2-2021

Determinants of Entrepreneurial Venture Growth in the Philippines Using the Global Entrepreneurship Monitor

Brian C. Gozun

John Paolo R. Rivera

Determinants of Entrepreneurial Venture Growth in the Philippines Using the Global Entrepreneurship Monitor

DLSU-AKI Working Paper Series 2021-02-062

By: Brian C. Gozun (+)
De La Salle University

John Paolo R. Rivera
Asian Institute of Management

Determinants of Entrepreneurial Venture Growth in the Philippines Using the Global Entrepreneurship Monitor

Brian C. Gozun
De La Salle University, Manila, Philippines
brian.gozun@dlsu.edu.ph

John Paolo R. Rivera
Asian Institute of Management, Makati City, Philippines
jrivera@aim.edu

Abstract

Entrepreneurial venture growth requires the capacity to produce products that are acceptable to the market, and the level of support given to enterprises helps them produce, innovate, and gain market access. However, entrepreneurs are faced with challenges related to physical and social infrastructure, local and global business environment, a level playing field, access to financing, and access to skill development and knowledge. If these remain unmitigated, they have the potential to hamper entrepreneurial growth. Hence, we inquire on the critical drivers of venture growth that will allow entrepreneurs to stimulate their enterprises using founder characteristics, firm attributes, and entrepreneurial strategies. Using the Global Entrepreneurship Monitor (GEM) data for the Philippines, we found empirical evidence that entrepreneurial strategies are being moderated by founder characteristics and form attributes in driving entrepreneurial venture growth. We recommended interventions that will enable enterprises to increase their international orientation and export participation through enhanced access to global value chains.

JEL Classification: C13, L21, L26

***Keywords*:** entrepreneurship, entrepreneurial venture growth, and global entrepreneurship monitor

Introduction

Technical skills, business acumen, and flexibility drive entrepreneurial competitiveness, entrepreneurial venture growth, and eventual entrepreneurial success in the midst of an ever-changing business climate due to globalization (Sykes, 2017; Sanyang & Huang, 2010; Parker, 2009). For Cooney (2012), the skillsets required to be an entrepreneur are classified into three groups, namely, "entrepreneurship skills, technical skills, and management skills" (p. 7). Similarly, Storey (1994) cited three groups of determinants of entrepreneurial venture growth: founder characteristics, firm attributes, and strategies of the entrepreneur. Likewise, entrepreneurial success is also determined by the strength of the entrepreneurial ecosystem (Bischoff, 2019) or the entrepreneurial economy (Drucker, 1984). Hence, the success of entrepreneurial ventures promotes economic competitiveness (Kritikos, 2014), growth, and development (Moscoso, 2017).

In the Philippines, entrepreneurship[1] is an important engine of economic growth that can empower the poor, enhance production, and stimulate innovation (Evangelista, 2013). In 2019, according to the List of Establishments of the Philippine Statistics Authority (PSA), as reported by the Department of Trade and Industry [DTI] (2020), there were a total of 1,000,506 business enterprises operating in the country (from 915,726 in 2016) of which 202,011 (20.2%) are situated in Metro Manila.[2] Micro, small, and medium enterprises (MSMEs[3]) account for 995,745 (99.57%)

[1] In this study, we follow the definition of entrepreneurship by the Global Entrepreneurship Monitor (GEM) – "any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business" (http://gemconsortium.org/wiki/1149).

[2] It is important to understand that Metro Manila and Manila are two different places. Following Gaerlan (2015), Manila, whose complete name is the City of Manila, is the official capital of the Philippines. Meanwhile, Metro Manila is the region (i.e., National Capital Region or NCR) where the City of Manila is located, together with 15 other cities (i.e., Caloocan, Las Piñas, Makati, Malabon, Mandaluyong, Marikina, Muntinlupa, Navotas, Parañaque, Pasay, Pasig, Quezon City, San Juan, Taguig, and Valenzuela) and one municipality (i.e., Pateros).

[3] The Philippines uses two bases in operationally defining MSMEs – employment and asset size. The PSA uses employment while the Small and Medium Enterprise Development Council (SMEDC) uses asset size as basis for classification. For the specific brackets for employment and asset size, see https://dtiwebfiles.s3-ap-southeast-1.amazonaws.com/BSMED/MSME+2019+Statistics/2019+Philippine+MSME+Statistics+in+Brief.pdf

of the total establishments, of which 891,044 (89%) were micro enterprises, 99,936 (10%) were small enterprises, and 4,765 (0.5%) were medium enterprises. Large enterprises made up the remaining 4,761 (0.5%). These MSMEs (83.85%) were from the following industries: wholesale and retail trade, repair of motor vehicles and motorcycles, accommodation and food service activities, manufacturing, other service activities, and financial and insurance activities. Also, MSMEs generated a total of 5,510,760 (62.4%) of the country's total employment in 2019.

Although MSMEs in the Philippines have always been in the pursuit of overcoming constraints "such as access to finance, technology and skills; information gaps; and difficulties with product quality and marketing" (de Vera, 2012, p. 350), they have been resilient in continuously creating employment opportunities, contributing to economic value-added, and figuring prominently in export trade (Bolido, 2020). With the coronavirus pandemic impacting this backbone of the Philippine economy, Carlos (2020) reported that "in the spirit of Filipino entrepreneurship, many businesses are using this time to strategize" (par. 6) by pivoting to improve short term operations while weathering the pandemic (e.g., online selling, remote staffing, shift to production of essential goods). In realizing the full growth potential of MSMEs, Fong (2018) discussed that they should be ready and open to internal learning; adopt entrepreneurial activities to adapt and succeed in a highly competitive business ecosystem; and flexible in redeploying resources and recalibrating goals—all of which can drive innovation and success.

Entrepreneurship has evolved from being an economic term to being a dynamic way of thinking and allowing for inclusive economic growth and development (Kantis et al., 2002). It is a field that motivates individuals to venture into business opportunities despite risks (Evangelista, 2013). In support of this, Parker (2009) highlighted the positive relationship between entrepreneurship and economic growth. Hence, it is imperative for the Philippines to create an

ecosystem that will promote entrepreneurship as a lucrative occupational choice. However, for entrepreneurship to be attractive, the prospective entrepreneur must diversify market risks and increase the likelihood of venture growth (Gozun & Rivera, 2017; Rivera & Gozun, 2019).

Research Problem

As such, we probe the determinants of entrepreneurial venture growth following Storey (1994). We define entrepreneurial venture growth as the rate at which enterprises expand to the next level (Manir, 2017) in terms of workforce, customers, revenues, liquidity, profits, geographic locations, and a variety of other dimensions (Marko, 2010). Hence, we pose the research problem: *How do founder characteristics, firm attributes, and entrepreneurial strategies impact entrepreneurial venture growth?* Addressing this will allow us to identify critical drivers of entrepreneurial venture growth that will aid policymakers in ensuing sustainability of entrepreneurial ventures that will aid in stimulating overall economic growth.

Research Objectives

In addressing our research problem, we set the following objectives.

1. To develop a framework that will capture determinants of entrepreneurial venture growth that will facilitate understanding of the on-going value creation by entrepreneurs.
2. To estimate the impact of founder characteristics, firm attributes, and entrepreneurial strategies on entrepreneurial venture growth.
3. To craft strategic recommendations for entrepreneurs and government on which determinant they can leverage to drive entrepreneurial venture growth.

Significance

Despite the abundance of scholarly literature on entrepreneurship, there is still little findings about entrepreneurial venture growth, especially among developing economies, like the

Philippines, due to heterogeneity of entrepreneurs and their respective ventures, as well as being in the midst of a volatile, uncertain, complex, ambiguous, and disruptive (VUCAD)-world (Rafael et al., 2020). This results in varying findings, depending on circumstance and locale. Moreover, as Gilbert et al. (2006) argued, this is an important topic because scholarly literature has focused on why ventures grow and not much on how and where growth is ensuing. Most empirical studies also explain a small portion of the variation in entrepreneurial venture growth. Hence, there is limited knowledge about the drivers of growth in most entrepreneurial ventures and cannot confidently explain growth patterns, which we would like to augment.

