

A Mixed Methods Study of Environmental Determinants of Entrepreneurship

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It wasn't until the 1960s that academic interest emerged to explore the relationship between organizations, such as entrepreneurial firms, and their respective natural environments (Starik & Marcus, 2000). Although the study of entrepreneurship and environmental conditions is a more recent scholarly focus, it continues to gain attention in academic research (Meek et al., 2010). Despite an increasing amount of high-quality research throughout the past decade, environmental conditions remain largely underappreciated in management theory (Whiteman & Cooper, 2011). This study complements prior research by exploring the theories surrounding entrepreneurship and environmental conditions. In addition, this study advances the cumulative body of research by analyzing the multilevel determinants of entrepreneurship across environments. Using a mixed methods approach consisting of interviews and cross-sectional data, the results provide a descriptive illustration of the relationship between entrepreneurship and environmental conditions. The qualitative and quantitative findings offer novel insight to help answer the following research question: In what ways do environments influence entrepreneurship?

Keywords: entrepreneurship, institutional environment, sensemaking, bricolage, agglomeration

INTRODUCTION

It wasn't until the 1960s that academic interest emerged to explore the relationship between organizations, such as entrepreneurial firms, and their respective natural environments (Starik & Marcus, 2000). Although the study of entrepreneurship and environmental conditions is a more recent scholarly focus, it continues to gain attention in academic research (Meek et al., 2010). Despite an increasing amount of high-quality research throughout the past decade, environmental conditions remain largely underappreciated in management theory (Whiteman & Cooper, 2011). Notable theories such as organizational imprinting, resource dependence theory, and absorptive capacity emphasize the relationship between firms and environmental conditions. However, common among such theories is the notion that environmental conditions are moderators of firm activities, rather than determinants. Furthermore, the theories typically speak to firms in general and do not necessarily reflect the unique qualities of entrepreneurship (Amezcuca et al., 2013; Cohen & Levinthal, 1990; Mathias et al., 2015; Tashman & Rivera, 2016). This study complements prior research by exploring the theories surrounding entrepreneurship and environmental conditions. In addition, this study advances the cumulative body of research by analyzing

the multilevel determinants of entrepreneurship across environments. Using a mixed methods approach consisting of interviews and cross-sectional data, the results provide a descriptive illustration of the relationship between entrepreneurship and environmental conditions. The qualitative and quantitative findings offer novel insight to help answer the following research question: In what ways do environments influence entrepreneurship?

THEORETICAL BACKGROUND

Theoretical Development

Dr. Arthur Stinchcombe argued in his 1965 essay, “Social Structure and Organizations”, that newly formed organizations must cope with their environments to succeed. Building upon Stinchcombe’s (1965) work, Lumpkin and Dess (1996) developed a conceptual framework of entrepreneurial orientation and outlined the environmental factors that influence firm performance: dynamism, munificence, complexity, and industry characteristics (p. 152). Since the publication of Lumpkin and Dess’s (1996) framework, the field of entrepreneurship has grown significantly (Lumpkin, 2011). The growth of the entrepreneurship field has led to divergent perspectives about how environmental conditions influence innovation in new firms. Scholars such as Cohen and Levinthal (1990) have argued that new firms which cannot use existing firm knowledge have trouble innovating. In contrast, researchers such as Arrow (1962) have argued that new firms are highly innovative because they are not inhibited by previous innovations (p. 619). In an attempt to reconcile the conflicting perspectives, recent research has embraced an environmental contingency approach to examine how environmental conditions foster innovation in new firms. For example, the results of a study by Katila and Shane (2005) suggest that in certain circumstances, resource scarcity makes new firms better at innovating depending upon the environmental conditions (e.g., competition, financial resources, manufacturing intensity, market size). Although the enabling potential of resource scarcity has remained mostly unexplored in organizational studies (Katila & Shane, 2005, p. 825), findings from both classic and modern literature point to the importance for firms to reconfigure relative to their environments (Teece et al., 1997).

Despite the theoretical contributions from extant literature surrounding entrepreneurship and environmental conditions, there is limited understanding about why rates of entrepreneurship vary across countries (Busenitz & Spencer, 2000, p. 994). In international entrepreneurship literature, scholars such as Bartholomew (1997) have argued that access to research and educational institutions, sources of financing, and availability of educated labor are institutional features which support or impede innovation. Similarly, scholars have shown that government policies, widely shared social knowledge, and value systems are country-level characteristics that affect organizations (Kostova, 1997; Scott, 2008). Casson (1995) argued that a country’s entrepreneurial system can be explained by culture-specific determinants (e.g., cooperation between a country’s entrepreneurs). These claims have been studied across numerous countries, such as India (Venkatesh et al., 2017), Tanzania (Claus et al., 2021), and China (Haiyang & Kwaku, 2001). However, a noted concern of conceptual, qualitative, and empirical studies of international entrepreneurship is that they are country specific. According to Kostova (1997), there are risks of reductionism and overgeneralization if researchers rely on a construct like culture to serve as an integrative measure for the key characteristics of national environments (p. 180). Busenitz and Spencer (2000) concur, suggesting that researchers conduct more targeted studies to identify the specific determinants of entrepreneurship across countries (p. 1000).

Management researchers have utilized a variety of theories and approaches to study the relationship between entrepreneurship and environmental conditions. Examples include the resource-based view (Hult & Nichols, 2002), agency theory (Mair & Ventresca, 2012), institutional logics (Zhao & Wry, 2016), networks (McDermott & Kruse, 2009), and even hermeneutics (Khair & Wadhvani, 2010). While such theories and approaches may yield meaningful results, they are typically applied to investigative methods that do not capture multilevel effects. Because most management research investigates phenomena at single levels of analysis (e.g., country), the academic community has an incomplete understanding of the richness and complexity of social behaviors (Hitt et al., 2007, p. 1385). The absence of multilevel analysis is perhaps

one reason why studies of cross-national variations of international entrepreneurship have thus far provided limited theoretical insights. To address the gap, Baker et al. (2005) developed the *Comparative Discovery, Evaluation and Exploitation* framework (CDEE) which adopts multiple theoretical lens to account for national differences at various stages (e.g., discovery, evaluation, exploitation) and levels (e.g., labor, institutional/cultural, resource). The CDEE framework claims to be a more comprehensive research tool than its predecessors for cross-national comparisons of entrepreneurship (e.g., *Discovery, Evaluation, and Exploitation* framework) (Shane & Venkataraman, 2000). Previous frameworks have assumed that entrepreneurs have objective and singular goals that are marginally affected by their social circumstances. In contrast, Baker et al. (2005) argue that their framework is more realistic. The CDEE framework follows the notion that, “opportunities have an irreducible subjective aspect because individuals enact opportunities in a manner that is strongly influenced by their social circumstances and expresses a broad range of goals” (Baker et al., 2005, p. 500). Given the multilevel considerations of the CDEE framework, it may be a more suitable guide for capturing the richness and complexity of social behaviors which have been ignored in past studies of cross-national entrepreneurship (Hitt et al., 2007).

