory and environmental pressures: the moderating effect of market uncertainty on innovation and firm performance. *IEEE Transactions on Engineering Management*, **65**, 3, 392–403.
- Ciampi, F., Demi, S., Magrini, A., Marzi, G., and Papa, A. (2021) Exploring the impact of big data analytics capabilities on business model innovation: the mediating role of entrepreneurial orientation. *Journal of Business Research*, **123**, 1–13.
- Clauss, T., Abebe, M., Tangpong, C., and Hock, M. (2019) Strategic agility, business model innovation, and firm performance: an empirical investigation. *IEEE Transactions on Engineering Management*, **68**, 3, 767–784.
- Colovic, A. (2021) Leadership and business model innovation in late internationalizing SMEs. *Long Range Planning*, **55**, 1, 102083.
- Cooke, P. (2017) Complex spaces: global innovation networks & territorial innovation systems in information & communication technologies. *Journal of Open Innovation: Technology, Market, and Complexity*, **3**, 2, 9.
- Cooke, P. (2019) World turned upside down: entrepreneurial decline, its reluctant myths and troubling realities. *Journal of Open Innovation: Technology, Market, and Complexity*, **5**, 2, 22.
- Coombes, P.H. and Nicholson, J.D. (2013) Business models and their relationship with marketing: a systematic literature review. *Industrial Marketing Management*, **42**, 5, 656–664.
- Cosenz, F. and Bivona, E. (2020) Fostering growth patterns of SMEs through business model innovation. A tailored dynamic business modelling approach. *Journal of Business Research*, **130**, 658–669.
- Cremer, E.G. (2018) Enlarging the conceptualization of mixed method approaches to grounded theory with intervention research. *American Behavioral Scientist*, **62**, 7, 919–934.
- D'Angelo, A., Majocchi, A., and Buck, T. (2016) External managers, family ownership and the scope of SME internationalization. *Journal of World Business*, **51**, 4, 534–547.
- Dai, L., Maksimov, V., Gilbert, B.A., and Fernhaber, S.A. (2014) Entrepreneurial orientation and international scope: the differential roles of innovativeness, proactiveness, and risk-taking. *Journal of Business Venturing*, **29**, 4, 511–524.
- DCCI. (2018–19) *Commercial Directory 2018–19*. UAE: Dubai Chamber of Commerce and Industry.
- De Cock, R., Andries, P., and Clarysse, B. (2021) How founder characteristics imprint ventures' internationalization processes: the role of international experience and cognitive beliefs. *Journal of World Business*, **56**, 3, 101163.
- De Silva, M., Al-Tabbaa, O., and Khan, Z. (2019) Business model innovation by international social purpose organizations: the role of dynamic capabilities. *Journal of Business Research*, **125**, 733–749.
- Dimov, D. (2011) Grappling with the unbearable elusiveness of entrepreneurial opportunities. *Entrepreneurship Theory and Practice*, **35**, 1, 57–81.
- Dominguez, N. and Mayrhofer, U. (2017) Internationalization stages of traditional SMEs: increasing, decreasing and re-increasing commitment to foreign markets. *International Business Review*, **26**, 6, 1051–1063.
- Dubai Statistics Centre. (2018). *Infographs*. Available from: <https://www.dsc.gov.ae/en-us/Pages/default.aspx>.
- Evans, S., Vladimirova, D., Holgado, M., Van Fossen, K., Yang, M., Silva, E.A., and Barlow, C.Y. (2017) Business model innovation for sustainability: towards a unified perspective for creation of sustainable business models. *Business Strategy and the Environment*, **26**, 5, 597–608.
- Fatima, T. and Bilal, A.R. (2020) Individual entrepreneurial orientation, access to finance, and SME performance: fortifying role of entrepreneurial alertness. *Abasyn University Journal of Social Sciences*, **13**, 1, 233–248.
- Felin, T., Foss, N.J., Heimeriks, K.H., and Madsen, T.L. (2012) Microfoundations of routines and capabilities: individuals, processes, and structure. *Journal of Management Studies*, **49**, 8, 1351–1374.
