



Entrepreneurial alertness: A mechanism for innovation and growth in an emerging economy

Stephen E. Lanivich¹  · Nadia Zahoor² · Francis Donbesuur³ · Domnan Miri⁴ · Samuel Adomako⁵

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Abstract

In this study, we draw from the conservation of resources theory to develop and test a model on the processes through which resiliency influences two entrepreneurial strategies, product differentiation and international diversification. Results from 226 entrepreneurs in Pakistan demonstrate that psychological resiliency predicts product diversification and international diversification through entrepreneurial alertness. Also, we find that institutional voids moderate the relationship between entrepreneurial alertness, product diversification, and international diversification. Our theorizing advances entrepreneurial alertness as a lynchpin variable for operationalizing founders' characteristics to affect innovation and expansion efforts. Furthermore, by demonstrating the complementary effect of institutional voids on the entrepreneurial alertness–product differentiation and entrepreneurial alertness–international diversification relationships, we draw the attention of entrepreneurs to the brighter side of institutional voids. This is an important addition to international entrepreneurship literature and a critical contextual contribution to entrepreneurial alertness theory development because limited attention is devoted to examining how resiliency promotes entrepreneurial alertness for facilitating product differentiation and international diversification strategies in the Asia Pacific region.

Keywords Alertness · Diversification · Entrepreneurs · Institutional voids · Resiliency

Among the defining queries of entrepreneurship research, how entrepreneurial activity is catalyzed and sustained may be most interesting – and most elusive – especially in emerging economies where investment, new venture activity, and economic growth can have dramatic impact on opportunities (Sanchez-Triana et al., 2014). Shane and Venkataraman (2000) suggested entrepreneurship centers around discovering, evaluating, and exploiting opportunities. The concept of opportunity is the

Extended author information available on the last page of the article

focus of many models regarding catalysts of the entrepreneurship process (Ardichvili et al., 2003; Gaglio, 1997; Valliere, 2013). Opportunities can be thought of as potential value-adding ideas for which business operations can be built around and the outcome of a cognitive process that dwells in the minds of entrepreneurs (Lanivich et al., 2021a, 2021b). Yet, how these ideas are generated remains a clouded discussion (Berglund et al., 2020; Dimov, 2011; Foss & Klein, 2020). Among the most promising explanations, entrepreneurial alertness (EA), a “distinctive set of perceptual and information-processing skills” (Gaglio & Katz, 2001: 95) commonly associated with scanning and searching for new information, associating previously unrelated information, and evaluating the potential of such information (Tang et al., 2012), has increasingly gained attention (Araujo et al., 2023; Lanivich et al., 2022; Levasseur et al., 2024). However, there remains a dearth of research regarding the antecedents and consequences of EA (Levasseur et al., 2020), creating scholarly opportunities for theoretical elaboration (Fisher & Aguinis, 2017), especially concerning emerging economies in the Asia Pacific region (Sun et al., 2020).

Emerging economies are characterized by a milieu of both positive potentials for growth and prosperity mixed with looming anxieties regarding the development of new institutions (and the recognition of institutional voids) – requiring entrepreneurs with plans for innovation and/or growth to be resilient and overcome economic droughts and downturns by developing contingencies for an uncertain future (Gölgeci et al., 2020; Parker & Ameen, 2018). This is especially important in South Asia, where many economies, including Pakistan, are emerging through entrepreneurship endeavors (Trading Economics, 2022). Considering this, we posit entrepreneurs’ resiliency motivates the EA mechanism for opportunities that can help overcome the strain of threats inherent in emerging economies. In this way, EA facilitates action stemming from psychological concerns for resiliency. We refrain from hypothesizing a direct relationship between psychological resiliency and our outcome variables because the distality of founder disposition to product differentiation and international diversification is compounded by the lack of mechanism to convert these feelings into action. EA bonds founder’s state of resiliency to venture outcomes by linking their disposition to actions for recognizing opportunities their firm can pursue. Therefore, we elaborate theory structure regarding EA by providing deeper understanding for the sequence of relations that help exemplify the connective and predictive properties of the construct.

Regarding antecedents of EA, although understudied (Lanivich et al., 2022), scholars have suggested differences in behavioral, contextual, and cognitive factors can affect how EA manifests (e.g., Baron, 2007; Roundy & Im, 2024; Valliere, 2013). However, important motivating factors of EA, like resiliency, remain under-explored – creating glaring gaps in the nomological map of EA. Being resilient is the ability to withstand the strain of adversity or disruption (e.g., Chadwick & Raver, 2020). This conceptualization follows the broader resiliency literature suggesting vulnerability is counteracted through preparedness (Rose, 2007). Considering entrepreneurship, the inherent uncertainty and hardships of venture development create a context of vulnerability. Thus, entrepreneurs must remain vigilant in their preparedness by seeking opportunities for innovation and competitive advantage. In this way, resiliency is thought to predict entrepreneurial outcomes, like success

(Ayala & Manzano, 2014) or survival (Saridakis et al., 2013). What is less clear, however, is how resiliency of entrepreneurs in emerging economies is put to practical use for moving businesses forward through innovative behavior. Hence, we utilize theory elaboration structuring principles (Fisher & Aguinis, 2017) to expound upon the sequence of relations wherein resiliency can catalyze EA for the purposes of recognizing opportunities for differentiation and diversification that can bolster the fortitude of the firm.

Regarding consequences, the most immediate outcome of EA is the recognition of venture ideas (Lanivich et al., 2022). Yet, the conceptual generalization of ideas or opportunities can be cause for concern (Davidsson, 2015; Foss & Klein, 2017), and create ambiguity regarding the application of entrepreneurial alertness theory to practice. We sought outcomes with specific relevance to innovation and international expansion opportunities because ventures in emerging markets often need to endure resource constraints (Yang et al., 2023) and escape home country institutional environments that do not support their survival or growth (Wu & Deng, 2020). Indeed, ventures in emerging markets, characterized by underdeveloped institutions with significant institutional voids (Dieleman et al., 2022; Estrin et al., 2013; Webb et al., 2020), often need to be innovative and expand across borders to find new resources and competitive advantages (Luo & Tung, 2018).

Thus, the purpose of the study herein is to add theory-backed empirical evidence to the growing body of knowledge focusing on the utility of EA to alleviate tension in the opportunity recognition domain. Our arguments are made from a microfoundations of entrepreneurship perspective (Barney & Felin, 2013; Minniti & Bygrave, 1999; Roundy & Im, 2024; Sun et al., 2020) utilizing the Conservation of Resources (COR) theory (Hobfoll & Shirom, 2001; Hobfoll, 1989, 2009) to explain the linkages of our model in the context of an emerging South Asian economy. We investigate a unique antecedent of EA (psychological resiliency) and two specific, under-studied opportunities that can result from EA (product differentiation and international diversification) while minding the condition of perceived institutional voids—a primary boundary concern in the context of an emerging economy (Franczak et al., 2023; Sun et al., 2020). In doing so, we address the research questions: (1) “How is entrepreneurial alertness affected by founders’ psychological resiliency?”, and (2) “How does entrepreneurial alertness affect innovation and expansion strategies, considering the condition of perceived institutional voids?” Additionally, we answer calls from recent reviews of alertness literature for more theory-driven, contextual explanations of EA as an important mechanism in the discussion of opportunity recognition and entrepreneurial actions (Chavoushi et al., 2021; Lanivich et al., 2022; Sharma, 2019).