Our study is significant on two aspects—knowledge and policy components. For the knowledge component, it is necessary to continuously augment existing studies using alternative models and localized datasets to verify, support, and provide alternative theorization regarding entrepreneurial venture growth. For the policy component, enriching the literature on the drivers of entrepreneurial venture growth will facilitate the formulation of better policies and interventions to support entrepreneurial ventures and increase their likelihood of success.

This study is organized as follows. We conducted a literature review highlighting what has been done by scholarly studies in explaining entrepreneurial venture growth and identifying gaps that can be addressed to augment existing knowledge about this topic. We then reorganized our findings from the literature review to formulate a conceptual and empirical framework. We then operationalized our framework as applied to an appropriate dataset and derived key implications and policy recommendations to enhance entrepreneurial culture and ecosystem in the Philippines.

Literature Review

Re-defining Entrepreneurial Venture Growth

The conceptualization of entrepreneurial venture growth has been predominantly associated with profitability (Knight, 1921; Kirzner, 1973), where growth is measured solely by monetary factors. However, over time, it has been redefined to include other aspects, such as social impact and relevance (Battilana & Lee, 2014), and other non-monetary factors that are deemed essential to the overall success of a venture, which includes qualitative features such as quality of the product, market position, and relationship with customers (Hamilton, 2000). As entrepreneurial venture growth is being redefined, growth has now been largely understood as venture survival (DeSantola & Gulati, 2017), wherein it is contextualized against the backdrop of "scaling" (Eisenmann & Wagonfeld, 2012, p.1) or balancing internal organization and increased scope of activities that accompany growth (Chandler, 1990). More than a quantitative measure, it has been re-conceptualized to encompass other factors significant in venture success.

Factors Affecting Entrepreneurial Venture Growth

Various scholarly studies have been conducted in determining factors affecting venture growth, which were primarily hinged on the theory of venture growth or Gibrat's law. Gibrat's law suggests that growth rates of ventures are unrelated to venture size and age; instead, it is considered a random process (Sutton, 1997). However, recent studies have shown evidence that says otherwise. For example, Lotti et al. (2003) found evidence that Gibrat's law does not necessarily project growth patterns for small ventures. Thus, more studies continue to probe on the drivers of entrepreneurial venture growth. Storey (1994), for instance, cited three groups of determinants of entrepreneurial venture growth, namely: (a) founder characteristics, (b) firm attributes, and (c)

strategies of the entrepreneur. This section of the literature will explore the empirical determinants of venture growth.

Founder Characteristics

Certain entrepreneur's characteristics are said to influence firm growth. Schumpeter (1934) and Wickham (2006) suggested that characteristics of being creative, innovative, and being able to take risks are key to success. Although such qualities are not easily measurable, studies suggested that entrepreneur's academic background, gender, age, among other characteristics, can also be a measure of venture growth (Pajarinen et al., 2006). Parker (2009) enumerated education, experience, age, and growth motivation as variables that represent founder characteristics. On education and experience, the study of Almus and Nerlinger (1999) revealed that employment growth is higher in new ventures with founders having technology- and business-related degrees. Korunka et al. (2011) found that founder's gender is an important predictor of growth because it can dictate the over-all strategy of venture growth. Regarding experience, between managerial experience and previous entrepreneurial experience within the same industry, Koeller and Lechler (2006) found that managerial experience has a stronger positive impact on venture growth. Moreover, the founder's education and work experience often serve as a source of knowledge and credibility of existing ventures, which also attract proper attention and access to information (Dencker et al., 2009). Similarly, the functional background of founders, including past company affiliations, training, and prior success, also influence the growth of ventures (Audia & Rider, 2005; Eesley et al., 2014). To an extent, a founder's personal capability is considered to be very significant in predicting venture growth (Siegel et al., 1993).

Meanwhile, Storey (1994) found mixed effects of founder's age and previous time spent in self-employment on entrepreneurial venture growth. On growth motivation, Birley and

Westhead (1994) found no effect. It may be the case that growth aspirations should be seen in a "negative way"—it would be surprising to hear that entrepreneurs who have no intention of growing did actually grow. In the same manner, a founder's entrepreneurial orientation can be linked to a venture's performance (Lumpkin & Dess, 1996). Following this logic, Boeker and Karichalil (2002) found that the departure of founders significantly affects a venture's long-term performance and growth.

Firm Attributes

Papadaki et al. (2002) suggested that along with an entrepreneur's characteristics and strategies, firm characteristics also influence venture growth. These characteristics include the firm's size, age, location, and the industry and sector to which it belongs. For firm attributes, Parker (2009) enumerated variables that represent it, such as initial firm size, firm age, venture team size, limited liability, and profits. Brock and Evans (1986) and Bates (1990) found that younger firms have more variable growth rates, supporting the results of Jovanovic (1982). Cabral and Mata (2003) and Bechetti and Trovato (2002) found that funding source availability may also be a factor in venture growth where its effect is less pronounced for larger businesses. Firm attributes, such as size and age, are considered to influence venture growth where younger and smaller firms are considered to grow faster than their larger and older counterparts (Jovanovic, 1982; Evans, 1987; Lotti et al., 2003; Calvo, 2006).

Meanwhile, Schutjens and Wever (2000) found that long-term growth tends to be higher among ventures, which commit more labor and capital resources at the time of launch. Similarly, the study of Almus and Nerlinger (1999) revealed that there is a significantly higher employment growth rate among new technology-based firms (NTBF) than non-NTBF, emphasizing that quality is the index for technology. Similarly, Nichter and Goldmark (2005) found that apart from other

factors (e.g., existing business environment), firm characteristics (e.g., technology), and finance are also considered determinants of venture growth. Venture team size is found to stimulate growth. However, just like other growth determinants, Eisenhardt and Schoonhaven (1990) argued that they are endogenous. For instance, multiple founders may have access to a broader, more heterogeneous pool of skills and experience and can provide each other with technical and psychological support, resulting in growth. Moreover, the number of founders may be positively correlated with the quality of the venture, making it endogenous. Furthermore, Variyam and Kraybill (1992) found that limited liability and multiple-establishment ventures also have higher growth rates than those who are not. However, Parker (2009) argued that these variables are endogenous. Finally, Davidsson et al. (2006) concluded that profitability and growth have ambiguous relationships. Such is the result because there is a need to distinguish between trading and retained profits (Parker, 2009). According to Watson (1990), there is a weak linkage between employment growth and trading profits. However, a strong relationship exists between employment growth and retained profits. This is because retained profits are most likely reinvested for business expansion.

Entrepreneurial Strategies

Strategies made in relation to a venture's growth are said to have a significant effect on its future performance and growth, as suggested by the theory of path dependence (Mahoney, 2000). The theory suggests that the decisions made on venture design can create a "lock-in" effect (Arthur 1989, p. 116). Decisions made by management teams are said to create a lasting effect on a venture's future in terms of structures, practices, and behavior (DeSantola & Gulati, 2017). Supporting this, the theory of imprinting (Stinchcombe, 2000) suggests that founders' imprint organizations often persist over time (Johnson, 2007). Beckman and Burton (2008) found that

decision-making by the founders and the founding team can influence outcomes of ventures as enabling and constraining factors. To an extent, entrepreneurial venture growth is considered to be dependent on the strategic decisions of entrepreneurs (Davidsson, 1989), such as their choice of where and how the venture will develop (Gilbert et al., 2006). In terms of specific entrepreneurial strategies, Parker (2009) enumerated strategies for accessing multiple sources of finance, use of formal information management processes (e.g., computerization), business plans, and use of external assistance. According to the Stanford Project on Emerging Companies (SPEC) studies, strategies utilized to manage employment relations can influence organizational design in ventures (Baron et al., 1996). On the contrary, according to Shane (2003), econometric evidence is inconclusive to support the claim that business plans and planning are associated with superior venture performance. As a counterexample, the study of Bhide (1994) found that 41% of the founders in his sample had no business plan during start-up. It might be the case that the expected costs of formal planning for these entrepreneurs exceeded the expected benefits. Meanwhile, other forms of external linkages, such as franchising (Michael, 1996; Martin, 1988), connections with other enterprises (Almus & Nerlinger, 1999), and outsourcing of product distribution (Koeller & Lechler, 2006), have shown an impact on entrepreneurial venture growth.