- Felzensztein, C., Ciravegna, L., Robson, P., and Amorós, J.E. (2015) Networks, entrepreneurial orientation, and internationalization scope: evidence from Chilean small and medium enterprises. *Journal of Small Business Management*, **53**, Suppl. 1, 145–160.
- Ferreras-Méndez, J.L., Olmos-Peñuela, J., Salas-Vallina, A., and Alegre, J. (2021) Entrepreneurial orientation and new product development performance in SMEs: the mediating role of business model innovation. *Technovation*, **108**, 102325.
- Fornell, C. and Larcker, D. (1981) Structural equation modeling and regression: guidelines for research practice. *Journal of Marketing Research*, **18**, 1, 39–50.



- Foss, N.J. and Saebi, T. (2016) Fifteen years of research on business model innovation: how far have we come, and where should we go? *Journal of Management*, **43**, 1, 200–227.
- Freixanet, J. and Renart, G. (2020) A capabilities perspective on the joint effects of internationalization time, speed, geographic scope and managers' competencies on SME survival. *Journal of World Business*, **55**, 6, 101110.
- Futterer, F., Schmidt, J., and Heidenreich, S. (2018) Effectuation or causation as the key to corporate venture success? Investigating effects of entrepreneurial behaviors on business model innovation and venture performance. *Long Range Planning*, **51**, 1, 64–81.
- Gaglio, C.M. and Katz, J.A. (2001) The psychological basis of opportunity identification: entrepreneurial alertness. *Small Business Economics*, **16**, 2, 95–111.
- Gao, Y., Shu, C., Jiang, X., Gao, S., and Page, A.L. (2017) Managerial ties and product innovation: the moderating roles of macro- and micro-institutional environments. *Long Range Planning*, **50**, 2, 168–183.
- García-Cabrera, A.M. and García-Soto, M.G. (2008) Cultural differences and entrepreneurial behaviour: an intra-country cross-cultural analysis in Cape Verde. *Entrepreneurship & Regional Development*, **20**, 5, 451–483.
- George, G. and Bock, A.J. (2011) The business model in practice and its implications for entrepreneurship research. *Entrepreneurship Theory and Practice*, **35**, 1, 83–111.
- George, G., Wiklund, J., and Zahra, S.A. (2005) Ownership and the internationalization of small firms. *Journal of Management*, **31**, 2, 210–233.
- Guo, H., Tang, J., Su, Z., and Katz, J.A. (2017) Opportunity recognition and SME performance: the mediating effect of business model innovation. *R&D Management*, **47**, 3, 431–442.
- Håkanson, L. and Kappen, P. (2017) The 'casino model' of internationalization: an alternative Uppsala paradigm. *Journal of International Business Studies*, **48**, 9, 1103–1113.
- Hayes, A.F. (2013) *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. New York: Guilford Press.
- Helfat, C.E. and Peteraf, M.A. (2015) Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*, **36**, 6, 831–850.
- Hilmersson, M. (2013) Small and medium-sized enterprise internationalisation strategy and performance in times of market turbulence. *International Small Business Journal*, **32**, 4, 386–400.
- Hock-Doepgen, M., Clauss, T., Kraus, S., and Cheng, C.-F. (2020) Knowledge management capabilities and organizational risk-taking for business model innovation in SMEs. *Journal of Business Research*, **130**, 683–697.
- Hock, M., Clauss, T., and Schulz, E. (2016) The impact of organizational culture on a firm's capability to innovate the business model. *R&D Management*, **46**, 3, 433–450.
- Idris, B. and Saridakis, G. (2018) Local formal interpersonal networks and SMEs internationalisation: empirical evidence from the UK. *International Business Review*, **27**, 3, 610–624.
- Jansen, J.J.P., Van Den Bosch, F.A.J., and Volberda, H.W. (2006) Exploratory innovation, exploitative innovation, and performance: effects of organizational antecedents and environmental moderators. *Management Science*, **52**, 11, 1661–1674.