CDEE Framework

The CDEE framework is built upon three stages to explain why some people, and not others, engage in entrepreneurship across nations. The three stages are discovery (i.e., “what”, “who”), evaluation (i.e., “why”), and exploitation (i.e., “how”) (Baker et al., 2005, p. 493). The three stages encapsulate the theories of ecological sensemaking, bricolage, and agglomeration, which have been used throughout extant literature to explain the relationship between entrepreneurship and environmental conditions.

Ecological Sensemaking

The CDEE framework follows ecological sensemaking by acknowledging that the perception of opportunities is embedded in “individual differences” (e.g., personal motivations, education, network contacts) (Baker et al., 2005, p. 494). Whiteman and Cooper (2011) describe ecological sensemaking as the way, “actors notice and bracket ecologically material cues from a stream of experience and build connections and causal networks between various cues and with past enacted environments” (pp. 890-891). In other words, ecological sensemaking is the act of making sense of the natural world based upon past experiences. At a procedural level, it involves noticing and categorizing experiences, cognitive labeling, connecting meanings, and retaining tacit knowledge for future action (Weick, 1979, 1988, 2005; Weick et al., 2005). Ecological sensemaking is an important component of entrepreneurship. In the search for opportunities to create goods and services, the decisions of individuals and groups are informed by past experiences. The tacit knowledge acquired from past experiences, coupled with the current environmental context, provide the rationale for entrepreneurial action. The creation of new firms stems not only from the presence of opportunities, but also from the individuals and groups who, through past experiences, can discover, evaluate, and exploit them (Shane & Venkataraman, 2000).

According to Shane and Venkataraman (2000), entrepreneurial opportunities exist regardless of whether anyone discovers them. Entrepreneurship requires individuals and groups who can make sense of their surroundings in order to discover the opportunities within them. Previous research has used case studies to exhibit how entrepreneurship can manifest as a response to environmental conditions. For instance, a study by Hiatt, Sine, and Tolbert (2009) outlined examples of how environmental conditions can stimulate entrepreneurial activity. In one example, the abolition of slavery and presence of newly freed labor fueled the rise of share-cropping as an alternative form of agricultural organization. In another example, increasing customer concern about extensive pesticide use in the agricultural industry inspired entrepreneurs to respond with pesticide-free solutions. Similarly, environmental advocacy by groups like the Sierra Club and the Audubon Society motivated entrepreneurs to found novel wind electric power production facilities (p. 644). As demonstrated by these examples, entrepreneurial response to environmental conditions is a process that is rooted in reflective experiences, opportunistic surveillance of the environment, and discovery of mechanisms worth pursuing to achieve desired outcomes (Smith & Cao, 2007). Echoing previous research by Weick (1995), Baker et al. (2005) summarize this process by stating

that, “individuals learn and develop a sense of identity, and the mental frameworks that they use to guide their future actions and interpretations” (p. 496). A nation’s entrepreneurs are formed by their exposure to information, knowledge, and experiences from their environments which enables them to make sense of opportunities.

Bricolage

The likelihood that an individual discovers an entrepreneurial opportunity is directly associated with not only who they are, but also where they are and when they are there (Baker et al., 2003). According to Baker et al. (2005), a nation’s culture and institutions influence the availability and opportunity costs of entrepreneurship. Examples of cultural and institutional influences include social attitudes about entrepreneurship as a career, government fiscal policies, and the availability of creditors to raise capital (Baker et al., 2005). Historically, there have been two dominant views in organizational theory regarding the autonomy of organizations and environmental conditions. The first is the ecology view, which suggests that organizations are entirely dependent upon their environments (Hannan & Freeman, 1989). The second is the adaptive view, which suggests that organizations have some flexibility to change in response to their environments (Nelson & Winter, 1982; Smith & Cao, 2007). As noted by the CDEE framework, an adaptive response to a nation’s culture and institutions is bricolage. Bricolage, according to Lévi-Strauss (1967), is making do with “whatever is at hand” (p. 17). In entrepreneurship, bricolage involves making use of resource availability, resource recombination, and making do (e.g., testing solutions, observing outcomes, accepting results) (Baker & Nelson, 2005, pp. 333-334).

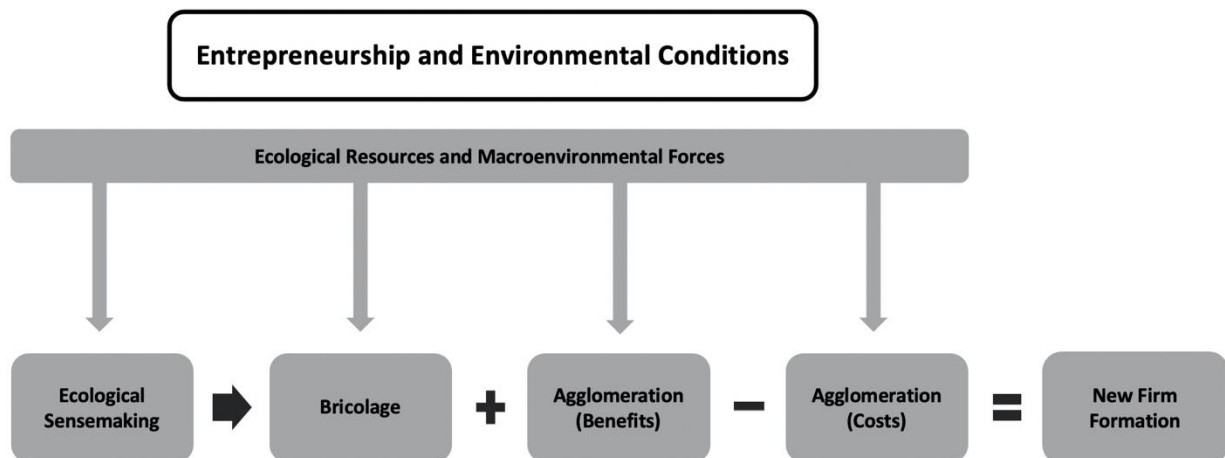
In management literature, bricolage is often discussed in the context of resource-constrained environments with distinct macroenvironmental forces. According to Desa and Basu (2013), such macroenvironmental forces are, “demographic, social, economic, political, and technological patterns and movements in a venture’s geographical area [that] are likely to affect resources available to the venture” (p. 28). An example of macroenvironmental forces and bricolage is Grameen Bank. Dr. Mohammed Yunus was an American-educated economist who observed that large banks in Bangladesh would not extend credit to the poor. In response, he founded a microfinance project known as Grameen Bank and used his own assets, on-the-ground learning, and community volunteers to extend credit to rural entrepreneurs. Financing cases included a cow for a farmer, a sewing machine for a dressmaker, inventory for a peddler, and material for bamboo weaving. Over time, the high repayment rates of the entrepreneurs proved that microfinancing in Bangladesh was a profitable investment. Eventually, larger banks followed the example of Grameen Bank and began extending credit to the poor as well (Bornstein, 1996; Desa & Basu, 2013). Dr. Mohammed Yunus’s knowledge as an economist and experiences as a native of Bangladesh enabled him to discover an entrepreneurial opportunity (Whiteman & Cooper, 2011). Through bricolage, he made do with whatever was at hand (e.g., personal resources, access to the field, community support) (Baker & Nelson, 2005; Baker et al., 2005). The outcome of Dr. Mohammed Yunus’s bricolage was the founding of Grameen Bank, whose success attracted a clustering of large banks to the region for the same purpose. The case of Grameen Bank lends support to the CDEE framework and argument that macroenvironmental forces influence the opportunity costs and appropriability of entrepreneurship (Baker et al., 2005).