Background, theoretical development, and hypotheses

It is our position that founders of entrepreneurial ventures provide the thrust of strategic decision-making early in the life of a business, and, as such, their abilities, cognitions, and perceptions weigh heavily on the actions of their firms. As part of our contribution to the literature, our investigation tests several COR theory tenets

with venture founders in the context of entrepreneurship. In this way, we extend evidence of COR theory's utility for entrepreneurship research, particularly in emerging economies like Pakistan. Furthermore, we argue for the explanatory power of COR theory in the study of EA because opportunities are the lifeblood of entrepreneurial activity, providing the platform for resource considerations and context to threats of venture losses. Additionally, we add support to the burgeoning ideas from microfoundations of entrepreneurship paradigm, which suggests founding entrepreneurs' characteristics and cognitions drive early entrepreneurial decisions and actions (Randolph-Seng et al., 2015). Finally, we contribute to EA theory by positing resiliency as motivation for enacting the EA ability for noticing opportunities imperative to venture sustainability (e.g., product differentiation and international diversification) in an emerging South Asia economy.

Below, we introduce COR theory as the focal explanation for tying together the hypotheses in our conceptual model (Fig. 1). Using COR theory, we then explain each of the variables and their linkages, as hypothesized. Our method and sample are presented, followed by the results of our analyses. Finally, we discuss the contributive implications of our findings, the limitations of our design, and future directions for research.

Conservation of resources (COR) theory

COR theory predicts that individuals experience stress when resources are threatened, lost, or insufficiently acquired following investment (Halbesleben, 2006; Hobfoll, 2001; Hobfoll et al., 2018; Lanivich et al., 2021a, 2021b). In this regard, resources can be described as “those entities that either are centrally valued in their own right or act as a means to obtain centrally valued ends” (Hobfoll, 2002, p. 307). COR theory posits that people act to acquire and maintain resources that help them buffer the negative effects of environmental stressors (Hobfoll et al., 2000; Lanivich, 2015). For example, entrepreneurial time investments—a finite resource—can lead to financial security through profits, which can enable the attainment of other desirable conditions, such as innovation, growth, or job satisfaction (Mmbaga et al., 2023;

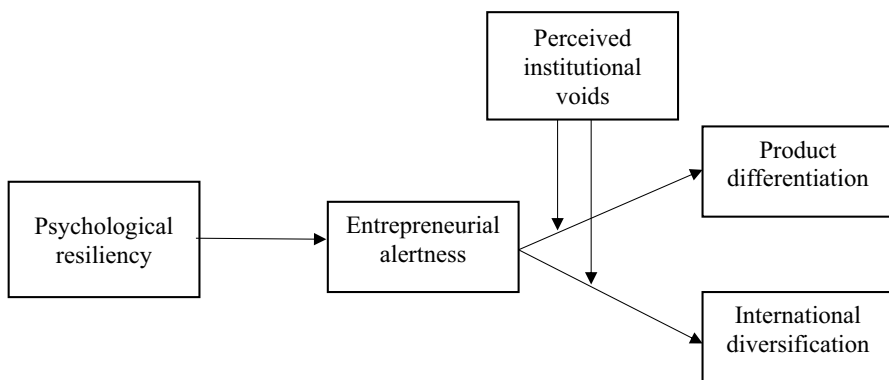


Fig. 1 Conceptual model

Munyon et al., 2020). Furthermore, COR theory assumes resource acquisition and protection are inherently deliberate, goal-directed processes.

COR theory suggests resources have little or no intrinsic value by themselves, but instead they are valued based on conditions they facilitate. Indeed, resources such as time and knowledge are useful in procuring and preserving other resources with intrinsic and extrinsic value (Hobfoll, 1989; Levasseur et al., 2024). Once attained, resources reduce vulnerability to other resource losses and increase the ability to obtain additional desired resources (Hobfoll et al., 2018). Hobfoll (2009, p. 95) noted that:

“People are motivated to create, protect, foster, and nurture their resources. People build social, personal, material, and energy resources to sustain well-being, and to protect against future resource loss. This follows because people are loss-sensitive and gain insensitive on biological (Cacioppo & Gardner, 1999), cognitive (Tversky & Kahneman, 1992), and social (Hobfoll, Freedy, Lane, & Geller, 1990) levels. [. . .] Hence, the building and preserving of resources has a primary motivation in prevention of loss, because future, critical loss is inevitable.”

With this in mind, we base our arguments within the context of entrepreneurship in an emerging economy (Sun et al., 2020). As such, the ever-looming threat of resource loss is apparent; many firms are one governmental change, negative litigation, or natural disaster away from devastating loss (Cordero, 2023; Morris et al., 2023). Hence, entrepreneurial firms seeking to remain an ongoing concern must be vigilant in their preparedness to manage their vulnerabilities (Branzei & Fathallah, 2023), requiring a disposition of resiliency from venture leaders (i.e., founders).

Resiliency

For the research described herein, we conceptualize founders' psychological resiliency as a characteristic resource salient in the process of entrepreneurship because it represents their will to keep moving forward despite the setbacks that will likely occur during business venturing (Chadwick & Raver, 2020). Monllor and Murphy (2017, p. 628) suggested resiliency acts “as a shield that protects [entrepreneurial] intentions from the negative impact of fear of failure”. In this way, resiliency is a cognitive schema that motivates entrepreneurs to be hardy and resourceful in pursuit of their entrepreneurial goals (Powell & Baker, 2011). Relatedly, Patterson (2002) specified resiliency exists when the tangible and psychological resources individuals possess can be enacted to cope with goal deterrents. She labeled such resources as protective mechanisms because they aid in defending against strain from adversity. Entrepreneurs can count on encountering uncertainty, and this adversity manifests in many forms – requiring entrepreneurs to be ready for the unexpected (Lanivich, 2015; Magnani & Zucchella, 2018), as well as previously identified adversities.

As a motivation for readiness regarding the uncertainty of potential changes and pitfalls inherent in entrepreneurship, we posit resiliency activates a need for entrepreneurial alertness. Following COR theory assumptions, entrepreneurs will seek

to acquire, protect, and develop resources that can buffer against the strain of loss, including potential loss stemming from entrepreneurial uncertainty (Packard et al., 2017), that threatens their business. In this way, resilient entrepreneurs will search for new information, associate previously unrelated information, and evaluate the potential of such information (Lanivich et al., 2022; Tang et al., 2012) in efforts to generate opportunities that can provide resources to protect their interests from loss (e.g., loss of market position, loss of socioemotional wealth, loss of business).

Hypotheses 1: Psychological resiliency is positively related to entrepreneurial alertness

Entrepreneurial alertness

In brief, the theory regarding alertness in the context of entrepreneurship began as a response to market-level disequilibrium, wherein Kirzner (1973, 1979, 2009) suggested entrepreneurs are arbitrageurs driving markets toward equilibrium. As the concept of alertness developed, Kirzner's *market alertness* paved the way for *entrepreneurial alertness* (Gaglio & Katz, 2001; Lanivich et al., 2022; Tang et al., 2012) – an individual-level construct shaping pursuit and development of opportunities through cognitive, temporal, and capability factors (Ardichvili et al., 2003; Korsgaard et al., 2016; Valliere, 2013). Entrepreneurial alertness represents “attentiveness to existing markets *and* psychological information *and* resources attainable, creatable, and/or developable by entrepreneurs” (Lanivich et al., 2022: 8). Tang and colleagues (2012) helped solidify the conceptualization of entrepreneurial alertness through their development of a scale to measure three primary abilities of entrepreneurs to notice opportunities, including (1) looking for information, (2) connecting information, and (3) evaluating potential venture ideas generated from finding and associating information.