- Jaworski, B.J. and Kohli, A.K. (1993) Market orientation: antecedents and consequences. *Journal of Marketing*, **57**, 3, 53–70.
- Jean, R.-J.B., Kim, D., and Cavusgil, E. (2020) Antecedents and outcomes of digital platform risk for international new ventures' internationalization. *Journal of World Business*, **55**, 1, 101021.
- Kaish, S. and Gilad, B. (1991) Characteristics of opportunities search of entrepreneurs versus executives: sources, interests, general alertness. *Journal of Business Venturing*, **6**, 1, 45–61.
- Kano, L., Tsang, E.W.K., and Yeung, H.W.-C. (2020) Global value chains: a review of the multi-disciplinary literature. *Journal of International Business Studies*, **51**, 4, 577–622.
- Kevill, A., Trehan, K., and Easterby-Smith, M. (2017) Perceiving 'capability' within dynamic capabilities: the role of owner-manager self-efficacy. *International Small Business Journal*, **35**, 8, 883–902.
- Kirzner, I. (1973) *Competition and Entrepreneurship*. Chicago: University of Chicago Press.
- Kirzner, I.M. (1999) Creativity and/or alertness: a reconsideration of the Schumpeterian entrepreneur. *The Review of Austrian Economics*, **11**, 1–2, 5–17.
- Kline, R.B. (2015) *Principles and Practice of Structural Equation Modeling*. New York: Guilford Publications.
- Kock, A. and Gemünden, H.G. (2020) How entrepreneurial orientation can leverage innovation project portfolio management. *R&D Management*, **51**, 1, 40–56.
- Kuivalainen, O., Sundqvist, S., and Servais, P. (2007) Firms' degree of born-globalness, international entrepreneurial orientation and export performance. *Journal of World Business*, **42**, 3, 253–267.
- Lee, J.Y., Jiménez, A., and Devinney, T.M. (2020) Learning in SME internationalization: a new perspective on learning from success versus failure. *Management International Review*, **60**, 4, 485–513.
- Lindell, M.K. and Whitney, D.J. (2001) Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, **86**, 1, 114–121.
- Little, T.D., Bovaird, J.A., and Widaman, K.F. (2006) On the merits of orthogonalizing powered and product terms: implications for modeling interactions among latent variables. *Structural Equation Modeling*, **13**, 4, 497–519.
- Lopes, J., Oliveira, M., Silveira, P., Farinha, L., and Oliveira, J. (2021) Business dynamism and innovation capacity, an entrepreneurship worldwide perspective. *Journal of Open Innovation: Technology, Market, and Complexity*, **7**, 1, 94.
- Lumpkin, G.T. and Lichtenstein, B.B. (2005) The role of organizational learning in the opportunity-recognition

- process. *Entrepreneurship Theory and Practice*, **29**, 4, 451–472.
- Ma, R. and Huang, Y.C. (2016) Opportunity-based strategic orientation, knowledge acquisition, and entrepreneurial alertness: the perspective of the global sourcing suppliers in China. *Journal of Small Business Management*, **54**, 3, 953–972.
- Mainela, T., Puhakka, V., and Servais, P. (2014) The concept of international opportunity in international entrepreneurship: a review and a research agenda. *International Journal of Management Reviews*, **16**, 1, 105–129.
- Markides, C.C. (2013) Business model innovation: what can the ambidexterity literature teach US? *Academy of Management Perspectives*, **27**, 4, 313–323.
- Massa, L., Tucci, C.L., and Afuah, A. (2016) A critical assessment of business model research. *Academy of Management Annals*, **11**, 1, 73–104.
- McCormick, M. and Fernhaber, S.A. (2018) Are growth expectations being met? Implications for the internationalization of micro-sized ventures. *Small Business Economics*, **50**, 3, 591–605.
- McCormick, M. and Somaya, D. (2020) Born globals from emerging economies: reconciling early exporting with theories of internationalization. *Global Strategy Journal*, **10**, 2, 251–281.