Agglomeration

The success of Grameen Bank led to a clustering of large banks in the same region. This phenomenon, colloquially known as agglomeration, is described as the concentration of firms with similar business activities in a small number of geographic areas. Agglomeration, more formally referred to as ‘economies of agglomeration’, was conceived by Alfred Marshall (1920) as being the byproduct of labor market pooling, intellectual spillovers, and cost reduction (e.g., transporting goods, people, ideas). In entrepreneurship, agglomeration is associated with industry clusters that are tied to local social networks and investment opportunities (Wang, 2014, p. 995). The idiosyncratic reasons why clusters exist has been extensively studied and debated in extant literature throughout multiple disciplines. Although there is an abundance of research that outlines the benefits of agglomeration, only a few studies have assessed the diseconomies of agglomeration. One such study by Folta et al. (2006) of biotechnology firms found that

the marginal benefits of cluster size declined once clusters exceeded about 65 firms (p. 238). In addition, the empirical findings by Folta et al. (2006) pointed to an inverse U-shaped relationship between cluster size and performance. In other words, when clusters became too large, the net benefits of agglomeration ceased and the likelihood of firm failure increased (Folta et al., 2006, p. 221). As noted by Folta et al. (2006), little is known about the relationship between cluster size and firm performance (i.e., returns), despite its central importance to agglomeration theory (p. 238). The effects of congested agglomeration are observable in environmental conditions where firm operations are tied to fixed ecological resources. For example, champagne grapes in France (Ody-Brasier & Vermeulen, 2014) and the hotel industry in Manhattan (Chung & Kalnins, 2001). If the industry cluster is saturated (i.e., overcrowding of incumbent firms), then the tipping point of carrying capacity for the industry cluster has been reached and the benefits of agglomeration are nullified by the costs, rendering new firm formation unsuitable (Wang et al., 2014). In entrepreneurship, proximity to complementary firms may help entrepreneurs to access necessary resources, but the scale and scope of opportunity exploitation is moderated by the presence of incumbent firms. Baker et al. (2005) reinforces this point by stating that, “nations contain multiple local ecologies that differ in variety and amount of resources that may be mobilized in pursuit of entrepreneurial opportunities” (p. 498; Scott, 1996). If local ecologies have highly specialized or congested agglomeration, then entrepreneurs are likely to encounter resource scarcity. Conversely, if local ecologies lack specialized resources or agglomeration, then entrepreneurs may not have the infrastructure required to operate. The latter circumstance is common for entrepreneurs in developing and emerging nations (George & Prabhu, 2000). Consequently, the exploitation of an entrepreneurial opportunity in one nation might be unsustainable or altogether unfeasible in another. The CDEE framework accounts for these cross-national differences by including individual ecologies, both within and across-nations (Baker et al., 2005, p. 501).

FIGURE 1
DIAGRAM OF THEORETICAL BACKGROUND



CURRENT STUDY

As previously noted, the purpose of this study is to explore the multilevel determinants of entrepreneurship across environments. To do so, we applied a mixed methods approach in a college setting and Small Island Developing States. Small Island Developing States are a group of 38 United Nations Member States that face unique social, economic, and environmental vulnerabilities (e.g., climate change, natural disasters) (United Nations, n.d.). Most Small Island Developing States are located in the Pacific Ocean and Caribbean Sea. Because of their small population sizes, limited land, and remote locations, large-scale industries are typically unsustainable. According to the United Nations Industrial Development

Organization, “Small islands tend to have fairly narrow economic bases, limited product and market diversification, low economies of scale and a high dependency on international trade” (United Nations Industrial Development Organization, 2015, para. 5). Examples of entrepreneurial activities in Small Island Developing States include tourism operations, artisanal fisheries, renewable energy projects, and small-scale mining (Wu, 2014). Small Island Developing States were chosen as a context for this study because of their pronounced environmental conditions and reliance on entrepreneurship for economic opportunity.

For resource constrained environments such as Small Island Developing States, entrepreneurship is an essential resource to foster industry and economic growth (United Nations, n.d.). As of 2014, Small Island Developing States have a combined population of 63.2 million people and gross domestic product (GDP) of \$575.3 billion (United Nations, 2014). It is generally accepted that entrepreneurship plays a vital role in resource constrained environments but to date, there are only a limited number of studies which have examined the determinants of entrepreneurship and environmental conditions. Surprisingly, as of November 24, 2021, only one published study has examined entrepreneurship in Small Island Developing States (Mohan et al., 2018). It is beyond the scope of this study, if not altogether impossible, to precisely capture every multilevel determinant of entrepreneurship across environments. However, by following the CDEE framework, identifying the multilevel determinants, observing their influence in a college setting, and measuring their prevalence across Small Island Developing States, this study is able to provide a descriptive illustration about how entrepreneurship varies across environments. The implications of research findings from Small Island Developing States are consequential given their large combined population, reliance upon entrepreneurship, and the lack of extant literature.