Others

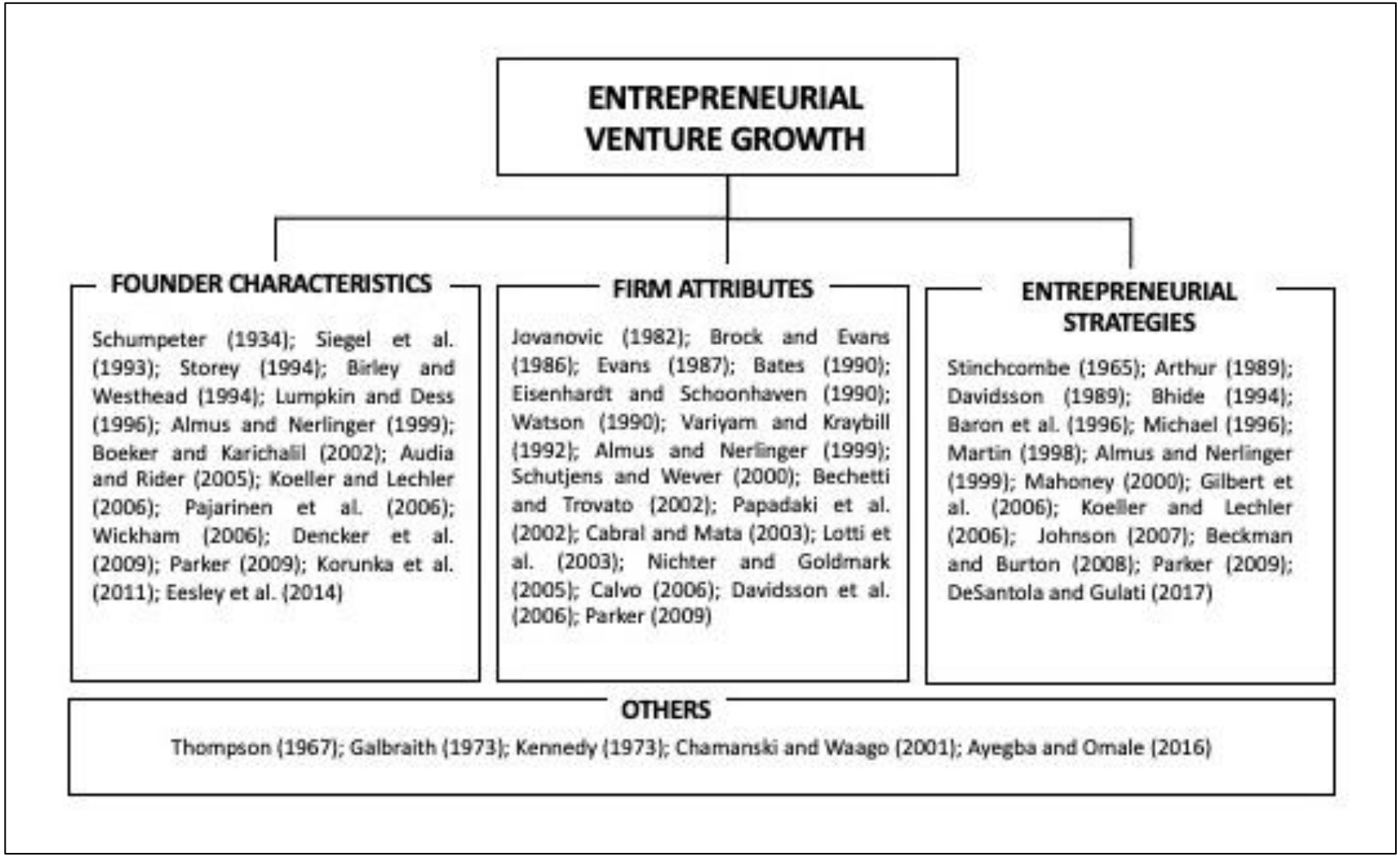
Apart from the established factors affecting entrepreneurial venture growth, other facets also influence growth and performance. For one, government policy is considered a factor affecting venture growth where the legal environment governing the venture can become an inhibiting or supporting factor to growth (Ayegba & Omale, 2016). Similarly, cultural environment surfaces as a critical factor in influencing growth, especially in ventures located in developing economies. These cultural factors include concepts of entrepreneurship prevailing in a certain

location (Kennedy, 1976). Others point out the organizational design, which emphasizes the influence of the venture's formal structure that shapes the actions of its members and its overall operations (Galbraith, 1973; Thompson, 1967). In terms of the business environment, the level of competition in a specific industry can influence venture growth (Chamanski & Waagø, 2001).

Research Gap

Figure 1 maps out the scholarly studies we found explaining entrepreneurial venture growth. As a gap, although it is apparent that there is an abundance of studies, the state of knowledge about entrepreneurial venture growth at the individual or firm level remains to be limited, especially among developing economies (Alom et al., 2016). Moreover, despite the growing number of new ventures, the study of entrepreneurial venture growth lagged behind (DeSantola & Gulati, 2017), where the majority is focused on the role of entrepreneurial venture growth to organizational change (Weber, 1946; Blau et al., 1966; Kimberly & Miles, 1980). A plausible reason for this is the evident heterogeneity of entrepreneurs and their ventures; hence, inconclusive findings. It is also apparent that empirical studies can just explain a portion of the variation in entrepreneurial venture growth. As such, we still know little about the drivers of growth in most entrepreneurial ventures and cannot confidently predict growth patterns. Hence, it is imperative to continuously augment existing studies using alternative models and localized datasets. Enriching the literature on the drivers of entrepreneurial growth ventures will allow us to formulate better policy recommendations to promote new entrepreneurial ventures.