- McMullen, J.S. and Shepherd, D.A. (2006) Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review*, **31**, 1, 132–152.
- Meijer, I.S.M., Koppenjan, J.F.M., Pruyt, E., Negro, S.O., and Hekkert, M.P. (2010) The influence of perceived uncertainty on entrepreneurial action in the transition to a low-emission energy infrastructure: the case of biomass combustion in The Netherlands. *Technological Forecasting and Social Change*, **77**, 8, 1222–1236.
- Mezger, F. (2014) Toward a capability-based conceptualization of business model innovation: insights from an explorative study. *R&D Management*, **44**, 5, 429–449.
- Miroshnychenko, I., Strobl, A., Matzler, K., and De Massis, A. (2020) Absorptive capacity, strategic flexibility, and business model innovation: empirical evidence from Italian SMEs. *Journal of Business Research*, **130**, 670–682.
- Mitchell, R.K., Busenitz, L., Lant, T., McDougall, P.P., Morse, E.A., and Smith, J.B. (2002) Toward a theory of entrepreneurial cognition: rethinking the people side of entrepreneurship research. *Entrepreneurship Theory and Practice*, **27**, 2, 93–104.
- Mitchell, R.K., Busenitz, L.W., Bird, B., Marie Gaglio, C., McMullen, J.S., Morse, E.A., and Smith, J.B. (2007) The central question in entrepreneurial cognition research 2007. *Entrepreneurship Theory and Practice*, **31**, 1, 1–27.
- Musteen, M., Datta, D.K., and Francis, J. (2014) Early internationalization by firms in transition economies into developed markets: the role of international networks. *Global Strategy Journal*, **4**, 3, 221–237.
- Muzychenko, O. and Liesch, P.W. (2015) International opportunity identification in the internationalisation of the firm. *Journal of World Business*, **50**, 4, 704–717.
- Nakos, G., Dimitratos, P., and Elbanna, S. (2019) The mediating role of alliances in the international market orientation-performance relationship of smes. *International Business Review*, **28**, 3, 603–612.
- Narver, J.C., Slater, S.F., and MacLachlan, D.L. (2004) Responsive and proactive market orientation and new-product success. *Journal of Product Innovation Management*, **21**, 5, 334–347.
- Onetti, A., Zucchella, A., Jones, M.V., and McDougall-Covin, P.P. (2012) Internationalization, innovation and entrepreneurship: business models for new technology-based firms. *Journal of Management & Governance*, **16**, 3, 337–368.
- Pati, R.K., Nandakumar, M.K., Ghobadian, A., Ireland, R.D., and O'Regan, N. (2018) Business model design-performance relationship under external and internal contingencies: evidence from SMEs in an emerging economy. *Long Range Planning*, **51**, 5, 750–769.
- Pelham, A. and Wilson, D. (1996) A longitudinal study of the impact of market structure, strategy, and market orientation on small-firm business performance. *Journal of the Academy of Marketing Science*, **24**, 1, 27–44.
- Pervan, S., Al-Ansaari, Y., and Xu, J. (2015) Environmental determinants of open innovation in Dubai SMEs. *Industrial Marketing Management*, **50**, 60–68.
- Pirhadi, H., Soleimanof, S., and Feyzbakhsh, A. (2021) Unpacking entrepreneurial alertness: how character matters for entrepreneurial thinking. *Journal of Small Business Management*, 1–32.
- Reficco, E., Layrisse, F., and Barrios, A. (2020) From donation-based NPO to social enterprise: a journey of transformation through business-model innovation. *Journal of Business Research*, **125**, 720–732.
- Rezvani, M., Lashgari, M., and Yadollahi Farsi, J. (2019) International entrepreneurial alertness in opportunity discovery for market entry. *Journal of Research in Marketing and Entrepreneurship*, **21**, 2, 76–102.
- Romero, M.C., Lara, P., and Villalobos, J. (2021) Evolution of the business model: arriving at open business model dynamics. *Journal of Open Innovation: Technology, Market, and Complexity*, **7**, 1, 86.