FIGURE 2
SMALL ISLAND DEVELOPING STATES

| <i>Atlantic, Indian Ocean, South China Sea (AIS) (9)</i> | <i>Caribbean (16)</i> | <i>Pacific (13)</i> |
|--|--------------------------------------|-------------------------------------|
| 1. Bahrain | 1. Antigua and Barbuda | 1. Fiji |
| 2. Cabo Verde | 2. Bahamas | 2. Kiribati |
| 3. Comoros | 3. Barbados | 3. Marshall Islands |
| 4. Guinea-Bissau | 4. Belize | 4. Micronesia (Federated States of) |
| 5. Maldives | 5. Cuba | 5. Nauru |
| 6. Mauritius | 6. Dominica | 6. Palau |
| 7. Sao Tomé and Príncipe | 7. Dominican Republic | 7. Papua New Guinea |
| 8. Seychelles | 8. Grenada | 8. Samoa |
| 9. Singapore | 9. Guyana | 9. Solomon Islands |
| | 10. Haiti | 10. Timor-Leste |
| | 11. Jamaica | 11. Tonga |
| | 12. Saint Kitts and Nevis | 12. Tuvalu |
| | 13. Saint Lucia | 13. Vanuatu |
| | 14. Saint Vincent and the Grenadines | |
| | 15. Suriname | |
| | 16. Trinidad and Tobago | |

(United Nations, n.d.)

HYPOTHESES

The aim of the mixed methods approach was threefold. First, to capture the lived experiences of college entrepreneurs using phenomenological interviews. Second, to empirically analyze the multilevel

determinants of entrepreneurship and their prevalence across Small Island Developing States. Third, to offer future research new insight regarding the relationship between entrepreneurship and environmental conditions. The study was conducted with the following hypotheses:

Hypothesis 1. *Resource constrained environments amplify entrepreneurial opportunity recognition which increases new business registrations.*

Hypothesis 2. *Resource constrained environments amplify entrepreneurial bricolage which increases new business registrations.*

Hypothesis 3. *Market agglomeration moderates entrepreneurial opportunity recognition and entrepreneurial bricolage.*

METHODS

Mixed Methods Measures

For the qualitative component of the mixed methods approach, we used phenomenological interviews. For the quantitative component, we used entrepreneurship data from the World Bank and the Global Entrepreneurship and Development Institute. For the purpose of quantitative analysis, the dependent variable was new business registrations, the independent variables were opportunity recognition and bricolage, and the moderating variable was market agglomeration. By employing two approaches with different methodologies and samples, we were able to incorporate a wider range of units of observation for multilevel analysis. Whereas the qualitative approach analyzed entrepreneurship at an individual level, the quantitative approach analyzed entrepreneurship at the firm level. Both approaches were designed by following the principles of the CDEE framework (Baker et al., 2005).

Qualitative Approach

The objective of our phenomenological study was to capture the lived experiences of college entrepreneurs. To accomplish this task, we utilized the Colaizzi (1978) method of phenomenological interviews. The Colaizzi (1978) method of phenomenological interviews is an inductive, descriptive research method used to examine phenomena through human experiences. It involves asking participants to share their experiences with a given subject. Participant responses are bracketed into significant statements, formulated meanings, groups of themes, and categories. The qualitative data is then compared alongside prior research to extract findings that pertain to theory (Husserl & Carr, 1970; Colaizzi, 1978). For the focus of our study, this approach enabled us to explore the authentic and lived experiences of college entrepreneurs without the threat of researcher preconceptions and presuppositions. According to the *Strategic Entrepreneurship Journal's* Editorial Board, field interviews are one of the most promising investigative methods to address the research gap in strategic entrepreneurship and informal economies (Ketchen Jr. et al., 2014).

Theorization helps us to make sense of the world. According to Suddaby (2014), “Theory offers a perceptual lens that structures sensory experience” (p. 408). However, the improper labeling of phenomenon and theoretical fetishism (i.e., theoretical interpretations and writing that are detached from qualitative and quantitative data) risk misrepresenting reality. Such misrepresentation is a danger to knowledge accumulation in the management field (Ghoshal, 2005). Since phenomenological interviews are not led by theory, they are ideal for capturing the lived experiences of college entrepreneurs without the risk of researcher preconceptions, presuppositions, and misrepresentation. Through convenience and snowball sampling, three college entrepreneurs from one state university in New England were selected (n = 3) (a typical phenomenological study has a sample size of 12 participants for saturation purposes).

The participants were between the ages of 18 and 30, female, and enrolled as full-time students. Without disclosing the research question, hypotheses, or theories, we explained the general purpose of the study. We excluded specific details that could bias participant responses. The participants were told that the

interviews would be audio recorded for transcription, but their identities would remain anonymous. Furthermore, identifiable details (e.g., names, firms, locations) would be recoded for privacy. The participants were notified about how the acquired data would be used (e.g., journal publication, conferences, teaching) and given the contact information of the Principal Investigator (PI). Informed consent was obtained for all participants. The informed consents, surveys, recordings, and transcripts were securely stored in three separate locations to protect confidentiality.

We interviewed each of the participants by asking the same question: “Please describe for me your experience of starting a business in college. Share all of your thoughts, perceptions, feelings, decision making, and activities you can recall until you have no more to say.” Once the interviews were finished, the participants were informed that they would have the chance to review and validate the analyzed data to ensure that their lived experiences were accurately portrayed (Beck, 1992; Colaizzi, 1978). On average, each interview was completed in approximately 30 minutes. The qualitative methods were reviewed and approved by the Institutional Review Board (IRB) of the University of Connecticut, under the supervision of Dr. Cheryl Beck.

Quantitative Approach

To identify Small Island Developing States that would be most appropriate to conduct our quantitative approach, we cross-referenced United Nations Member States with the 2019 Global Entrepreneurship Report by the Global Entrepreneurship and Development Institute. The Global Entrepreneurship and Development Institute measures and ranks the entrepreneurial ecosystems of countries according to entrepreneurial attitudes, entrepreneurial abilities, and entrepreneurial aspirations. We identified nine Small Island Developing States of the 137 countries included in the 2019 Global Entrepreneurship Report: Singapore (ranked 27th), Bahrain (ranked 38th), Barbados (ranked 55th), Belize (ranked 72nd), Jamaica (ranked 79th), Dominican Republic (ranked 84th), Trinidad and Tobago (ranked 90th), Suriname (ranked 106th), and Guyana (ranked 117th) (Szerb et al., 2020). We also identified two Small Island Developing States, Tonga and Vanuatu, that were included in previous editions of the Global Entrepreneurship Report but were removed from the 2019 report due to lack information regarding institutional variables (Szerb et al., 2020, p. 40). We removed Small Island Developing States that were not included in the World Bank’s entrepreneurship database: Barbados, Trinidad and Tobago, and Guyana.

The objective of the quantitative approach was to empirically analyze the multilevel determinants of entrepreneurship and their prevalence Small Island Developing States. To accomplish this task, we compiled entrepreneurship data from the World Bank and the Global Entrepreneurship and Development Institute. The World Bank’s entrepreneurship project was completed in 2019 using 155 limited liability companies that were private and from the formal sector. The project measured new business entry density from 2006 to 2018 to compare trends in firm creation across regions. The questionnaire instrument used to collect data accounted for a variety of environmental indicators (e.g., education, financing, infrastructure) (World Bank, 2019). Building upon data from the World Bank, the Global Entrepreneurship and Development Institute maintains an index that measures the entrepreneurship ecosystems of 137 countries. Similar to the World Bank, the Global Entrepreneurship and Development Institute accounts for social and economic infrastructures (Szerb et al., 2020).