Figure 1
Literature Map



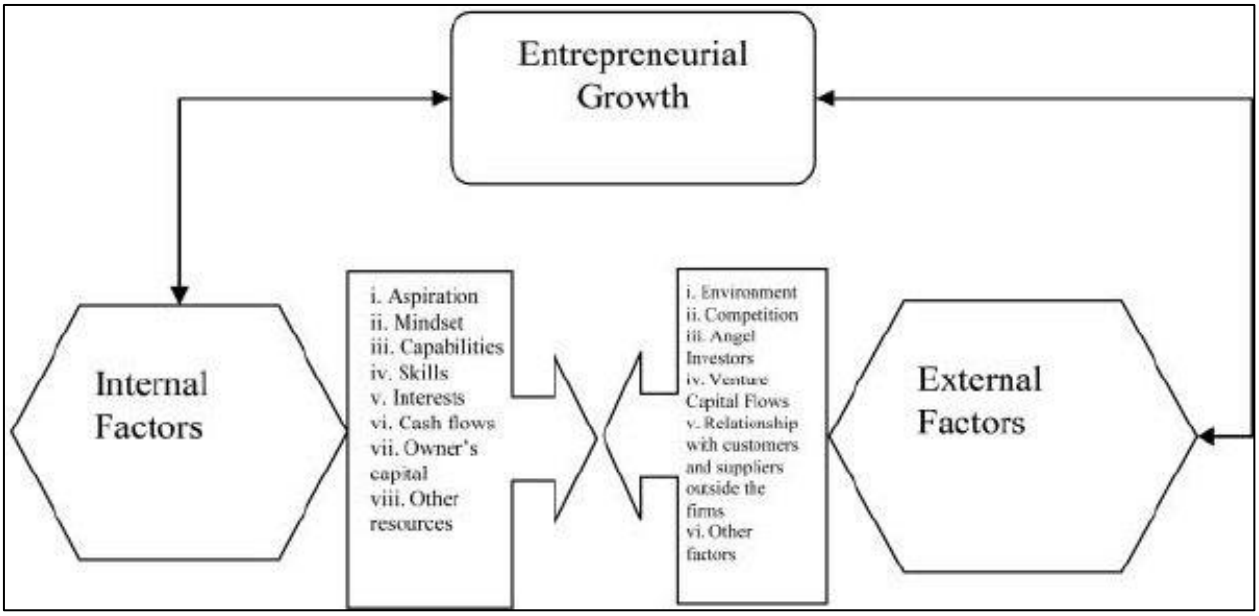
Source: Constructed by the authors

Framework and Methodology

Conceptual Framework

In addressing our first research objective of developing a framework that will capture determinants of entrepreneurial venture growth, we appeal to the framework of Shah et al. (2013), as seen in Figure 2.

Figure 2
Factors Affecting Entrepreneurial Growth

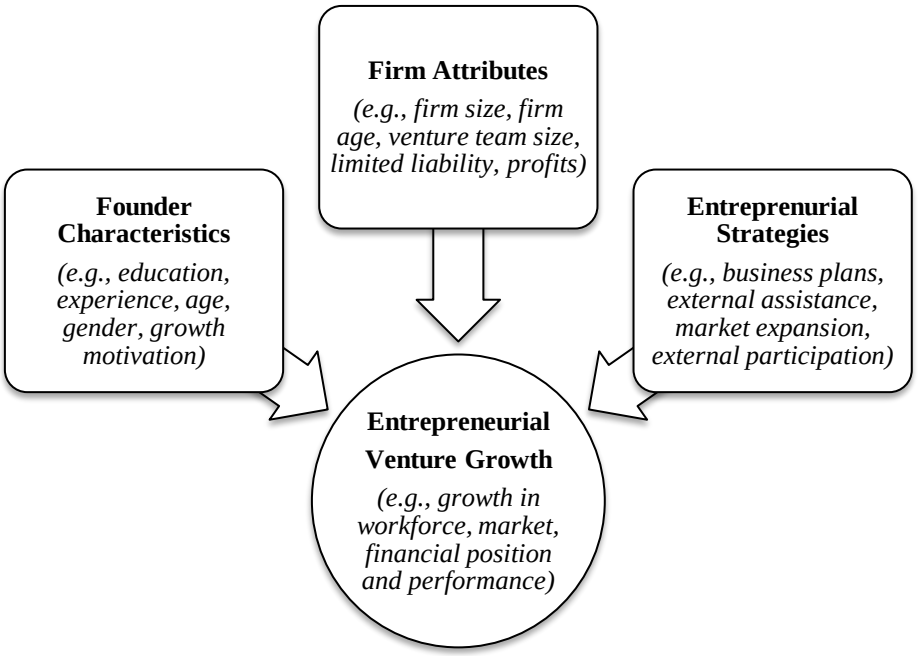


Source: Shah et al. (2013)

Given our problem statement, we modify the framework of Shah et al. (2013), as seen in Figure 3. Instead of internal and external factors driving entrepreneurial growth, we adapt the determinants enumerated by Storey (1994). These comprise both internal and external factors. Importantly, most constructs are represented by variables captured by our chosen dataset – the Global Entrepreneurship Monitor (GEM) Adult Population Survey (APS) data for the Philippines.

We summarized the bases of our framework in Table 1 by indicating a priori expectations. These will be established and verified through the empirical framework.

Figure 3
Factors Affecting Entrepreneurial Venture Growth



Source: Constructed by the authors

Table 1

A Priori Expectations on Entrepreneurial Venture Growth

Construct/Variable	A-priori Expectations	Source
Founder Characteristics (Storey, 1994; Parker 2009)		
Education *EDCFN$_i$*	+	Siegel et al. (1993); Almus and Nerlinger (1999); Dencker et al. (2009).
Experience *OCCFN$_i$*	+/-	Almus and Nerlinger (1999); Koeller and Lechler (2006)
	+	Siegel et al. (1993); Audia and Rider (2005); Dencker et al. (2009); Eesley et al. (2014)
Age *AGEFN$_i$*	+/-	Storey (1994)
Gender *GDRFN$_i$*	+/-	Korunka et al. (2011)
Growth Motivation *MTVFN$_i$*	+	Lumpkin and Dess (1996)
	0	Birley and Westhead (1994)
Firm Attributes (Storey, 1994; Parker, 2009; Papadaki et al., 2002)		
Initial Firm Size *NMOWN$_i$*	-	Jovanovic (1982); Evans (1987); Lotti et al. (2003); Calvo (2006)
Firm Age *FRAGE$_i$*	-	Jovanovic (1982); Brock and Evans (1986); Evans (1987); Bates (1990); Lotti et al. (2003); Calvo (2006)
Venture Team Size *TMSZE$_i$*	-	Jovanovic (1982); Evans (1987); Lotti et al. (2003); Calvo (2006)
Entrepreneurial Strategies (Storey, 1994; Mahoney, 2000; DeSantola & Gulati, 2017)		
Business Plans *MKEXP$_i$* *TECHN$_i$* *COMPT$_i$*	0	Shane (2003)
	+	Bhide (1994); Kumaran (2018)
	+/-	Davidsson (1989); Baron et al. (1996); Nichter and Goldmark (2005); Beckman and Burton (2008)
External Participation *INTOR$_i$* *EXPOR$_i$*	+	Michael (1996), Martin (1988), Almus and Nerlinger (1999), Koeller and Lechler (2006)

Empirical Framework

We transformed our framework illustrated in Figure 2 and Table 1 into an economic model as seen in Equation 1. Classifications made by Storey (1994) served as the basis of our multivariate econometric model, with results drawn from reduced-form growth models. However, according to Wiklund (2007), reduced-form models suffer from endogeneity problems. That is, some cross-sectional characteristics (i.e., individual peculiarities, firm attributes) might indirectly influence growth through stochastic entrepreneurial strategic choices.

$$EVG_i = f(\mathbf{v}FOCHR_i, \mathbf{v}FRATT_i, \mathbf{v}ESMEX_i, \mathbf{v}ESEPN_i) \quad (1)$$

where EVG_i is entrepreneurial venture growth, $\mathbf{v}FOCHR_i$ is a vector containing founder characteristics, $\mathbf{v}FRATT_i$ is a vector containing firm attributes, $\mathbf{v}ESMEX_i$ is a vector containing entrepreneurial strategies on market expansion, and $\mathbf{v}ESEPN_i$ is a vector containing entrepreneurial strategies on external participation. From these constructs, we matched them to the variables available in GEM. Hence, we are able to come up with the elements of each vector as shown in Equations 2, 3, 4, and 5, respectively. All are specifically captured and measured by GEM.

$$\mathbf{v}FOCHR_i = [\text{education, experience, age, gender, motivation}] \quad (2)$$
$$\mathbf{v}FRATT_i = [\text{firm size, team size, firm age}] \quad (3)$$
$$\mathbf{v}ESMEX_i = [\text{market expansion, technological level, competition}] \quad (4)$$
$$\mathbf{v}ESEPN_i = [\text{international orientation, export orientation}] \quad (5)$$

We rewrite Equation 1 into its econometric form as seen in Equation 6, where u_i is the stochastic disturbance term capturing all other possible growth drivers not captured by our model.

$$EVG_i = f(\mathbf{v}FOCHR_i, \mathbf{v}FRATT_i, \mathbf{v}ESMEX_i, \mathbf{v}ESEPN_i) + u_i \quad (6)$$

Table 2 shows the corresponding variables measuring the constructs enumerated in Equations 1 to 6.