This investigation contributes to the ongoing accumulation of empirical evidence guiding the development of entrepreneurial alertness theory. Through COR theory assumptions, we thought to describe entrepreneurial alertness as a linchpin for entrepreneurial activity. As such, we posit motivational factors to enact entrepreneurial alertness include resiliency, which represents desire to overcome obstacles associated with enduring the strains of venturing. However, some end must exist for which antecedents of opportunity coalesce (Wood & McKinley, 2020), and our linchpin model is incomplete without outcomes of entrepreneurial alertness. Following tenets of COR theory, we can expect that motivated entrepreneurs will pursue resources that aid the continuance of their venture. As such, we recognize that opportunities for venture growth and innovation can be resources for attenuating the threats of competitors and the environment. In other words, entrepreneurs are motivated by their resiliency to find opportunities that connote competitive advantages (i.e., resources) for remaining an ongoing concern in business. Thus, we sought information regarding entrepreneurial alertness outcomes that represent action taken toward recognized potential opportunities. In this way, we can demonstrate an explanation of how and why entrepreneurial alertness schema are enacted and what such

action can help to accomplish for entrepreneurs and their ventures, particularly in an emerging economy.

ENT alertness and product differentiation

In line with our theoretical reasoning, entrepreneurs are motivated to find ways to combat potential losses – including losses that could occur from competition. In this way, they must often find opportunities for change in their products or services. Entrepreneurial alertness represents the ability to notice potential opportunities (Montiel-Campos, 2023) and should therefore have a positive effect on the development of product differentiations that can strengthen an entrepreneur's venture. Product differentiation involves the change of a product's image, usage, or quality distinctions (Boehe & Cruz, 2010). As such, the opportunity for change to be advantageous to an entrepreneurial venture must be recognized by entrepreneurs for introduction into their business model and operations. Thus, we look to entrepreneurial alertness as a mechanism for founders' recognition of these potential opportunities.

COR theory suggests that motivation to avoid loss or buffer against future loss will prompt action for the protection and development of resources that can assist with combating such threats. Considering the connection with resiliency, which represents the desire and belief in preparedness, entrepreneurs will be prompted to seek out resources that can aid them in their efforts to remain an ongoing concern. However, motivation without action ends in intent. Thus, mechanisms must be recognized for the process of acquiring, protecting, and developing resources that can help entrepreneurs cope with threats to their ventures. In this way, entrepreneurial alertness represents a mechanism enabling the motivation of resiliency to affect the outcome of product differentiation by enacting the actions of search and scan, information association, and idea evaluation to notice the opportunity to endeavor product changes.

Hypotheses 2: Entrepreneurial alertness mediates the relationship between resiliency and product differentiation

ENT alertness and international diversification

International diversification represents business operations outside of an organization's home country, comprised of strategies including exporting, foreign production, and licensing (Majocchi & Strange, 2012). Recent foreign expansion from emerging economies has put a spotlight on investigations of new venture internationalization (Yang et al., 2023). Compared to those in developed economies, entrepreneurial ventures in emerging economies deal with a different set of challenges and resource constraints for internationalization (Hessels & Terjesen, 2010). Hence, their motives and strategies for internationalization must be tuned accordingly (Ramamurti & Singh, 2009; Yang et al., 2023; Yiu et al., 2007).

In the context of Pakistan, weak or non-existent institutions for entrepreneurship and limited home-country resources set the stage for entrepreneurs with resiliency

concerns to consider international opportunities. Yet, regarding international diversification—and arguably any opportunity-based outcome—opportunities must first be noticed before they can be pursued. In this way, entrepreneurial alertness can have a positive influence on international diversification by helping entrepreneurs identify potential opportunities (Lew et al., 2023).

Following the literature, resilient entrepreneurs seek contingencies for overcoming venturing pitfalls (Korber & McNaughton, 2018). Again, we suggest COR theory rationale works well to construct our arguments for entrepreneurial alertness as the mechanism for turning motivation gained from a desire to be resilient (i.e., founder psychological resiliency) into operations of international diversification. COR theory suggests that the potential to lose important resources, like business prowess or market share, will drive entrepreneurs to find ways of buffering against such losses. One potential avenue to gain more resources that can increase business viability is to expand internationally (Yang et al., 2023). We argue that entrepreneurs, in preparation for potential threats (e.g., smallness), will scan and search for potential opportunities in international markets, associate the new information they gather with their current potential, and evaluate their ability and desire to proceed with the ideas they have conjured for internationalization. In this way, entrepreneurs' resiliency can indirectly affect the way international diversification happens, suggested here in a positive manner.

Hypotheses 3: Entrepreneurial alertness mediates the relationship between resiliency and international diversification

ENT alertness & institutional voids

Institutional voids, or lack of formal structure for aspects of an economy, create situations for and against entrepreneurship (Adomako et al., 2019). For example, an undefined institutional context can create opportunities to pursue (Ahlstrom & Bruton, 2006) and facilitate the development of new businesses (Acs et al., 2008). Alternatively, the paucity of regulatory agencies and laws that restrict individuals from recognizing opportunities can limit entrepreneurial potential (Meyer, 2001) and perpetuate inequalities (Chakrabarty & Bass, 2014), especially in emerging economies (Franczak et al., 2023). Thus, as part of our contribution to the entrepreneurial alertness literature, we investigate how institutional voids affect the relationship between EA and product differentiation and the relationship between EA and international diversification.

From our COR theory framework, we have identified founders' resiliency as a motivating factor for pursuing opportunities in entrepreneurship, specifically in emerging economies like Pakistan. From here we followed Tang and colleagues' (2012) representation of EA as a mechanism for noticing potential opportunities that can contribute to sustaining entrepreneurial endeavors, including product differentiation and international diversification. In this way, we suggest EA as a linchpin variable capable of mediating founder motivations into venture outcomes. However, environmental factors must be considered. Thus, we turn to

institutional voids as potential threats and/or potential areas of interest for entrepreneurs to exploit their skills and motivations. In the case of either outcome investigated herein, institutional voids may be a beacon for potential opportunity. Thus, for entrepreneurs with EA, their ability to notice the potential opportunities within institutional voids can increase the likelihood that product differentiation and international diversification opportunities are recognized.

Hypothesis 4a: Institutional voids moderate the positive relationship between entrepreneurial alertness and product differentiation such that the positive relationship will be increased when institutional voids are high.

Hypothesis 4b: Institutional voids moderate the positive relationship between entrepreneurial alertness and international diversification such that the positive relationship will be increased when institutional voids are high.

Methods

Study context

The data were collected from entrepreneurs who had taken part in the foundation of their businesses in Pakistan. We chose Pakistani entrepreneurs for two primary reasons. First, Pakistan is emerging as a contemporary market in South Asia due to industrial reforms in the form of privatization, liberalization, and deregulation to ease restrictions on businesses. These reforms have cultivated an atmosphere for foreign direct investment (FDI) and encouraged entrepreneurial ventures to engage in innovation and international venturing activities. Despite the ongoing success of Pakistan's economy, the country—like many in the South Asia and greater Asia Pacific region—shares the characteristics of emerging markets such as institutional voids, limited access to financial credit, weak legal systems, and weak market intermediaries, which can affect opportunity accessibility and recognition (Franczak et al., 2023; Smith & Lanivich, 2023). Thus, it is important to understand how entrepreneurs in Pakistan can overcome institutional constraints and invest in innovation and international activities.

Second, entrepreneurial activities are important contributors to the Pakistani economy as entrepreneurial firms account for 90 percent of all businesses, provide 80 percent of non-agricultural employment, and contribute 40 percent of the annual GDP (Trading Economics, 2022). Considering the significance of entrepreneurial ventures in Pakistan's economic growth, it is appropriate to investigate how entrepreneurial ventures' innovation and international efforts are affected by entrepreneurial characteristics and institutional conditions. Indeed, Pakistan represents a natural laboratory for entrepreneurship research and can provide unique input regarding the recognition of opportunities in an understudied emerging economy within the Asia Pacific region.