For our quantitative approach, six Small Island Developing States were eligible: Singapore, Bahrain, Belize, Jamaica, Dominican Republic, and Suriname ($n = 6$). After isolating the eligible Small Island Developing States, we combined data from the World Bank’s entrepreneurship project with the 2018 Global Entrepreneurship Index to create a single database. To avoid threatening internal validity, we kept the data separated in the combined database. We cleaned the data, filtered the combined database according to variable level (i.e., individual, institutional), and categorized the multilevel determinants (e.g., school enrollment, female labor force participation, time required to start a business). We removed data from the combined database that resulted from nonrecurring, abnormal, or global exogenous shocks (e.g., asylum seeking refugees, tuberculosis outbreaks, threatened animal species). A copy of the combined database is available upon request.

QUALITATIVE FINDINGS

FIGURE 3
SIGNIFICANT STATEMENTS AND CORRESPONDING FORMULATED MEANINGS

| Significant Statements | Formulated Meanings |
|--|---|
| “I got involved in the [campus organization] and then I met [a professor].” | She became involved with campus resources. |
| “It’s stressful. It’s still super stressful.” | She expressed that it was stressful to start a business in college and continues to be. |
| “I didn’t really want even money out of it. I just wanted something for fun.” | She started a business for fun and not to make money. |
| “I just lost my personal values and everything was put into school.” | She lost her personal values while starting a business while in school. |
| “Maybe I’ll pursue entrepreneurship as a career choice, but maybe I’ll just get a job.” | She was unsure whether she would pursue entrepreneurship as a career choice. |
| “Last year was remote, so there wasn’t the ability to just pop into the office or cross paths in the hallway.” | She was not able to meet with people in-person last year because of the COVID-19 pandemic. |
| “I feel like I’m running on empty most of the time.” | She felt like she was mostly running on empty. |
| “I wanted to make sure I didn’t find myself in a trap of starting up something and then not being able to be a full-time student.” | She considered how to balance starting a business with being a full-time student. |
| “I realized I need someone by my side to keep me in check and make sure I’m getting this done by the deadline.” | She realized that she needed help to stay on track. |
| “I couldn’t have done it without an amazing stipend that got me motivated.” | She attributed the formation of her business to motivation from a stipend. |
| “I really had that feeling of being proud of it.” | She was proud of starting her business. |
| “I’ve exhausted all those opportunities that are available, to the point where there’s not much left in terms of the programs that are already established there.” | She felt that she had exhausted the campus resources. |
| “I have this idea. I’d really like to move forward with it. So then I started working a bit over the summer.” | She had an idea that she wanted to move forward with and started working on it over the summer. |
| “I kind of realized that if I want to start something, I have to really do it more on my own, as relying on people is just more effort.” | She realized that she had to rely on herself more than other people. |
| “I’ve always had that creative, artistic, kind of personality and mindset.” | She perceived herself as being creative and artistic. |
| “All of my cohort members just being there for support, the staff, the alumni network. There’s just a lot of resources here.” | She acknowledged her cohort members, the staff, and alumni network as positive resources. |

| Significant Statements | Formulated Meanings |
|--|--|
| “We sat down for two hours, I’m just sitting there talking to my parents about ideas.” | She met with her parents to talk about ideas. |
| “We all kind of come from the same place - just looking for support, people trying to just develop a passion, learning more. None of us are entrepreneurship experts and we’re all in our beginnings.” | She viewed herself and her peers as being inexperienced entrepreneurs who were looking for support to develop their passions and learn more. |
| “My parents would always laugh like, ‘Man, what are you doing? Focus on your studies, this is such bullshit.’” | She was discouraged by her parents who wanted her to focus on school instead of the business. |
| “I was the first cohort of females.” | She was in a cohort that was exclusively female. |

FIGURE 4
THEME CLUSTERS WITH THEIR SUBSUMED FORMULATED MEANINGS

| Theme Clusters with their Subsumed Formulated Meanings | |
|--|--|
| 1. | She engaged with campus resources to start her business. (1, 10, 12) |
| 2. | She experienced significant emotions from starting a business in college. (2, 4, 7, 11) |
| 3. | She thought about how starting a business might impact her education and future. (3, 5, 8) |
| 4. | Her business was influenced by the COVID-19 pandemic. (6) |
| 5. | She worked with other people to start her business. (9, 14, 16, 17, 18, 20) |
| 6. | She developed her business during school breaks. (13) |
| 7. | She saw her business as an outlet of personal expression. (15) |
| 8. | Her parents communicated how they felt about the business. (19) |

Note: “The numbers in parentheses indicate the original numbers of the significant statements from which meanings were derived” (Beck, 1992, p. 168).

Reflections on the Qualitative Findings

Fifty-nine significant statements were extracted from the three phenomenological interviews with college entrepreneurs. Twenty of the most descriptive significant statements are presented in Figure 3. The fifty-nine significant statements were classified into eight clusters of themes, which may be found in Figure 4.

Theme 1: She Engaged With Campus Resources to Start Her Business

One of the most pervasive themes of the phenomenological interviews was that the college entrepreneurs used campus resources to start their businesses. The campus resources included professors, learning communities, clubs, guest speakers, classes, webinars, competitions, internships, socials, labs, and benefactors. Consistently, the college entrepreneurs credited campus resources with their business formations. In particular, the campus resources provided thought-provoking opportunities (e.g., lectures) that fostered entrepreneurial ideas. The college entrepreneurs spoke positively about the campus resources. One of the college entrepreneurs described the support from the state university as “incredible”. Although one of the college entrepreneurs felt that she had exhausted the campus resources, she also recognized that the tremendous success of her business was fundamentally due to the classes, training, and mentorship she received.

Theme 2: She Experienced Significant Emotions From Starting a Business in College

The college entrepreneurs experienced a variety of emotions from starting businesses in college. Feelings of “stress”, “fear”, and “pride” were frequently mentioned. Such feelings were pronounced during the academic year, as the college entrepreneurs struggled to balance their businesses with the responsibilities of school, family, and extracurricular activities. For the most part, the college entrepreneurs explained that they felt “happy”, “creative”, and “interested” with their work. Although they didn’t necessarily know how their businesses would evolve, they enjoyed being able to use their talents and follow their passions. Furthermore, the college entrepreneurs repeatedly recognized that college was an ideal time to start their businesses. Despite the difficulties, they were grateful for the chance to practice entrepreneurship and develop skills (e.g., “critical thinking”) that could be used for life.