Table 2

Constructs and Variables, as Measured by GEM

Equation 6	Construct	Definition	Representation in GEM data	Variable in our model	Description	Categories included	Metric
Endogenous variable EVG_i	Entrepreneurial Venture Growth	Rate at which enterprises expand to the next level (Manir, 2017).	*TEAJOBGR*	$EJG5Y_i$	Growth assessed in terms of employees, customers, revenue, liquidity, profit, geographic locations and a variety of other dimensions (Marko, 2010).	Discrete	Expected job growth in persons in 5 years
Founder characteristics $\mathbf{v}FOCHR_i$	Education	Represents the technical skills of an entrepreneur; for demographic profiling.	*GEMEDUC*	$EDCFN_i$	Dummy variable indicating highest educational attainment by entrepreneurial venture's founder	$UPSSE_i$	Up to some secondary education
						$SECDE_i$	Secondary degree
						$POSEC_i$	Post-secondary
						$GRADX_i$	Graduate experience
	Occupation	Represents the industry experience of the entrepreneur; for demographic profiling.	*GEMOCCU*	$OCCFN_i$	Dummy variable indicating work status of the entrepreneurial venture's founder	$FULLT_i$	Full or part time work (including self-employment)
						$PARTT_i$	Part time work only
						$RETDS_i$	Retired / disabled
						$HOMEM_i$	Homemaker
						$STDNT_i$	Student
						$NOTWK_i$	Not working
						$OTHRS_i$	Others
						$UKOCC_i$	Unknown occupation
	Age	Represents the length of experience of the entrepreneur; for demographic profiling.	*AGE*	$AGEFN_i$	Age in years of the entrepreneurial venture's founder (a squared term, $AGEFN^2_i$, is added in the regression to allow us to model the non-linear relationship between age and any independent variable (Gujarati & Porter, 2009).	Discrete	Entrepreneurial venture's founder's age in years
	Gender	For demographic profiling.	*GENDER*	$GDRFN_i$		*GMALEi*	Male

					Dummy variable indicating whether entrepreneurial venture's founder is either male or female	*GFMALi*	Female
	Motivation	Represents the driving factor why entrepreneurial venture's founder engaged in doing business.	*TEAyyMOT* (where yy indicates year of survey period)	$MTVFN_i$	Dummy variable indicating whether the motivation is opportunity (increase income, financial independence) or necessity (maintain income for sustained consumption)	$MTOPP_i$ $MTNEC_i$ $UKMTV_i$	Opportunity motive Necessity motive Unknown motive
Firm attributes **v***FRATT*$_i$	Firm size	Firm size has also been used to proxy for numerous theoretical constructs ranging from risk to liquidity or even political costs (Ball & Foster, 1982).	*TEAOWNER* *IPTEAMSIZE*	$NMOWN_i$ $TMSZE_i$	Usually measured by turnover, balance sheet accounts, and number of employees to indicate whether a firm is micro, small, or medium. However, firm size remains a poorly defined concept Trigueiros (2000). Empirical studies typically revert to proxies such as number of employees, total assets, sales, or market capitalization.	Discrete Discrete	Number of owners in the firm Number of members in the team
	Firm age	Represents how long an enterprise has been existing.	*BABYBUSO* *ESTBBUSO* –	$FRAGE_i$	Dummy variable indicating what kind of enterprise is based on how long it has been managed and operated	$UP42M_i$ $OL42M_i$ $UKFRA_i$	Baby business (manages and owns a business that is up to 42 months old), Established business (manages and owns a business that is older than 42 months). Unknown
Entrepreneurial strategy: Market expansion **v***ESMEX*$_i$	Market expansion	A strategy is a consciously intended course of action to deal with a situation (Mintzberg, 1987). Market expansion activities include methods such as planning and marshaling resources for their most efficient and effective use to bring about a	*TEAyyMEM* (where yy indicates year of survey period)	$MKEXP_i$	Dummy variable indicating market expansion strategy implemented by the enterprise	$NOMKX_i$ $SMXNT_i$ $SMXWT_i$	No market expansion Some market expansion, no new technology Some market expansion, with new technology

		desired future, such as achievement of a goal or solution to a problem.				*PFMKX*$_i$	Profound market expansion
						UKMXP$_i$	Unknown market expansion
	Technology level		*TEAHITEC*	*TECHN*$_i$	Dummy variable indicating technology level employed by the enterprise	*LOTEC*$_i$	No/low technology
						MDTEC$_i$	Medium technology
						HITEC$_i$	High technology
						UKTEC$_i$	Unknown technology
	Competition		*SUCOMPET*	*COMPT*$_i$	Dummy variable indicating degree of competition	*MNYBC*$_i$	Many business competitors
						FEWBC$_i$	Few business competitors
						NONBC$_i$	No business competitor
						UKCOM$_i$	Unknown competition
Entrepreneurial strategy: External participation **v***ESEPN*$_i$	International orientation	Degree of exposure or participation in the foreign market.	*TEAEXP4C*	*INTOR*$_i$	Dummy variable indicating degree of international orientation measured by the share of foreign customers in output	*>=76P*$_i$	76% to 100%
						2675P$_i$	26% to 75%
						0125P$_i$	1% to 25%
						ZEROP$_i$	none
						UKINT$_i$	Unknown international orientation
	Export orientation		*SUEXPORT*	*EXPOR*$_i$	Dummy variable indicating degree of export orientation measured by the percentage of output for exports	*MO90P*$_i$	More than 90%
						7690P$_i$	76% to 90%
						5175P$_i$	51% to 75%
						2650P$_i$	26% to 50%
						1125P$_i$	11% to 25%
						LE10P$_i$	10% or less
						ZERPR$_i$	None
						UKEXP$_i$	Unknown export orientation

From Table 2, we can rewrite Equations 1 to 6 into Equations 7 to 12, respectively, to indicate all variables measuring our constructs.

$$EJG5Y_i = f(\mathbf{v}FOCHR_i, \mathbf{v}FRATT_i, \mathbf{v}ESMEX_i, \mathbf{v}ESEPN_i) \quad (7)$$

$$\mathbf{v}FOCHR_i = [EDCFN_i, OCCFN_i, AGEFN_i, AGEFN^2{}_i, GDRFN_i, MTVFN_i,] \quad (8)$$

$$\mathbf{v}FRATT_i = [NMOWN_i, TMSZE_i, FRAGE_i] \quad (9)$$

$$\mathbf{v}ESMEX_i = [MKEXP_i, TECHN_i, COMPT_i] \quad (10)$$

$$\mathbf{v}ESEPN_i = [INTOR_i, EXPOR_i] \quad (11)$$

$$EJG5Y_i = f(EDCFN_i, OCCFN_i, AGEFN_i, AGEFN^2{}_i, GDRFN_i, MTVFN_i, NMOWN_i, TMSZE_i, FRAGE_i, MKEXP_i, TECHN_i, COMPT_i, INTOR_i, EXPOR_i) + u_i \quad (12)$$

Dataset

In addressing our second research objective of estimating the impact of founder characteristics, firm attributes, and entrepreneurial strategies on entrepreneurial venture growth, we would be subjecting the GEM APS for the Philippines, covering years 2006, 2013, 2014, and 2015, to Equation 12. Because entrepreneurs are not alike, the GEM APS is a unique instrument administered by GEM National Teams to a representative national sample of at least 2,000 respondents. The following were examined: (a) characteristics, motivations, and ambitions of individuals starting businesses; (b) level and nature of entrepreneurial activities around the world; and (c) social attitudes towards entrepreneurship (https://www.gemconsortium.org/data). Alternatively, it explores the role of the individual in the life cycle of the entrepreneurial process by probing on business characteristics, people's motivation for starting a business, actions taken to start and run a business, and entrepreneurship-related attitudes (https://www.gemconsortium.org/wiki/1141).