Sample and data collection

The sampling frame of the study was derived from the Pakistan Export Directory, the Pakistan Chamber of Commerce Industry Directory, and the Small and Medium Enterprises Development Authority (SMEDA) databases. We used the following sampling criteria: (1) firms that are involved in entrepreneurial and international activities; (2) firms that are independent entities and not part of any company group; (3) firms that have less than 250 employees. Based on these criteria, 1150 ventures were approached to elicit participation. Of 1150 ventures, 684 agreed to participate in our study. Thus, we prepared 684 questionnaires for distribution.

The data were collected using a hand-delivery collection technique. This is the most effective data collection technique in developing and emerging countries due to the challenges involved in online or postal questionnaires (Adomako & Ahsan, 2022; Ahmed et al., 2022). Given that English is the primary business language in Pakistan, the questionnaire was developed and administered in English. Founders who had taken part in the formation of the ventures completed the questionnaire. After discarding surveys with incomplete or missing values, we obtained a total of 226 completed questionnaires (33.04% response rate). In our final sample, the mean firm age was 6.12 years, with an average of 29 employees. Firms operated within the manufacturing (41%) or service (59%) sectors, and male-owned firms accounted for 57.11 percent of the sample.

Non-response bias was assessed using a *t*-test to compare the responses of firms that completed the questionnaire against those that did not respond to the questionnaire in terms of firm size, firm age, and industry sector. Results show no significant differences between respondents and non-respondents ($p > 0.10$), suggesting there is little concern for non-response bias in our study. Furthermore, we assessed the knowledgeability of participants by asking three questions measuring: (1) knowledgeability of participants concerning the survey questions, (2) accuracy of their answers to survey questions, and (3) confidence of participants in providing answers. Responses were recorded on a 7-point, Likert-type scale (anchors ranged from 1 = “strongly disagree” to 7 = “strongly agree”). The minimum mean score was 5.76, which suggested that participants are knowledgeable and have confidence in providing accurate answers.

Measures

The variables used in this study were measured using existing validated scales. All multi-item constructs were measured using 7-point, Likert-type scales. The details of the constructs, items, and the values of reliability and validity tests are provided in Table 1.

Psychological resiliency We measured psychological resiliency with six items scale developed by Wagnild and Young (1993). This scale has been validated in previous

Table 1 Construct and measurement details, and reliability and validity tests

Variables and Items	Factor Loadings
<i>Psychological resilience (CA = 0.93; CR = 0.92; AVE = 0.69)</i>	
When I have a set back at work, I have trouble recovering from it, moving on. (R)	0.82
1. I usually manage difficulties one way or another at work	0.77
2. I can be "on my own," so to speak, at work if I have to	0.82
3. I usually take stressful things at work in stride	0.89
4. I can get through difficult times at work because I have experienced difficulty before	0.83
5. I feel I can handle many things at a time at this job	0.74
<i>Entrepreneurial alertness</i>	
<i>Scanning and search (CA = 0.94; CR = 0.94; AVE = 0.72)</i>	
1. I have frequent interactions with others to acquire new information	0.83
2. I always keep an eye out for new business ideas when looking for information	0.89
3. I read news, magazines, or trade publications regularly to acquire new information	0.86
4. I browse the Internet every day	0.89
5. I am an avid information seeker	0.82
6. I am always actively looking for new information	0.82
<i>Association and connection (CA = 0.89; CR = 0.87; AVE = 0.70)</i>	
1. I see links between seemingly unrelated pieces of information	0.76
2. I am good at "connecting dots."	0.88
3. I often see connections between previously unconnected domains of information	0.86
<i>Evaluation and judgment (CA = 0.90; CR = 0.89; AVE = 0.66)</i>	
1. I have a gut feeling for potential opportunities	0.71
2. I can distinguish between profitable opportunities and not-so-profitable opportunities	0.79
3. I have a knack for telling high-value opportunities apart from low-value opportunities	0.89
4. When facing multiple opportunities, I am able to select the good ones	0.85
<i>Product differentiation</i>	
<i>Product quality differentiation (CA = 0.86; CR = 0.86; AVE = 0.76)</i>	
1. Superior quality standards	0.85
2. Differentiation image	0.89
<i>Product innovation differentiation (CA = 0.91; CR = 0.90; AVE = 0.69)</i>	
1. Product R&D investment	0.80
2. Process R&D investment	0.80
3. New product introduction	0.91
4. Revolutionary innovations	0.82
<i>International diversification (CA = 0.89; CR = 0.87; AVE = 0.69)</i>	
1. We exported to different foreign markets	0.82
2. Our majority of revenues come from diverse foreign export markets	0.91
3. Our export markets are very diverse	0.76
<i>Perceived institutional voids (CA = 0.89; CR = 0.87; AVE = 0.62)</i>	
1. Lack of infrastructure to facilitate the relationship between the firm and its clients, or between the firm and its suppliers	0.70
2. We were able to find adequate and reliable information about the tastes and preferences of consumers, and the reliability of suppliers with ease (r)	0.72
3. Underdeveloped education infrastructures and the need for intensive training of Pakistan employees	0.86
4. Ambiguous bureaucratic and legal system	0.87

CA = Cronbach Alpha; CR = composite reliability, AVE = average variance extracted

research (e.g., Chadwick & Raver, 2020). The respondents were asked to provide answers to the questions to reflect their behavior during challenging times.

Entrepreneurial alertness We used Tang and colleagues' (2012) three-dimensional scale to measure entrepreneurial alertness. The participants were asked to rate the extent to which each item described the lead entrepreneur(s) in the firm. *Scanning and search* was measured using six items, *association and connection* was captured using three items, and *evaluation and judgment* was measured using four items. The average of the three dimensions constituted the overall measure of entrepreneurial alertness.

Product differentiation Following previous studies (e.g., Boehe & Cruz, 2010; Yiu et al., 2007; Zahra et al., 2000), we captured product differentiation using two dimensions. *Product quality differentiation* was measured using two items and *product innovation differentiation* was measured using four items.

International diversification This construct was measured using three items from Kim and Cavusgil (2020). The respondents were asked to rate the extent to which the firm enters multiple foreign markets.

Institutional voids We used four items to capture institutional voids based on Giachetti (2016). The scale measures the managerial perception of the extent to which institutional voids are present in their business environment.

Control variables To account for known potential influences on our model, we controlled for founder gender, age, education, and entrepreneurial experience – along with firm size and industry. Founder gender, age, education, and entrepreneurial experience are key determinants of strategic decision-making within firms. Research suggests that these individual characteristics shape founders' cognitive frameworks, risk preferences, and strategic orientations (Fahlenbrach, 2009), thereby influencing their approach to product differentiation and international diversification strategies. Gender was measured as a dummy variable (0 = "male", 1 = "female"). Founder age was measured as the number of years since the founder's birth (Adomako et al., 2019). Education was measured by the highest level of education founders attained (1 = "some high school", 2 = "diploma", 3 = "bachelor's degree", 4 = "graduate degree"). Entrepreneurial experience was captured as the number of businesses previously founded by the entrepreneur.

Additionally, we controlled for firm size and industry type. Firm size and industry context play significant roles in shaping strategic decisions and outcomes. Larger firms may have greater resources and capabilities to invest in product differentiation initiatives or international expansion (Hitt et al., 1997), while industry dynamics and competitive pressures can influence the feasibility and effectiveness of such strategies (David, & David, 2017). Controlling for firm size and industry helps ensure that the observed effects of product differentiation and international diversification are not merely artifacts of firm-specific characteristics or industry conditions. Firm size was measured as the number of full-time employees. Industry type was captured with a dummy variable (0 = "manufacturing", 1 = "service").