Theme 3: She Thought About How Starting a Business Might Impact Her Education and Future

A prominent theme was the implications of starting businesses. The college entrepreneurs carefully considered how their businesses would impact their lives, both during school and upon graduation. For one college entrepreneur, starting a business had nothing to do with making money. For another college entrepreneur, starting a business meant doing more than receiving “awards” for her scientific work. The motivations of the college entrepreneurs ranged from “never working for another company” to seeing “many cultures and people in the world”. An important step in their entrepreneurial journeys was discerning how starting a business might negatively impact their lives. The lack of a “safety net”, product “iterations”, and “prioritizing school” were common concerns. The long-term goals of the college entrepreneurs differed. One of the college entrepreneurs doubted the profitability of her business, while another planned to become a full-time entrepreneur after graduation. Regardless of what they envisioned their businesses becoming, each college entrepreneur contemplated the costs and benefits of starting a business prior to doing so.

Theme 4: Her Business Was Influenced by the COVID-19 Pandemic

The influence of the COVID-19 was meaningful for the college entrepreneurs. The COVID-19 pandemic forced the college entrepreneurs to work remotely, which made them unable to interact with their cohorts, mentors, and potential clients in traditional ways. Communication proved more difficult during this time. According to one college entrepreneur, “Everyone’s busy dealing with students and how to help them start up something is probably a lot of work for them. I’d be wasting time emailing and following up on those emails, waiting days for a response.” Entertaining inquiries from new businesses was not a top priority for prospective clients and partners during this time.

Theme 5: She Worked With Other People to Start Her Business

The college entrepreneurs collaborated with peers, parents, and industry experts to start their businesses. Because of their lack of entrepreneurial experience, the college entrepreneurs worked with other people to design websites, generate ideas, and learn more about markets. After encountering a series of setbacks, one college entrepreneur was told by a business professional, “Hey, it doesn’t work like this anymore”. Subsequently, she received the necessary guidance from the business professional to improve her strategic approach. Working with other people taught the college entrepreneurs valuable lessons, such as “turning to people that you can trust and then holding on to those relationships”. By interacting with other people, the college entrepreneurs discovered how to “think outside the box” and to not follow advice that “doesn’t resonate with your heart”.

Theme 6: She Developed Her Business During School Breaks

The obligations and time constraints of being full-time students determined when the college entrepreneurs could develop their businesses. The college entrepreneurs took advantage of school breaks (e.g., summer) to focus on their businesses. Academic and social commitments were significantly less demanding during school breaks, which gave the college entrepreneurs the freedom to build partnerships, advertise, and research. For example, one college entrepreneur worked in retail for three weeks to “learn more about the [product] market”. When the academic year resumed, the college entrepreneurs were not

able to grow their businesses “all the time”. They had to take breaks from their businesses, sometimes for multiple months at a time.

Theme 7: She Saw Her Business as an Outlet of Personal Expression

For the college entrepreneurs, the businesses were outlets of personal expression that reflected their beliefs, interests, and lifestyles. For one college entrepreneur, her family’s religion was the source of inspiration for starting a business. For another college entrepreneur, being active in an entrepreneurial community on campus helped her to avoid social activities that involved parties and “drunk people”. Each college entrepreneur had their own distinct “values”, but they all stressed the importance of incorporating their values into their businesses.

Theme 8: Her Parents Communicated How They Felt About the Business

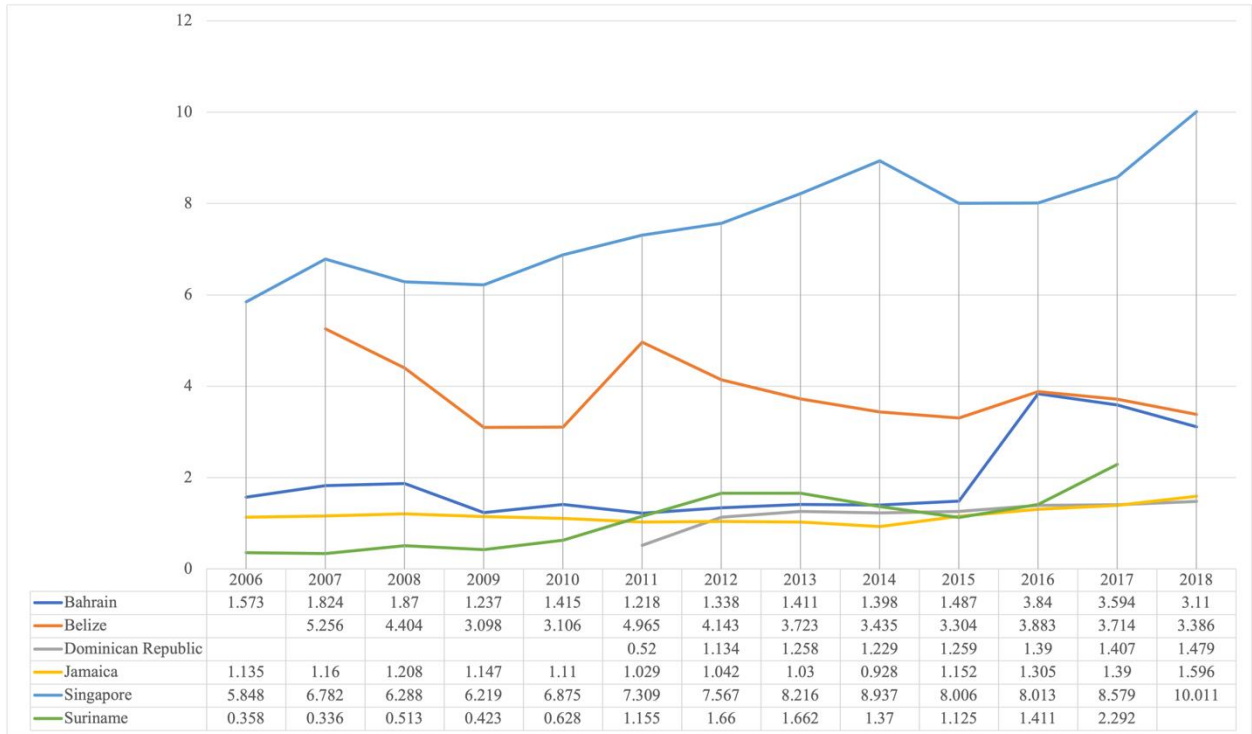
One of the college entrepreneurs explained that her parents did not fully approve of her business. She believed that their disapproval came from their upbringing as immigrants, who place greater importance upon education rather than entrepreneurship. According to the college entrepreneur, education is a “way out” for “lots of immigrants”. The parents were a “huge push” for her to attend school, despite her desire to “take a gap year and try stuff”. To avoid conflicts with her parents, the college entrepreneur worked on her business early in the mornings before they woke up. Although she took their opinions into consideration, she decided for herself to move forward with the business.