- Roundy, P.T., Harrison, D.A., Khavul, S., Pérez-Nordtvedt, L., and McGee, J.E. (2017) Entrepreneurial alertness as a pathway to strategic decisions and organizational performance. *Strategic Organization*, **16**, 2, 192–226.
- Saebi, T., Lien, L., and Foss, N.J. (2017) What drives business model adaptation? The impact of opportunities, threats and strategic orientation. *Long Range Planning*, **50**, 5, 567–581.
- Sahaym, A., Treviño, L.J., and Steensma, H.K. (2012) The influence of managerial discretion, innovation and uncertainty on export intensity: a real options perspective. *International Business Review*, **21**, 6, 1131–1147.
- Salvato, C. (2009) Capabilities unveiled: the role of ordinary activities in the evolution of product development processes. *Organization Science*, **20**, 2, 384–409.
- Sapienza, H.J., De Clercq, D., and Sandberg, W.R. (2005) Antecedents of international and domestic learning effort. *Journal of Business Venturing*, **20**, 4, 437–457.

- Sawant, R.J., Nachum, L., and Panibratov, A.Y. (2021) The effect of interpersonal political embeddedness on firm internationalization scope. *British Journal of Management*, **32**, 3, 812–831.
- Sharma, L. (2019) A systematic review of the concept of entrepreneurial alertness. *Journal of Entrepreneurship in Emerging Economies*, **11**, 2, 217–233.
- Sirén, C., Parida, V., Patel, P.C., and Wincent, J. (2019) Rushed and short on time: the negative effects of temporal planning and flexible pacing style on the entrepreneurial alertness–effectuation relationship. *Journal of Business Research*, **101**, 555–560.
- Snihur, Y. and Wiklund, J. (2019) Searching for innovation: product, process, and business model innovations and search behavior in established firms. *Long Range Planning*, **52**, 3, 305–325.
- Soluk, J., Miroshnychenko, I., Kammerlander, N., and De Massis, A. (2021) Family influence and digital business model innovation: the enabling role of dynamic capabilities. *Entrepreneurship Theory and Practice*, **45**, 4, 867–905.
- Sosna, M., Treviño-Rodríguez, R.N., and Velamuri, S.R. (2010) Business model innovation through trial-and-error learning: the naturhouse case. *Long Range Planning*, **43**, 2, 383–407.
- Spieth, P., Schneckenberg, D., and Ricart, J.E. (2014) Business model innovation – state of the art and future challenges for the field. *R&D Management*, **44**, 3, 237–247.
- Stephan, U. and Pathak, S. (2016) Beyond cultural values? Cultural leadership ideals and entrepreneurship. *Journal of Business Venturing*, **31**, 5, 505–523.
- Sullivan, D. (1994) Measuring the degree of internationalization of a firm. *Journal of International Business Studies*, **25**, 2, 325–342.
- Swail, J., Down, S., and Kautonen, T. (2013) Examining the effect of ‘entre-tainment’ as a cultural influence on entrepreneurial intentions. *International Small Business Journal*, **32**, 8, 859–875.
- Tallman, S., Luo, Y., and Buckley, P.J. (2018) Business models in global competition. *Global Strategy Journal*, **8**, 4, 517–535.
- Tang, J., Baron, R.A., and Yu, A. (2021) Entrepreneurial alertness: exploring its psychological antecedents and effects on firm outcomes. *Journal of Small Business Management*, 1–30.
- Tang, J., Kacmar, K.M., and Busenitz, L. (2012) Entrepreneurial alertness in the pursuit of new opportunities. *Journal of Business Venturing*, **27**, 1, 77–94.
- Teece, D.J. (2010) Business models, business strategy and innovation. *Long Range Planning*, **43**, 2, 172–194.
- Teece, D.J. (2014) The foundations of Enterprise performance: dynamic and ordinary capabilities in an (economic) theory of firms. *Academy of Management Perspectives*, **28**, 4, 328–352.