Analyses

Common method *bias* assessment

To determine the presence of common method bias, we followed Cote and Buckley (1987) by estimating three competing confirmatory factor analysis (CFA) models: (1) trait-only model wherein all the items were loaded on a single latent construct ($\chi^2/df = 6.49$; CFI = 0.52; TLI = 0.47; RMSEA = 0.16; SRMR = 0.15); (2) method-only model wherein each item was loaded on its respective latent construct ($\chi^2/df = 1.37$; CFI = 0.97; TLI = 0.96; RMSEA = 0.04; SRMR = 0.04); and (3) trait-method model wherein a common factor was linked with all items in the method-only model ($\chi^2/df = 1.36$; CFI = 0.97; TLI = 0.97; RMSEA = 0.04; SRMR = 0.04). A comparison of the three models revealed that Model 2 and Model 3 were better than Model 1. Furthermore, results show that Model 3 is not substantially better than Model 2. These findings support that common method bias was not an issue in this study.

Construct reliability and validity

The appropriateness of the measurement model was estimated by performing CFA using AMOS 28.0. The measurement model provided a good fit to the data: $\chi^2/df = 1.37$; CFI = 0.97; TLI = 0.96; RMSEA = 0.04; SRMR = 0.04. Results in Table 1 demonstrate that all factor loadings were significant ($p < 0.001$). Moreover, the values of Cronbach's alpha and composite reliability exceeded the recommended threshold of 0.70 (Bagozzi & Yi, 2012), confirming convergent validity of the measures (Kline, 2015). Also, the convergent validity of scales was established as all the factor loading exceeded the cut-off point of 0.40 (Kline, 2015). As shown in Table 2, the square root of the average variance extracted (AVE) was greater than the correlation between each pair of constructs (Fornell & Larcker, 1981). This confirms discriminant validity of the constructs. Descriptive statistics and correlation estimates are presented in Table 2.

Empirical estimation

We used a bootstrapping approach to test study hypotheses. Specifically, we applied the PROCESS macro (Hayes, 2013) with 5000 bootstrap samples at 95% bias-corrected confidence intervals (CI). First, Hayes' Model 4 (template) for simple mediation effect was used. Second, Hayes' Model 14 was used to estimate the conditional indirect effect of psychological resilience. Hypothesis 1 predicted that psychological resiliency influences entrepreneurial alertness. Model 1 in Table 3 revealed that psychological resiliency positively and significantly influences entrepreneurial alertness ($\beta = 0.41$, $p < 0.01$, CI [0.83, 4.85]), thereby providing support for Hypothesis 1.

Hypothesis 2 posited the mediating role of entrepreneurial alertness for psychological resilience and product differentiation relationship. Results in Model 3 show that the direct effect of entrepreneurial alertness on innovation differentiation is significant ($\beta = 0.52$, $p < 0.001$, CI = [0.36, 0.68]), but the direct effect of

Table 2 Descriptive statistics and correlation estimates

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Male	0.57	0.51	1.00													
2. Founder age ^a	3.60	0.22	-0.10	1.00												
3. Entrepreneurial experience	1.72	0.37	0.04	0.07	1.00											
4. Education	2.98	0.78	-0.06	0.02	0.05	1.00										
5. Firm size	4.36	0.68	-0.06	-0.06	0.09	0.11	1.00									
6. Manufacturing industry	0.41	0.49	-0.03	0.00	-0.08	-0.21 ^{**}	0.04	1.00								
7. Psychological resiliency	5.08	1.41	-0.03	-0.01	0.05	-0.08	0.03	-0.01	1.00							
8. Scanning and searching	4.85	1.53	-0.03	0.03	0.02	0.06	0.01	0.08	0.39 ^{***}	1.00						
9. Association and connection	5.22	1.35	-0.07	-0.05	0.00	-0.08	0.02	-0.01	0.44 ^{***}	0.18 ^{**}	1.00					
10. Evaluation and judgment	4.91	1.39	-0.03	-0.05	0.01	0.04	0.14 [*]	0.02	0.38 ^{***}	0.23 ^{***}	0.24 ^{***}	1.00				
11. Product quality differentiation	5.15	1.51	-0.12	-0.01	0.01	0.00	0.18 ^{**}	0.08	0.25 ^{***}	0.34 ^{***}	0.22 ^{**}	0.34 ^{**}	1.00			
12. Product innovation differentiation	5.06	1.42	-0.13 [*]	0.00	-0.02	0.08	0.20 ^{**}	0.10	0.10	0.22 ^{***}	0.16 [*]	0.16 [*]	0.19 ^{**}	1.00		
13. International diversification	5.20	1.30	-0.18 ^{**}	0.07	0.02	0.06	0.15 [*]	0.04	0.18 ^{**}	0.34 ^{***}	0.20 ^{**}	0.26 ^{***}	0.45 ^{***}	0.43 ^{***}	1.00	
14. Perceived institutional voids	4.91	0.97	0.14 [*]	0.00	0.05	-0.05	-0.04	-0.04	0.00	-0.04	-0.03	-0.12	-0.07	-0.08	-0.16 [*]	1.00

Significance levels: * $p < 0.05$.; ** $p < 0.01$.; *** $p < 0.001$.; M = mean; SD = standard deviation. ^a = Log transformation of the original value

Table 3 Hayes PROCESS results – mediated model estimation

	Entrepreneurial alertness	Innovation differentiation	Innovation differentiation	Innovation differentiation	International diversification	International diversification
Gender	-0.07 [-0.29, 0.15]	-0.31* [-0.60, -0.02]	-0.27* [-0.54, -0.01]	-0.42* [-0.76, -0.08]	-0.38* [-0.70, -0.06]	
Founder age ^a	-0.12 [-0.60, 0.37]	-0.01 [-0.64, 0.62]	0.05 [-0.53, 0.62]	0.39 [-0.36, 1.14]	0.45 [-0.25, 1.16]	
Entrepreneurial experience	-0.04 [-0.33, 0.25]	-0.09 [-0.47, 0.29]	-0.07 [-0.42, 0.28]	-0.01 [-0.46, 0.45]	0.02 [-0.41, 0.44]	
Education	0.08 [-0.06, 0.22]	0.09 [-0.09, 0.28]	0.05 [-0.12, 0.22]	0.09 [-0.13, 0.31]	0.05 [-0.16, 0.26]	
Firm size	0.08 [-0.09, 0.24]	0.37** [0.16, 0.58]	0.33** [0.14, 0.53]	0.25* [0.01, 0.50]	0.21 [-0.02, 0.45]	
Industry	0.12 [-0.11, 0.34]	0.27 [-0.02, 0.57]	0.21 [-0.06, 0.49]	0.13 [-0.23, 0.48]	0.06 [-0.27, 0.40]	
Psychological resilience	0.41** [0.83, 4.85]	0.18** [0.08, 0.28]	-0.03 [-0.15, 0.08]	0.17 [0.05, 0.28]	-0.06 [-0.19, 0.08]	
Entrepreneurial alertness			0.52 [0.36, 0.68]		0.54*** [0.36, 0.74]	
R-square	0.35	0.15	0.28	0.09	0.20	
F-value	16.52	5.33	10.64	3.15	6.91	
<i>Total, direct and indirect effect of psychological resilience on innovation differentiation and international diversification</i>						
Total effect		0.18** [0.08, 0.28]		0.17* [0.05, 0.28]		
Direct effect		-0.03 [-0.15, 0.08]		-0.06 [-0.19, 0.08]		
Indirect effect		0.21 [0.14, 0.30]		0.22 [0.13, 0.33]		

Significance levels: *p < 0.05; **p < 0.01; ***p < 0.001; Unstandardized coefficients are reported; confidence interval in parentheses; ^a =Log transformation of the original value

psychological resilience on innovation differentiation is insignificant ($\beta = -0.03$, $p > 0.05$, $CI = [-0.15, 0.08]$). More importantly, the 95% bias-corrected CI for the indirect effect of psychological resilience for innovation differentiation via entrepreneurial alertness were between 0.14 and 0.30 and did not contain zero. This provides support for Hypothesis 2 which predicted that entrepreneurial alertness mediates the relationship between psychological resiliency and product differentiation. These results are further confirmed by the Sobel test that a significant indirect effect of entrepreneurial alertness for both psychological resiliency and product differentiation relationship (Sobel $z = 5.47$, $p = 0.001$) as well as for psychological resiliency and international diversification relationship (Sobel $z = 5.24$, $p = 0.001$). These results are further confirmed by the Sobel test that there is a significant indirect effect of psychological resiliency on product differentiation through entrepreneurial alertness (Sobel $z = 5.47$, $p = 0.001$).