QUANTITATIVE FINDINGS

**FIGURE 5
SUMMARY OF DATA**

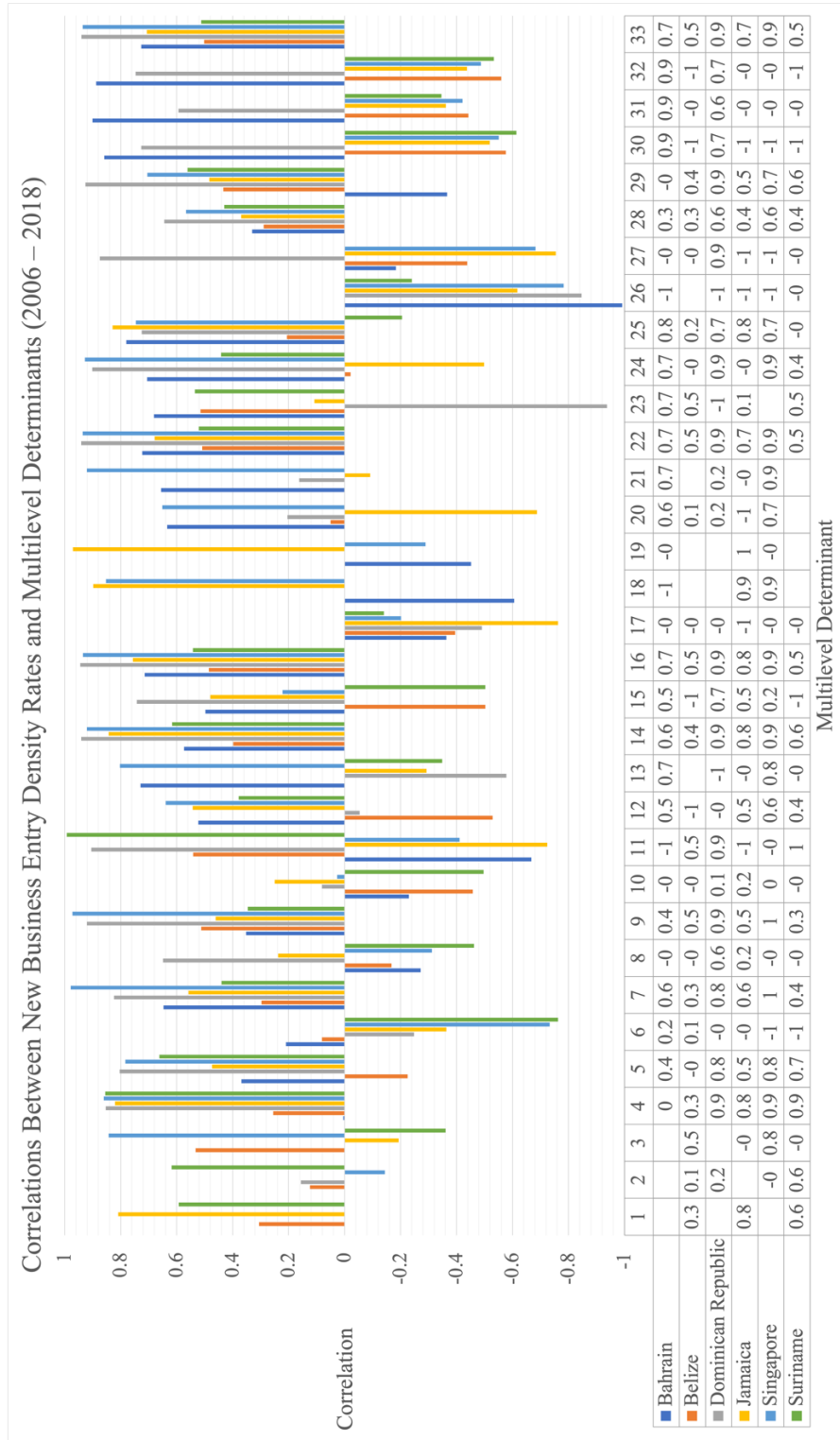
| | Regional Ecosystem | Institutional Variables | Individual Variables | <i>Average Business Density Rate (%)</i> | <i>New Entry</i> |
|------------------------------------|-------------------------------------|-----------------------------------|--------------------------------------|--|------------------|
| | <i>Opportunity Perception Score</i> | <i>Market Agglomeration Score</i> | <i>Opportunity Recognition Score</i> | | |
| Bahrain | 0.71 | 0.61 | 0.92 | 1.947 | |
| Belize | 0.36 | 0.31 | 0.95 | 3.868 | |
| Dominican Republic | 0.26 | 0.29 | 0.74 | 1.209 | |
| Jamaica | 0.52 | 0.51 | 0.8 | 1.171 | |
| Singapore | 0.48 | 1 | 0.32 | 7.588 | |
| Suriname | 0.24 | 0.27 | 0.7 | 1.077 | |
| 2018 Global Entrepreneurship Index | | | | World Bank | |

FIGURE 6
NEW BUSINESS ENTRY DENSITY RATE (%)



Newly Registered Corporations per 1,000 Working-Age People Between Ages 15 and 64

FIGURE 7
CORRELATIONS BETWEEN NEW BUSINESS ENTRY DENSITY RATES AND
MULTILEVEL DETERMINANTS (2006 – 2018)



**FIGURE 8
BAHRAIN**

| Bahrain | |
|--|--|
| <i>Very High Positive (Correlation (>.9))</i> | Unemployment, male |
| <i>High Positive Correlation (.7 to .9)</i> | International tourism, receipts |
| | Labor force, total |
| | Population, total |
| | Scientific and technical journal articles |
| | Secure internet servers |
| | Unemployment, female |
| | Unemployment, total |
| | Urban population |
| <i>Very High Negative Correlation (<-.9)</i> | Start-up procedures to register a business |

Notable correlations between new business entry density rate and multilevel determinants.

**FIGURE 9
DOMINICAN REPUBLIC**

| Dominican Republic | |
|--|--|
| <i>Very High Positive Correlation (.7 to .9)</i> | GDP per capita |
| | Government expenditure on education, total |
| | Labor force, participation rate, female |
| | Population, total |
| | Scientific and technical journal articles |
| | Trademark application, direct resident |
| | Urban population |
| <i>High Positive Correlation (.7 to .9)</i> | Fixed broadband subscriptions |
| | Fixed telephone subscriptions |
| | GDP |
| | Labor force, participation rate, male |
| | Secure internet servers |
| | Total tax and contribution rate |
| | Unemployment, female |
| | Unemployment, total |
| <i>High Negative Correlation (-.7 to -.9)</i> | Start-up procedures to register a business |
| <i>Very High Negative Correlation (<-.9)</i> | Rural population |

Notable correlations between new business entry density rate and multilevel determinants.