Following Gozun and Rivera (2016, 2017) and Rivera and Gozun (2019), GEM is an appropriate dataset for our purposes because it takes a wide-ranging perspective of what it acknowledges as business activity. It does not discriminate between old and newly established and registered business because it subscribes to the occupational dimension of entrepreneurship.

Moreover, it also looks into entrepreneurship from a behavioral perspective by identifying employees within organizations who behave entrepreneurially, either intrapreneurship or corporate entrepreneurship. Furthermore, it also captures the combination of the stages of nascent entrepreneurship and owning-managing a new firm or early-stage entrepreneurial activity.

Methodology

Given the specification of Equation 12, we recognize the possibility of the endogeneity problem. It exists when a parameter or variable and the error term are correlated. According to Gujarati and Porter (2009), this may happen due to errors in measurement, autoregression with autocorrelated errors, simultaneity bias, sample selection errors, and omitted variables. Moreover, this is also likely when cross-sectional characteristics indirectly influence growth through stochastic entrepreneurial strategic choices (Wiklund, 2007).

Heteroscedasticity (i.e., inconstant variance) is also likely to be present because the GEM is cross-sectional data. According to Gujarati and Porter (2009), although this does not cause ordinary least squares (OLS) coefficient estimates to be biased, it can the variance of the estimated OLS coefficients to underestimate or overestimate the population variance. That is, regression analysis using heteroscedastic data can still generate an unbiased estimate for the relationship between exogenous and endogenous variables. However, standard errors and inferences derived would be spurious. Hence, biased standard errors makes inferential statistics unreliable.

Therefore, we would utilize the linear generalized method of moments (GMM) estimation technique to analyze the impact of founder characteristics, firm attributes, and entrepreneurial strategies on entrepreneurial venture growth. According to Baum et al. (2003), when faced with heteroscedasticity of unknown form, the GMM introduced by Hansen (1982) is advised. It employs orthogonality conditions to allow for efficient estimation given an unknown form of

heteroscedasticity. Also, many standard estimators, including the instrumental variable (IV) and OLS, are deemed as subsets of GMM estimators. Thus, with heteroscedasticity, the GMM estimator is more efficient than any other estimator (Baum et al., 2003).

Our preference towards the GMM estimation technique is also due to its robustness to differences in data generating process (DGP) specifications. It also automatically addresses endogeneity. Under the GMM, a sample mean or variance estimates its population counterpart regardless of the underlying process (Greene, 2003). Thus, it provides flexibility from unnecessary distributional assumptions (e.g., normality assumption under OLS). However, we underscore that this has a cost. If more is known about the DGP, such as its specific distribution, then the GMM may not utilize all available information. Consequently, the estimates become inefficient. Hence, according to Greene (2003), the maximum likelihood estimation (MLE) is deemed the alternative approach because it utilizes out-of-sample information and provides more efficient estimates.

Likewise, although we recognize that our empirical specification is quite cumbersome due to the number of categorical variables included, this may result in the model being not identified, initial weight matrix being not positive semi-definite, or iterations are non-convergent due to non-concavity. To address this, we would be regressing our endogenous variable against each of our vectors separately. Moreover, should any of the issues arise resulting in the failure of GMM, we would then resort to OLS and its accompanying post-regression tests for violations against the classical linear regression model (CLRM). Both GMM and OLS estimator will have the same coefficient because GMM is a class of estimators that include OLS (Greene, 2003). That is, a GMM estimator can be constructed that is equivalent to the OLS estimator.

Results and Discussion

Prior to the presentation and discussion of our regression results, we present in Table 3 descriptive statistics for discrete variables and cross-tabulations for nominal variables in Table 4. These will provide a glimpse of our data's peculiarities, which will aid in understanding the statistical and practical implications of our regression results.

Descriptive Statistics

We interpret our descriptive statistics generally across all survey periods unless a peculiarity is observed for a specific year. Table 3 shows that survey periods 2006, 2014, and 2015 have 2,000 respondents, whereas 2013 has 2,500 respondents. Although this is the case, only approximately 20% have been used in data analysis. This is because not all respondents have an answer for $EJG5Y_i$. This is also why $TMSZE_i$ has not been very useful in data analysis because of data unavailability (for 2006) and data insufficiency (for 2013, 2014, and 2015). We also note that respondents for all survey periods are those members of the labor force population, aged 18 to 64, with the majority from the 21–30 and 31–40 brackets. This is indicative of the entrepreneurship of the youth (Gozun & Rivera, 2017; Rivera & Gozun, 2019). Of course, there is also a significant number of entrepreneurs at much higher age brackets, which is indicative of the entrepreneurial activities of those who have the experience, financial stability, and extensive networks (St. Pierre, 2017; Gaskell, 2019).

Table 3
Cross Tabulations and Descriptive Statistics

2006	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
$EJG5Y_i$	426	1.7441	5.1585	-4	80
<0	4	-2.0000	1.4142	-4	-1
0	222	0.0000	0.0000	0	0
1 to 10	189	2.5026	1.7674	1	10
11 to 20	7	15.8571	2.6726	12	20
>20	4	41.7500	26.0560	22	80
2006	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**

AGEFN$_i$	2,000	37.8515	12.2732	18	64
<21	137	19.0073	0.8617	18	20
21-30	524	25.7748	2.8937	21	30
31-40	540	35.6722	2.8782	31	40
41-50	449	45.2428	2.8957	41	50
51-60	274	55.6350	2.8680	51	60
>60	76	62.7895	1.0239	61	64
2006	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
NMOWN$_i$	426	1.3404	0.8369	1	10
1	325	1.0000	0.0000	1	1
2	78	2.0000	0.0000	2	2
3	16	3.0000	0.0000	3	3
>3	7	6.0000	2.2361	4	10
2006	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
TMSZE$_i$	.	.	.	.	.
1	.	.	.	.	.
2	.	.	.	.	.
3-10	.	.	.	.	.
>10	.	.	.	.	.

2013	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
EJG5Y$_i$	474	2.3439	15.0571	-9	300
<0	15	-3.0000	3.0237	-9	-1
0	248	0.0000	0.0000	0	0
1 to 10	202	2.7574	2.3278	1	10
11 to 20	4	18.0000	4.0000	12	20
>20	5	105.4000	111.8740	30	300
2013	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
AGEFN$_i$	2,500	37.3752	12.7289	18	64
<21	207	18.9903	0.8418	18	20
21-30	674	25.4867	2.7513	21	30
31-40	660	35.3333	2.8670	31	40
41-50	480	45.1792	2.8704	41	50
51-60	359	55.1532	2.6744	51	60
>60	120	62.6917	1.1212	61	64
2013	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
NMOWN$_i$	474	1.4958	1.2546	1	10
1	337	1.0000	0.0000	1	1
2	102	2.0000	0.0000	2	2
3	18	3.0000	0.0000	3	3
>3	17	6.7059	2.8889	4	10
2013	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
TMSZE$_i$	23	4.1739	4.1522	1	20
1	5	1.0000	0.0000	1	1
2	4	2.0000	0.0000	2	2
3-10	13	4.8462	2.1153	3	10