- Torkkeli, L., Kuivalainen, O., Saarenketo, S., and Puumalainen, K. (2019) Institutional environment and network competence in successful SME internationalisation. *International Marketing Review*, **36**, 1, 31–55.
- Torkkeli, L., Puumalainen, K., Saarenketo, S., and Kuivalainen, O. (2012) The effect of network competence and environmental hostility on the internationalization of SMEs. *Journal of International Entrepreneurship*, **10**, 1, 25–49.
- Trading Economics. (2019) *United Arab Emirates GDP*. Available from: <https://tradingeconomics.com/uae/gdp#:~:text=GDP%20in%20the%20United%20Arab%20Emirates%20is%20expected%20to%20reach,according%20to%20our%20econometric%20models>.
- Valliere, D. (2013) Towards a schematic theory of entrepreneurial alertness. *Journal of Business Venturing*, **28**, 3, 430–442.
- Verbeke, A., Coeurderoy, R., and Matt, T. (2018) The future of international business research on corporate globalization that never was.... *Journal of International Business Studies*, **49**, 9, 1101–1112.
- Waldman, D.A., Ramirez, G.G., House, R.J., and Puranam, P. (2001) Does leadership matter? CEO leadership attributes and profitability under conditions of perceived environmental uncertainty. *Academy of Management Journal*, **44**, 1, 134–143.
- Wang, C.L. (2008) Entrepreneurial orientation, learning orientation, and firm performance. *Entrepreneurship Theory and Practice*, **32**, 4, 635–657.
- Wang, H. and Chen, W.-R. (2010) Is firm-specific innovation associated with greater value appropriation? The roles of environmental dynamism and technological diversity. *Research Policy*, **39**, 1, 141–154.
- Watson, T.J. (2013) Entrepreneurship in action: bringing together the individual, organizational and institutional dimensions of entrepreneurial action. *Entrepreneurship & Regional Development*, **25**, 5–6, 404–422.
- Wei, Z., Yang, D., Sun, B., and Gu, M. (2014) The fit between technological innovation and business model design for firm growth: evidence from China. *R&D Management*, **44**, 3, 288–305.
- Wu, A.D. and Zumbo, B.D. (2008) Understanding and using mediators and moderators. *Social Indicators Research*, **87**, 3, 367–392.
- Xiao, H., Yang, Z., and Hu, Y. (2021) Influencing mechanism of strategic flexibility on corporate performance: the mediating role of business model innovation. *Asia Pacific Business Review*, **27**, 3, 470–492.
- Yang, M.M., Li, T., and Wang, Y. (2020) What explains the degree of internationalization of early-stage entrepreneurial firms? A multilevel study on the joint effects of entrepreneurial self-efficacy, opportunity-motivated entrepreneurship, and home-country institutions. *Journal of World Business*, **55**, 6, 101114.
- Yayla, S., Yenyurt, S., Uslay, C., and Cavusgil, E. (2018) The role of market orientation, relational capital, and internationalization speed in foreign market exit and re-entry decisions under turbulent conditions. *International Business Review*, **27**, 6, 1105–1115.
- Yun, J.J. (2015) How do we conquer the growth limits of capitalism? Schumpeterian dynamics of open



## Entrepreneurial alertness and business model innovation in dynamic markets

- innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, **1**, 2, 17.
- Yun, J.J., Park, K., Kim, J., and Yang, J. (2016) Open innovation effort, entrepreneurship orientation and their synergies onto innovation performance in SMEs of Korea. *Science, Technology and Society*, **21**, 3, 366–390.
- Yun, J.J., Won, D., and Park, K. (2016) Dynamics from open innovation to evolutionary change. *Journal of Open Innovation: Technology, Market, and Complexity*, **2**, 2, 7.
- Yun, J.J., Won, D., and Park, K. (2018) Entrepreneurial cyclical dynamics of open innovation. *Journal of Evolutionary Economics*, **28**, 5, 1151–1174.