**FIGURE 10
JAMAICA**

| Jamaica | |
|---|--|
| <i>Very High Negative Correlation (<-.9)</i> | Market capitalization of listed domestic companies |
| | |
| <i>High Positive Correlation (.7 to .9)</i> | Access to electricity |
| | Fixed broadband subscriptions |
| | Labor force participation rate, female |
| | Labor force, total |
| | Listed domestic companies, total |
| | Secure internet servers |
| | Urban population |
| | |
| <i>High Negative Correlation (-.7 to -.9)</i> | Government expenditure on education, total |
| | Lending interest rate |
| | Total tax and contribution rate |

Notable correlations between new business entry density rate and multilevel determinants.

**FIGURE 11
SINGAPORE**

| Singapore | |
|--|--|
| <i>Very High Positive Correlation (<.9)</i> | GDP |
| | GDP per capita |
| | Labor force participation rate, female |
| | Labor force, total |
| | Patent applications, residents |
| | Population, total |
| | Scientific and technical journal articles |
| | Urban population |
| | |
| <i>High Positive Correlation (.7 to .9)</i> | Charges for the use of intellectual property |
| | Fixed broadband subscriptions |
| | Fixed telephone subscriptions |
| | International tourism, receipts |
| | Listed domestic companies, total |
| | Secure internet servers |
| | Trademark applications, direct resident |
| | |
| <i>High Negative Correlation (-.7 to -.9)</i> | Foreign direct investment, net |
| | Start-up procedures to register a business |

Notable correlations between new business entry density rate and multilevel determinants.

FIGURE 12
SURINAME

| Suriname | |
|--|--|
| <i>Very High Positive Correlation (>.9)</i> | Government expenditure on education, total |
| <i>High Positive Correlation (.7 to .9)</i> | Fixed broadband subscriptions |
| <i>High Negative Correlation (-.7 to -.9)</i> | Foreign direct investment, net |

Notable correlations between new business entry density rate and multilevel determinants.

Belize data is not displayed because there were no positive or negative notable correlations (e.g., >.9).

DISCUSSION

Future Research and Implications

This study was conducted across seven environments with unique social, economic, and environmental conditions (United Nations, n.d.). After reviewing the extant literature and initial data, we speculate ex-ante that entrepreneurship in resource constrained environments is intrinsically different from entrepreneurship in resource rich environments. The type of entrepreneurship that we observed in a college setting and Small Island Developing States was distinct from nascent entrepreneurship, opportunity entrepreneurship, and necessity entrepreneurship (Mohan et al., 2018). Although the variance could potentially be explained by endogeneity, we believe that the considerable dissimilarities warrant further investigation. We therefore encourage management researchers to further investigate how entrepreneurship varies across environmental conditions. Our hope is that future research will build upon our descriptive findings and identify specific causal mechanisms. Future research should consider conducting a cohort study between entrepreneurs in resource constrained environments and entrepreneurs in resource rich environments. Alternatively, researchers could examine how macroenvironmental forces affect ecological sensemaking, bricolage, and agglomeration over time. Another promising stream of research is the positive influence of resource scarcity on firm expansion and profitability. Efforts in this domain could have widespread implications for policy making that fosters entrepreneurship. Such implications are especially impactful for people in resource constrained environments that rely on entrepreneurship for survival (Wu, 2014).

Limitations

There are limitations to this study that may jeopardize external validity. The most notable limitation is that our study is descriptive. It provides new qualitative and quantitative data about the correlation and prevalence of multilevel determinants of entrepreneurship across resource constrained environments. However, without a control group, this study cannot make any causal claims. Moreover, our study was guided by the CDEE framework which is built upon theories and extant literature that have not been a mainstream concern in management theory (Whiteman & Cooper, 2011). Although management scholars have shown increased interest in studying entrepreneurship and environmental conditions, not all theories have developed at the same pace (Meek et al., 2010; Starik & Marcus, 2000). Given the limited theoretical development, management theory has an incomplete understanding of cross-national variations of international entrepreneurship (Baker et al., 2005). While this makes theoretical contributions more challenging, it also represents the potential for worthwhile research opportunities. This study sacrifices some level of external validity for the sake of drawing attention to an underdeveloped area of management research.

CONCLUSION

When macroenvironmental events such as the COVID-19 pandemic occur, the need for entrepreneurship increases. As a result, quality entrepreneurship literature that is explanatory and applicable becomes more valuable (Global Entrepreneurship Monitor, 2020). This study serves as an example of how management research can embrace various approaches like the CDEE framework, multilevel analysis, qualitative methods, and quantitative data analysis to uncover important findings. Because cross-national entrepreneurship is an inherently multidisciplinary subject, researchers in management, strategy, and entrepreneurship are well-suited to produce much-needed theoretical contributions. The growing attention to the relationship between firms and environmental conditions indicates great promise for the future of the management field. Despite the innate complexities and challenges of the subject matter, we are confident that the management field will continue to reveal how entrepreneurship is shaped by environmental conditions. The ultimate beneficiaries of such revelations are the millions of people in countries throughout the world who depend upon entrepreneurship for economic prosperity.

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APPENDIX: MULTILEVEL DETERMINANTS FOR ANALYSIS

| Multilevel Determinants | |
|--------------------------------|--|
| 1 | Access to electricity |
| 2 | Charges for the use of intellectual property, payments |
| 3 | Charges for the use of intellectual property, receipts |
| 4 | Fixed broadband subscriptions |
| 5 | Fixed telephone subscriptions |
| 6 | Foreign direct investment, net |
| 7 | GDP |
| 8 | GDP growth |
| 9 | GDP per capita |
| 10 | GDP per capita growth |
| 11 | Government expenditure on education, total |
| 12 | International tourism, expenditures |
| 13 | International tourism, receipts |
| 14 | Labor force participation rate, female |
| 15 | Labor force participation rate, male |
| 16 | Labor force, total |
| 17 | Lending interest rate |
| 18 | Listed domestic companies, total |
| 19 | Market capitalization of listed domestic companies |
| 20 | Patent applications, nonresidents |
| 21 | Patent applications, residents |
| 22 | Population, total |
| 23 | Rural population |
| 24 | Scientific and technical journal articles |
| 25 | Secure Internet servers |
| 26 | Start-up procedures to register a business |
| 27 | Total tax and contribution rate |
| 28 | Trademark applications, direct nonresident |
| 29 | Trademark applications, direct resident |
| 30 | Unemployment, female |
| 31 | Unemployment, male |
| 32 | Unemployment, total |
| 33 | Urban population |