>10	1	20.0000	.	20	20

2014	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
EJG5Y$_i$	382	4.2304	46.3254	-2	900
<0	12	-1.4167	0.5149	-2	-1
0	199	0.0000	0.0000	0	0
1 to 10	160	2.8500	2.1782	1	10
11 to 20	6	15.5000	2.4290	12	19
>20	5	216.8000	382.7254	24	900
2014	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
AGEFN$_i$	2,000	36.8260	12.8131	18	64
<21	191	18.8901	0.8482	18	20
21-30	565	25.3788	2.8821	21	30
31-40	475	35.2653	2.8546	31	40
41-50	410	45.1463	2.7634	41	50
51-60	265	54.9472	2.6452	51	60
>60	94	62.5851	1.1303	61	64
2014	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
NMOWN$_i$	382	1.6021	1.3414	1	10
1	259	1.0000	0.0000	1	1
2	79	2.0000	0.0000	2	2
3	25	3.0000	0.0000	3	3
>3	19	6.3158	2.4507	4	10
2014	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
TMSZE$_i$	41	15.7073	23.3968	1	100
1	5	1.0000	0.0000	1	1
2	6	2.0000	0.0000	2	2
3-10	18	5.3889	2.1182	3	10
>10	12	44.1667	26.9270	15	100

2015	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
EJG5Y$_i$	394	13.8452	144.6942	-5	1,998
<0	13	-1.7692	1.3634	-5	-1
0	164	0.0000	0.0000	0	0
1 to 10	201	2.8806	2.2728	1	10
11 to 20	8	13.1250	1.6421	11	15
>20	8	599.2500	880.4680	30	1,998
2015	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
AGEFN$_i$	2,000	37.9095	12.5787	18	64
<21	151	18.8808	0.8240	18	20
21-30	501	25.3952	2.7327	21	30
31-40	533	35.3771	2.8906	31	40
41-50	429	45.3800	2.8885	41	50
51-60	299	55.0836	2.8230	51	60
>60	87	62.6552	1.0979	61	64
2015	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**

NMOWN$_i$	394	1.5330	1.2149	1	10
1	267	1.0000	0.0000	1	1
2	97	2.0000	0.0000	2	2
3	13	3.0000	0.0000	3	3
>3	17	6.1176	2.4719	4	10
2015	***N***	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
TMSZE$_i$	77	5.0519	7.6397	0	60
1	12	1.0000	0.0000	1	1
2	18	2.0000	0.0000	2	2
3-10	40	5.1500	2.1549	3	10
>10	5	27.0000	18.9077	15	60

Ultimately, throughout the various survey periods, we have also seen that respondents have indicated contraction, status quo, or expansion in their job growth. This is indicative of the varying growth prospects of business ventures with respect to employment creation. However, it is apparent that a large proportion of entrepreneurs expected to create more jobs than they can actually do. We found entrepreneurs who expected job growth to be as much as by the hundreds (for 2006, 2013, and 2014) to thousands (for 2015). According to Shane (2012), we should exercise caution in interpreting such result because this "is much higher than the share of entrepreneurs that actually has a high growth company" (para. 3)[4] and "overstates the share of new businesses that are 'high growth'" (para. 4)[5]. Hence, "if only about 1 out of every 20 entrepreneurs who expect to employ 20 or more people when their businesses are five years old actually does so", then entrepreneurs tend to overestimate their job creation capabilities as well as their business' survival, sales and profits of their businesses (Shane, 2012, para. 5).

[4] According to Shane (2012), the Census' Business Dynamics database indicated that only 2% of five-year-old companies have 20 or more employees.

[5] Shane (2012) furthered that the Census' Business Dynamics database also revealed that slightly less than half of new businesses survive to age five. That is, "adjusting the share of surviving five-year-old businesses with 20 or more employees by the failure rate of new companies reveals that less than 1% of businesses started in a given year have 20 or more employees at the time of their fifth birthday" (par. 4).

Hence, our initial findings from the descriptive statistics warranted us to exercise caution and address this overestimation by discounting entrepreneurs' job growth projections.

Cross Tabulations

Because our data is from a survey, as part of the analysis, it is appropriate to do cross-tabulations or contingency tables (Lind et al., 2006). These are tables that present the results of the entire group and results from sub-groups of survey respondents. According to De Franzo (n.d.), this will enable us to examine relationships within the data that might not be readily apparent when analyzing total survey responses. We tabulated in Table 4 all our variables of interest against $EJG5Y_i$. We interpret our cross-tabulations generally across all survey periods unless a peculiarity is observed for a specific year.

From Table 4, with respect to founder characteristics, we can see that most of the entrepreneurs in our sample have secondary and post-secondary education, which is indicative of the degree of technical skills Filipino entrepreneurs have. In fact, according to Lavinsky (2014), entrepreneurs are educated, contradicting the "growing misconception that higher education is not needed for – and may even inhibit – entrepreneurial success" (Arruda, 2018, para. 1). Although, there are generally more female entrepreneurs than male. This supports the discussion of Castrillon (2019) that women are turning to entrepreneurship for the following reasons: to have more flexibility, to charge what they are worth, to have more control over their future, to advance more quickly, and to follow their passion. From our discussion, it may follow that a significant proportion have full-time employment, which is also indicative of entrepreneurship being used either as passive income or multiple revenue streams (Constable, 2018). Consistently, our distribution also reveals that Filipino entrepreneurs engage in a business due to their opportunistic motive, more than the necessity motive. According to Juneja (n.d.), entrepreneurial success is

driven by the entrepreneur's ability to create opportunities and be opportunistic – being "in control over their future wherein they were able to sense the future as well as leverage on the intersecting processes of computing, technological change, and changing workplace processes" (para. 14).

We also emphasize that as per our distribution across the vector of founder characteristics, Filipino entrepreneurs do have a modest estimate of their venture's job growth (i.e., within 0 to 10). This is not reflective of the overoptimism and overestimation highlighted by Shane (2012).

With respect to firm attributes, we can see from Table 4 that most of the entrepreneurial ventures are either sole proprietorship or partnership whose businesses are classified as "baby business," which by GEM definition means a business that is managed and owned up to 42 months. Such observations reflect the state and composition of MSMEs in the Philippines, as per DTI (2020). Regardless of ownership and firm age, Filipino entrepreneurs still have a modest estimate of their venture's job growth, which does not support the arguments of Shane (2012).

With respect to entrepreneurial strategy (market expansion), we can see from Table 4 that most Filipino entrepreneurs have zero to some market expansion, employing low technology. Likewise, most are implementing a red ocean strategy (i.e., many business competitors), and there also many who are not aware of the kind of competition they are in. This reflects the need for MSMEs in the country to be uplifted in terms of DTI's 7Ms of successful entrepreneurs [6] (University of the Philippines Institute for Small-Scale Industries – Diliman, 2020). Market expansion accompanied by technology can solidify the growth trajectory of an entrepreneurial venture because it can achieve more profits with less investments and allow for better communication, internationalization, and networking (Kumaran, 2018). It is also important to note

[6] DTI's 7Ms of successful entrepreneurs are: (1) mindset change, (2) mastery, (3) mentoring, (4) money, (5) machine, (6) market access, and (7) models of business. See https://www.dti.gov.ph/negosyo/the-7ms-of-successful-entrepreneurs/ for the full details.

that regardless of strategy, technology, and competition, Filipino entrepreneurs still have a modest estimate of their venture's job growth, which contradicts the arguments of Shane (2012).

Finally, with respect to entrepreneurial strategy (external participation), we can see from Table 4 that most Filipino entrepreneurs have zero to a little international and export orientations. This is indicative of the size and productive capacities of Philippine-MSMEs, which can cater mostly, if not fully, to domestic demand because they are not connected to global value chains (Francisco et al., 2018). Connecting Philippine-MSMEs to global value chains has its own obstacles and challenges, which need to be hurdled to enhance external participation that can facilitate entrepreneurial venture growth. Similar to our earlier observations, because of low international and export orientation, there is not much job growth expected.