We argued in Hypothesis 3 that entrepreneurial alertness would be mediate the relationship between resilience and international diversification. Model 5 in Table 3 reveals that the direct effect of entrepreneurial alertness on international diversification is significant ($\beta = 0.54$, $p < 0.001$, $CI = [0.36, 0.74]$), but the direct effect of psychological resilience on international diversification is insignificant ($\beta = -0.06$, $p > 0.05$, $CI = [-0.19, 0.08]$). More importantly, the 95% bias-corrected CI for the indirect effect of psychological resilience for international diversification via entrepreneurial alertness was between 0.13 and 0.33 and did not contain zero. This provides support for Hypothesis 3 which predicted that entrepreneurial alertness mediates the relationship between psychological resiliency and product differentiation. This is further confirmed by the Sobel test that the indirect effect of psychological resiliency on international diversification via entrepreneurial alertness is significant (Sobel $z = 5.24$, $p = 0.001$).

In Hypotheses 4a and 4b, we argued for the moderation effect of institutional voids on the second stage of our conceptual model. The results of PROCESS macro are reported in Table 4. In Model 2 of Table 4, the interaction term between entrepreneurial alertness and institutional voids is positive for product differentiation ($\beta = 0.13$, $p < 0.05$, $CI = [0.01, 0.26]$). Further, results in Table 4 suggest that the indirect effect of psychological resiliency on product differentiation through entrepreneurial alertness is conditional on institutional voids (effect = 0.06; $CI = 0.01 - 0.13$). The indirect effect is stronger at a high level of institutional voids (effect = 0.25; $CI = [0.16, 0.36]$) but was weaker at a low level of institutional voids (effect = 0.15; $CI = [0.06, 0.25]$). This supports Hypothesis 4a.

In addition, as shown in Model 3 of Table 4, the interaction term between entrepreneurial alertness and institutional voids is positive for international diversification ($\beta = 0.24$, $p < 0.01$, $CI = [0.09, 0.40]$), suggesting that institutional voids positively moderate the relationship between entrepreneurial alertness and international diversification. Also, the indirect effect of psychological resiliency on international diversification through entrepreneurial alertness is significant (effect = 0.10; $CI = [0.03, 0.16]$). The conditional indirect effect is stronger at higher levels of institutional voids (effect = 0.30; $CI = [0.18, 0.42]$) versus low levels of institutional voids (effect = 0.10; $CI = [0.00 - 0.21]$). Therefore, Hypothesis 4b was supported.

Table 4 Hayes PROCESS results – moderated mediated model estimation

	Entrepreneurial alertness	Innovation differentia- tion	International diversi- fication
Gender	-0.07 [-0.29, 0.15]	-0.24 [-0.51, 0.02]	-0.30 [-0.62, 0.02]
Founder age ^α	-0.12 [-0.60, 0.37]	0.01 [-0.56, 0.59]	0.39 [-0.30, 1.08]
Entrepreneurial experi- ence	-0.04 [-0.33, 0.25]	-0.06 [-0.41, 0.29]	0.05 [-0.37, 0.46]
Education	0.08 [-0.06, 0.22]	0.06 [-0.11, 0.23]	0.05 [-0.15, 0.26]
Firm size	0.08 [-0.09, 0.24]	0.30* [0.10, 0.49]	0.14 [-0.10, 0.37]
Industry	0.12 [-0.11, 0.34]	0.19 [-0.08, 0.47]	0.02 [-0.31, 0.35]
Psychological resilience	0.41*** [0.33, 0.48]	-0.03 [-0.14, 0.09]	-0.04 [-0.17, 0.09]
Entrepreneurial alertness		0.50*** [0.34, 0.66]	0.49*** [0.30, 0.69]
Perceived institutional voids		-0.01 [-0.15, 0.12]	-0.10 [-0.26, 0.06]
Entrepreneurial alertness x perceived institu- tional voids		0.13* [0.01, 0.26]	0.24** [0.09, 0.40]
R-square	0.35	0.29	0.25
F-value	16.52	8.99	7.05
<i>Conditional indirect effect of psychological resilience on innovation differentiation and international diversification</i>			
-SD of institutional voids		0.15 [0.06, 0.25]	0.10 [0.00, 0.21]
Mean of institutional voids		0.20 [0.13, 0.28]	0.20 [0.11, 0.30]
+SD of institutional voids		0.25 [0.16, 0.36]	0.30 [0.18, 0.42]
Index of moderated mediation		0.06 [0.01, 0.13]	0.10 [0.03, 0.16]

Significance levels: *p < 0.05.; **p < 0.01; ***p < 0.001; Unstandardized coefficients are reported; confidence interval in parentheses; SD = standard deviation; ^α =Log transformation of the original value

To further illustrate the interaction effects, we followed Cohen and colleagues’ (2003) suggestions and plotted the interactions at ±1 standard deviation. Figure 2 shows that the relationship between entrepreneurial alertness and product differentiation is stronger when institutional voids are high versus low. Similarly, Fig. 3 depicts that the relationship between entrepreneurial alertness and international diversification is stronger when institutional voids are high versus low.

Discussion

Drawing insights from COR theory, this study investigated the motivation aspects of founder psychological resiliency on entrepreneurial alertness and how that linkage works to affect innovation strategies of product differentiation and international diversification in an emerging South Asia economy. In addition, we examined the interaction of institutional voids for the relationships between entrepreneurial alertness and our outcome variables. Results from 226 entrepreneurs in Pakistan reveal

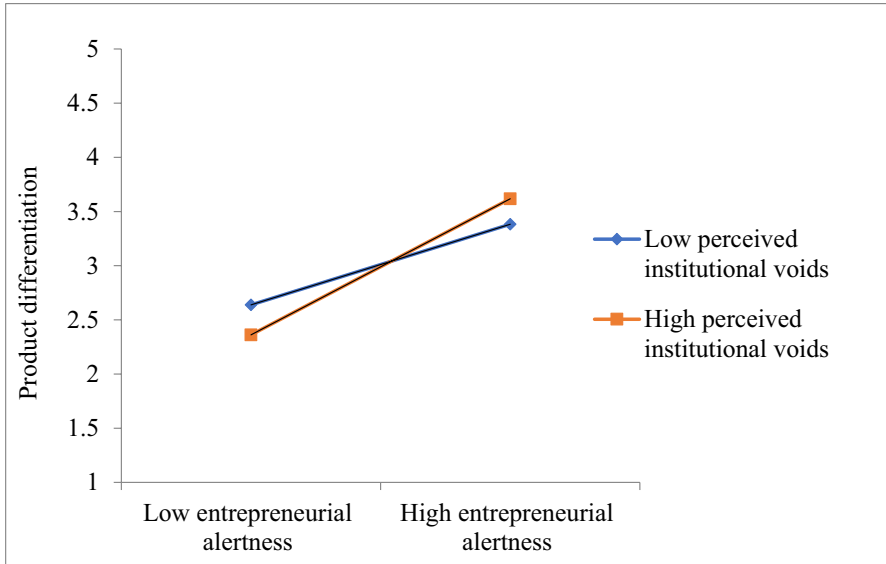


Fig. 2 Interaction of entrepreneurial alertness with institutional voids on product differentiation