- Yun, J.J., Won, D., Park, K., Jeong, E., and Zhao, X. (2019) The role of a business model in market growth: the difference between the converted industry and the emerging industry. *Technological Forecasting and Social Change*, **146**, 534–562.
- Yun, J.J. and Zhao, X. (2020) Business model innovation through a rectangular compass: from the perspective of open innovation with mechanism design. *Journal of Open Innovation: Technology, Market, and Complexity*, **6**, 4, 131.
- Zahra, S.A., Neubaum, D.O., and Huse, M. (2000) Entrepreneurship in medium-size companies: exploring the effects of ownership and governance systems. *Journal of Management*, **26**, 5, 947–976.
- Zhang, J.A., O’Kane, C., and Chen, G. (2020) Business ties, political ties, and innovation performance in Chinese industrial firms: the role of entrepreneurial orientation and environmental dynamism. *Journal of Business Research*, **121**, 254–267.
- Zhao, X., Lynch, J.G., Jr., and Chen, Q. (2010) Reconsidering baron and Kenny: myths and truths about mediation analysis. *Journal of Consumer Research*, **37**, 2, 197–206.
- Zott, C. and Amit, R. (2007) Business model design and the performance of entrepreneurial firms. *Organization Science*, **18**, 2, 181–199.
- Zott, C. and Amit, R. (2008) The fit between product market strategy and business model: implications for firm performance. *Strategic Management Journal*, **29**, 1, 1–26.
- Zott, C. and Amit, R. (2010) Business model design: an activity system perspective. *Long Range Planning*, **43**, 2, 216–226.
- Zott, C., Amit, R., and Massa, L. (2011) The business model: recent developments and future research. *Journal of Management*, **37**, 4, 1019–1042.

## Note

- <sup>1</sup> To further determine the participants’ knowledge and understanding of the phenomenon under study, we asked them to indicate on a 7-point Likert scale: (1)

level of knowledge about the issues under investigation; and (2) level of confidence in answering the questions. The results suggest a mean score of 6.23 for knowledge of issues and 6.12 for confidence in answering the questions.

**Yong Kyu Lew** is Professor of International Business at Hankuk University of Foreign Studies, Seoul, South Korea. He completed his PhD at Manchester Business School, UK. His research interests include global strategy, innovations and institutions & socio-economic consequences. His recent work has appeared in *Journal of International Business Studies*, *Long Range Planning*, *Global Strategy Journal*, *R&D Management*, *Industry & Innovation*, *International Small Business Journal*, *Business Strategy and the Environment*, *Sustainable Development*, *Journal of Business Research*, and *International Business Review*, among others.

**Nadia Zahoor** is Associate Professor of Strategy at School of Business and Management of the Queen Mary University of London, UK. She completed her PhD in Management from the University of Huddersfield, United Kingdom. Her research focuses on Strategy, Innovation and International Business. Her work has been published in *Business Strategy and the Environment*, *British Journal of Management*, *International Journal of Management Reviews*, *International Marketing Review*, *International Business Review*, *Journal of Business Research*, and *International Small Business Journal*, among others.

**Francis Donbesuur** is an Associate Professor in Entrepreneurship at the University of Leicester School of Business, United Kingdom. His research focuses on the interface between entrepreneurship, innovation and strategy. He received his Ph.D. in Entrepreneurship and Strategy from the University of Leeds, United Kingdom. Dr Donbesuur’s research has been published in leading Journals including the *British Journal of Management*, *Technovation*, *Journal of Business Research*, *Technological Forecasting and Social Change*, *International Business Review*, *Journal of International Management*, among others.

**Huda Khan** is Senior Lecturer in Marketing and Associate Director of Africa-Asia Centre of Sustainability Research at the University of Aberdeen, United Kingdom. Huda’s research mainly focuses on emerging market firms dynamic marketing capabilities and strategies in advanced markets. Huda’s work has appeared in *International Business Review*, *International Marketing Journal*, *Annals of Tourism Research*, among others.