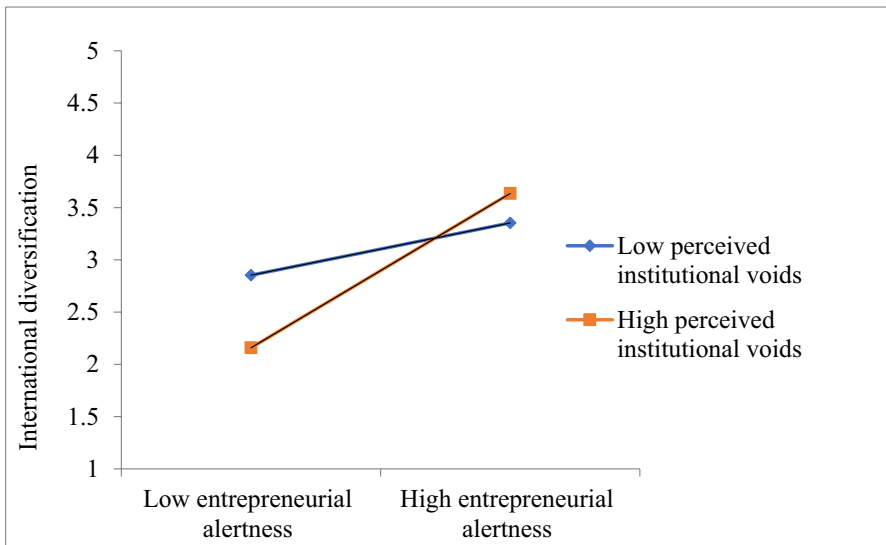


Fig. 3 Interaction of entrepreneurial alertness with institutional voids on international diversification

that psychological resiliency predicts entrepreneurial alertness, as expected by COR theory principles. Further, we find that entrepreneurial alertness is positively related to product differentiation and international diversification. We add to the expanding literature on EA utility with evidence showing that EA mediates the relationships

between resiliency and product differentiation, and resiliency and international diversification. Also, the results demonstrate that institutional voids exacerbate the effect of entrepreneurial alertness on product differentiation and international diversification. These findings offer both practical implications and theoretical insights regarding the structure of EA through recognition of specific relations (e.g., resiliency and EA) and the elaboration of EA sequence relations (Fisher & Aguinis, 2017).

Theoretical implications

First, this study advances the entrepreneurial alertness literature by addressing the lack of empirical evidence in the psychological resiliency nexus. Following a COR theory framework, we show that entrepreneurs' resiliency is a predictor of entrepreneurial alertness. This is an important step toward elaborating theory regarding EA because there is a lack of explanation for factors motivating EA (Lanivich et al., 2022). As such, we call for more investigations of potential catalysts of EA to broaden the known connectivity of the construct from a microfoundations perspective – exemplifying the role of founders in entrepreneurship firm research (Roundy & Im, 2024; Sun et al., 2020). In this, we suggest that EA is more meaningful in the conversation of opportunity recognition when motivators of alertness behavior are known because this information can convey important information regarding where, how, and why founders search for and connect what they do.

Second, our study extends theory for EA and innovation strategies by explaining the role of entrepreneurial alertness for product differentiation and international diversification strategies. As antecedent to these outcomes, EA represents the efforts and actions needed to recognize the opportunities for these strategies. Without such efforts to search for, and connect resources to, the opportunities that ignite these strategies, firms may be at the mercy of serendipity. Furthermore, elaboration of theory for EA is remiss without the “what” that founders are to be on alert for. Thus, we call for models of EA that can tell a more complete story, including context, antecedents, and outcomes.

Third, although there has been some analysis of the impact of corporate social responsibility (Boehe & Cruz, 2010), international managerial experience (Sahaym & Nam, 2013), and entrepreneurial orientation (Knight et al., 2020), there remains an absence of research examining the influence of entrepreneurs' resiliency for product differentiation and international diversification strategies. Our study addresses these shortcomings to enhance our understanding of the relevance of entrepreneurs' resiliency for product differentiation and international diversification strategies. Particularly, we suggest that entrepreneurial alertness is a key mediating mechanism through which psychological resiliency motivates both product differentiation and international diversification strategies. By highlighting the impact of entrepreneurial alertness in these relationships, we emphasize the role of entrepreneurs in utilizing their resiliency and entrepreneurial alertness to support innovation strategies. In this way, COR theory principles are exemplified wherein founders psychological resiliency is a motivating

factor to protect the firm against the inherent loss potentials pervading entrepreneurship by seeking, connecting, and evaluating (i.e., EA) resources, as product innovations and international expansion opportunities, that can strengthen and extend the fortitude of the firm.

Further, we examine the moderating impact of institutional voids to enrich previous research on entrepreneurial alertness (Levasseur, et al., 2020; Tang, et al., 2021). Thus, this study extends our understanding of the boundary conditions of the effects of entrepreneurial alertness. In particular, we expected that the nexus between entrepreneurial alertness and product differentiation, and entrepreneurial alertness and international diversification strategies, would be more pronounced when institutional voids are high. Based on the heightened means-ends of ambiguity that come with institutional voids, and the resulting increase in individual entrepreneurs' discretion, it was reasoned here that entrepreneurial alertness would play a greater role in enacting firms' strategies—which our empirical evidence supports. This is important because institutional voids are generally assumed a negative factor of emerging economies (Franczak et al., 2023); our evidence helps support this perspective as well. As shown in Figs. 2 and 3, both product differentiation and international diversification demonstrate lower levels when entrepreneurial alertness is low and institutional voids are perceived high. Thus, we suggest institutional voids represent potential conditions for innovation and entrepreneurial action, but that this potential may not be recognized as opportunity unless entrepreneurial alertness is a factor. In this way, alert entrepreneurs might take advantage of the lack of institutionalized norms to develop new, perhaps better, ways to navigate their economic landscape.

Finally, this study utilized data from Pakistan, an Asia Pacific region economy that shares the characteristics of developing and emerging economies to show that entrepreneurs' resiliency acts as an enabler for entrepreneurial alertness to support product differentiation and international diversification strategies in the presence of higher institutional voids. By doing this, our study contributes to research on developing market firms operating in challenging institutional environments (Zahoor et al., 2022) by examining how SMEs in Pakistan are likely to seek product differentiation and international diversification strategies. This is an important addition to international entrepreneurship literature and a critical contextual contribution to EA theory development because limited attention is devoted to examining how resiliency promotes entrepreneurial alertness for facilitating product differentiation and international diversification strategies in the Asia Pacific region.

Practical implications

Our findings offer important practitioner implications regarding how entrepreneurs within the resource-constraint environment can improve their innovation and market expansion strategies. First, the findings shed light on the significance of entrepreneurs' psychological resiliency in driving venture outcomes. Specifically, when

viewed from a COR theory framework, the findings suggest that psychological resiliency among entrepreneurs is a motivating factor for EA, which can aid ventures that seek to innovate and expand into international markets. Thus, entrepreneurs should cultivate a culture of resiliency that may help them notice potential opportunities.

Second, we find entrepreneurial alertness to be a conduit through which resiliency impacts product differentiation and international diversification. This underscores the importance of entrepreneurs being alert to environmental and market cues and opportunities. In practical terms, entrepreneurs and owner-managers should focus on tasks and activities that involve scanning and searching for new information, connecting and combining information and knowledge, and evaluating ideas for potential opportunities. These activities will contribute to a positive effect on product differentiation and international diversification.

Third, by demonstrating the complementary effect of institutional voids on the EA–product differentiation and EA–international diversification relationships, we draw the attention of entrepreneurs to the brighter side of institutional voids. Thus, despite the perils of institutional voids, Pakistani entrepreneurs can leverage these voids and barriers as potential opportunities for the enhancement of their product differentiation and international diversification strategies. In summary, the results highlight significant resources and contextual conditions for firms to innovate and diversify into international markets. These findings suggest that entrepreneurs should cultivate resiliency and develop their ability to be alert to potential opportunities while taking advantage of the existence of institutional voids.

Limitations and future research directions

This study is not without limitations that highlight the potential for future research. First, since we collected data from entrepreneurs in an emerging economy, Pakistan, constraints on generality (Simons et al., 2017), such as differences in governance and culture, may limit the applicability of our findings to other emerging economies in South Asia. Future research is likely to benefit from multi-country data collection and analysis. For example, our research model could be replicated by collecting data from advanced economies (e.g., USA, Singapore) and developing countries (e.g., Ghana, Bolivia). However, we suspect entrepreneurs in advanced economies (and developing economies) will have differences in resource availability that could affect both the need for psychological resiliency and the amount/quality of potential opportunities recognizable via entrepreneurs' alertness.

Second, we collected data from entrepreneurs using a cross-sectional design. This approach limits our ability to make causal claims about our findings. Thus, future research would benefit from longitudinal research designs. For example, future research could examine, longitudinally, how environmental dynamism (Dess & Beard, 1984; Ensley et al., 2006) impacts the resiliency and entrepreneurial alertness relationship. In addition, future research may highlight how uncertainty (Buchko, 1994; Downey et al., 1975) impacts the effect of resiliency and diversification strategies.

Third, we used self-reported measures to capture the constructs of interest. This is likely to produce common method bias and retrospective recall. Resilient entrepreneurs may report either a higher level of product and international diversification due to social desirability bias or a lower level of alertness because they may be expecting support from the central government. Although we took several steps to attenuate such biases, future research may complement our efforts with objective data (e.g., Capar & Kotabe, 2003).

Fourth, the effects of resiliency on alertness may be dependent on the socio-economic contexts in which entrepreneurs are embedded. Though Pakistan is an appropriate context to study resiliency and entrepreneurial alertness, it may be worth exploring the role of resiliency and alertness in other countries. For example, different policies and cultures may reflect different levels of resiliency and alertness. Thus, future studies should control culture or socio-economic contexts in a cross-country comparison. This is likely to offer insights as to whether the role of resiliency in alertness and diversification strategies varies across institutional environments.

Finally, innovation differentiation and international performance were measured based on the subjective evaluation of managers. This is due to difficulty in obtaining objective performance data on small firms. We recommend that future studies should use objective data such as patents, new products, export sales, export revenues, and profit margins from export operations reported in annual reports of firms and/or directly obtained from internal account records. Further, future research could delve deeper into the relationship between product differentiation and international diversification, exploring potential asymmetrical effects or moderating factors that may influence this relationship. Additionally, investigating other contextual variables or industry-specific factors that could impact the strategic choices and outcomes of firms would enrich our understanding of strategic management and international entrepreneurial business dynamics.

Conclusions

Entrepreneurial alertness is a mechanism for explaining and exploring the way potential opportunities are recognized (Lanivich et al., 2022; Tang et al., 2012; Valiere, 2013). In Pakistan, and perhaps other emerging economies in the Asia Pacific Region, entrepreneurs must be resilient to the opportunity constraints of their environment, and COR theory helps explain how a need to overcome can be operationalized through EA to procure and protect resources and venture interests. Furthermore, we provide support herein regarding the utility of EA for finding venture innovation and expansion ideas (i.e., product differentiation and international diversification), considering the conditions of institutional voids.

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Declarations

Competing Interests None.

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Stephen E. Lanivich, PhD is an Associate Professor of Entrepreneurship and Management at The University of Memphis. He received his PhD in Business Administration from The Florida State University. Dr. Lanivich's research interests include the entrepreneurial mindset and cognitions, entrepreneurs' perceptions of resources, and opportunity recognition and fit. His work has appeared in such journals as *Entrepreneurship: Theory & Practice*, *The Journal of Management*, *Strategic Entrepreneurship Journal*, *The Journal of Applied Psychology*, *the Journal of Business Research*, *Journal of Occupational and Organizational Psychology*, *Journal of Vocational Behavior*, *International Journal of Entrepreneurial Behavior & Research*, *International Journal of Voluntary and Nonprofit Organizations*, *Management Decision*, *Journal of Small Business and Enterprise Development*, among others.

Nadia Zahoor, PhD is a Senior Lecturer (Associate Professor) in Strategy. She has a PhD in Management from the Huddersfield Business School, University of Huddersfield. Nadia's research focuses on two interrelated areas of international strategy and entrepreneurship. She studies how alliance networks allow SMEs to achieve sustainability, innovation and internationalisation. Her work has appeared in some of the leading strategy, international business and interdisciplinary business management journals, including: *the British Journal of Management*, *International Journal of Management Reviews*, *International Small Business Journal*, *Journal of Business Research*, *Asia Pacific Journal of Management*, *International Business Review*, *Journal of International Management*, *International Marketing Review*, *Technological Forecasting and Social Change*, among others.

Francis Donbesuur, PhD is an Associate Professor in Entrepreneurship at the University of Leicester School of Business. His primary research focuses on the interface between strategic and international entrepreneurship, within the contexts of developing and emerging economies. Francis' research has been published in CABS 4 and 3 rated journals including *The Journal of Product Innovation Management*, *British Journal of Management*, *R&D Management*, *Journal of Business Research*, *Technovation*, *International Business Review*, *Journal of International Management*, *International Journal of Entrepreneurial Behaviour and Research*, among others.

Domnan Miri, PhD is a Senior Lecturer in Business, TUIBS Leadership, Management & Human Resources at Teesside University. Domnan earned a Doctor of Philosophy (PhD) in Business and Management from the University of Huddersfield. He holds a Postgraduate Certificate (PGCert.) in Research Methods from the University of Huddersfield and a Master's Degree (MSc) in International Business and Management from the University of Bradford. His Postgraduate Certificate (PGCert.) in Learning and Teaching in Higher Education was obtained from Teesside University. Domnan's research interest cuts across the fields of Strategy, International Business and Entrepreneurship; with particular interest are Organisational Structures, Dynamic Capabilities of Small and Medium Enterprises, and Social Enterprise. Of keen interest also are Corporate Social Responsibility and Corporate Citizenship within Emerging and Developing Economies.

Samuel Adomako, PhD is an Associate Professor of Strategy and Innovation at the University of Birmingham. He received his PhD from the University of Warwick. He is a Fellow of the Higher Education Academy, UK. His research examines the nexus of Strategy, Entrepreneurship, and Innovation and has appeared in leading journals including *British Journal of Management*, *International Small Business Journal*, *International Business Review*, *International Journal of Entrepreneurial Behavior and Research*, *Business Strategy and the Environment*, *Management International Review*, *Journal of Institutional Economics*, *Journal of Business Research*, *Journal of International Management*.

Authors and Affiliations

Stephen E. Lanivich¹  · Nadia Zahoor² · Francis Donbesuur³ · Domnan Miri⁴ · Samuel Adomako⁵

✉ Stephen E. Lanivich
S.Lanivich@Memphis.edu

Nadia Zahoor
n.zahoor@qmul.ac.uk

Francis Donbesuur
f.donbesuur@leicester.ac.uk

Domnan Miri
D.Miri@tees.ac.uk

Samuel Adomako
S.Adomako@bham.ac.uk

¹ Fogelman College of Business & Economics, The University of Memphis, Memphis, TN 38152, USA

² Department of Business and Society, School of Business and Management, Queen Mary University of London, London E1 4NS, UK

³ School of Business, University of Leicester, 266 London Road, Leicester LE2 1RQ, UK

⁴ International Business School, Teesside University, Southfield Rd, Middlesbrough TS1 3BX, UK

⁵ Birmingham Business School, University of Birmingham, Birmingham, Edgbaston, UK