Our cross-tabulations also serve as contingency tables, allowing for the implementation of a contingency table analysis (i.e., chi-square test of independence). This is done "to formally test for a relationship between two nominal-scaled variables" (Lind et al., 2006, p. 476) where the null hypothesis is independence (i.e., no relationship between the two nominal-scaled variables of interest). However, we would not implement this anymore as we will proceed immediately with the regression, which can capture the information we can derive from this.

Table 4
Cross Tabulations

Year			2006						2013					
EJG5Yi			**<0**	**0**	**1 to 10**	**11 to 20**	**>20**	**Total**	**<0**	**0**	**1 to 10**	**11 to 20**	**>20**	**Total**
v*FOCHR*$_i$	*EDFCN*$_i$	*UPSSE*$_i$	2	81	51	2	0	136	0	0	0	0	0	0
		SECDE$_i$	0	59	58	0	2	119	10	120	94	2	1	227
		POSEC$_i$	2	81	80	5	2	170	3	72	52	2	1	130
		GRADX$_i$	0	1	0	0	0	1	0	1	1	0	0	2
		UKEDU$_i$	0	0	0	0	0	0	2	55	55	0	3	115
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
	OCCFN$_i$	*FULLT*$_i$	3	165	146	7	2	323	15	229	175	3	4	426
		PARTT$_i$	1	57	43	0	2	103	0	3	4	0	0	7
		RETDS$_i$	0	0	0	0	0	0	0	1	0	0	0	1
		HOMEM$_i$	0	0	0	0	0	0	0	3	11	0	0	14
		STDNT$_i$	0	0	0	0	0	0	0	1	1	0	0	2
		NOTWK$_i$	0	0	0	0	0	0	0	5	3	0	0	8
		OTHRS$_i$	0	0	0	0	0	0	0	0	0	0	0	0
		UKOCC$_i$	0	0	0	0	0	0	0	6	8	1	1	16
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
	AGEFN$_i$	<21	0	3	4	0	0	7	0	8	10	0	0	18
		21-30	0	61	42	3	1	107	2	51	54	1	1	109
		31-40	2	64	63	1	3	133	4	75	56	1	2	138
		41-50	2	52	52	2	0	108	5	57	40	1	0	103
		51-60	0	33	21	1	0	55	3	44	32	1	0	80
		>60	0	9	7	0	0	16	1	13	10	0	2	26

		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
	GDRFN$_i$	*GMALEi*	1	96	85	4	3	189	7	89	71	1	2	170
		GFMALi	3	126	104	3	1	237	8	159	131	3	3	304
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
	MTVFN$_i$	*MTOPP*$_i$	3	108	109	5	4	229	9	141	117	2	4	273
		MTNEC$_i$	1	114	80	2	0	197	6	105	83	2	1	197
		UKMTV$_i$	0	0	0	0	0	0	0	2	2	0	0	4
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
v*FRATT*$_i$	*NMOWN*$_i$	1	3	177	137	5	3	325	11	192	131	2	1	337
		2	0	33	43	2	0	78	3	42	54	2	1	102
		3	1	8	7	0	0	16	1	9	7	0	1	18
		>3	0	4	2	0	1	7	0	5	10	0	2	17
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
	TMSZE$_i$	1	.	.	.	.	.	0	0	1	0	0	0	1
		2	.	.	.	.	.	0	0	0	1	0	0	1
		3 to 10	.	.	.	.	.	0	0	0	3	0	1	4
		>10	.	.	.	.	.	0	0	0	0	1	0	1
		Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**1**	**1**	**7**
	FRAGE$_i$	*UP42M*$_i$	2	161	147	7	3	320	13	117	59	2	4	195
		OL42M$_i$	0	9	10	0	0	19	0	0	4	0	0	4
		UKFRA$_i$	2	52	32	0	1	87	2	131	139	2	1	275
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
v*ESMEX*$_i$	*MKEXP*$_i$	*NOMKX*$_i$	3	160	111	2	2	278	8	98	65	0	0	171
		SMXNT$_i$	0	24	31	2	0	57	3	69	59	0	3	134
		SMXWT$_i$	1	38	44	3	1	87	3	59	66	4	2	134

		PFMKX$_i$	0	0	3	0	1	4	1	22	12	0	0	35
		UKMXP$_i$	0	0	0	0	0	0	0	0	0	0	0	0
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
	TECHN$_i$	*LOTEC$_i$*	4	221	187	6	4	422	15	248	201	4	5	473
		MDTEC$_i$	0	1	1	0	0	2	0	0	0	0	0	0
		HITEC$_i$	0	0	1	1	0	2	0	0	1	0	0	1
		UKTEC$_i$	0	0	0	0	0	0	0	0	0	0	0	0
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
	COMPT$_i$	*MNYBC$_i$*	3	64	54	1	1	123	4	77	69	3	0	153
		FEWBC$_i$	0	18	26	1	0	45	2	59	69	0	2	132
		NONBC$_i$	0	6	8	1	1	16	1	16	18	0	1	36
		UKCOM$_i$	1	134	101	4	2	242	8	96	46	1	2	153
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
v*ESEPN$_i$*	*INTOR$_i$*	*>=76P$_i$*	0	0	1	0	0	1	1	19	12	0	0	32
		2675P$_i$	1	2	3	2	1	9	1	13	7	0	0	21
		0125P$_i$	1	23	21	2	0	47	3	39	43	2	3	90
		ZEROP$_i$	2	186	152	3	3	346	8	169	131	2	2	312
		UKINT$_i$	0	11	12	0	0	23	2	8	9	0	0	19
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**
	EXPOR$_i$	*MO90P$_i$*	0	0	0	0	0	0	0	12	6	0	0	18
		7690P$_i$	0	0	0	0	0	0	0	2	3	0	0	5
		5175P$_i$	1	0	1	1	0	3	0	5	3	0	0	8
		2650P$_i$	0	0	0	0	1	1	0	3	4	0	0	7
		1125P$_i$	0	2	3	0	0	5	1	8	3	0	0	12
		LE10P$_i$	1	11	12	1	0	25	0	16	27	1	1	45

		ZERPR$_i$	1	75	65	1	1	143	4	102	101	2	2	211
		UKEXP$_i$	1	134	108	4	2	249	10	100	55	1	2	168
		Total	**4**	**222**	**189**	**7**	**4**	**426**	**15**	**248**	**202**	**4**	**5**	**474**

Continuation of Table 4.

Year			**2014**						**2015**					
EJG5Yi			**<0**	**0**	**1 to 10**	**11 to 20**	**>20**	**Total**	**<0**	**0**	**1 to 10**	**11 to 20**	**>20**	**Total**
		UPSSE$_i$	1	31	15	0	0	47	2	26	30	2	0	60
		SECDE$_i$	8	90	82	0	2	182	10	85	90	0	2	187
	EDFCN$_i$	*POSEC*$_i$	2	78	60	6	3	149	1	48	76	6	5	136
		GRADX$_i$	1	0	3	0	0	4	0	4	5	0	1	10
		UKEDU$_i$	0	0	0	0	0	0	0	1	0	0	0	1
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
		FULLT$_i$	11	165	133	4	5	318	13	126	161	4	6	310
		PARTT$_i$	0	7	6	2	0	15	0	8	6	1	0	15
		RETDS$_i$	0	0	2	0	0	2	0	1	1	0	0	2
v*FOCHR*$_i$	*OCCFN*$_i$	*HOMEM*$_i$	1	9	3	0	0	13	0	18	17	2	1	38
		STDNT$_i$	0	2	3	0	0	5	0	0	3	0	0	3
		NOTWK$_i$	0	6	9	0	0	15	0	9	11	1	1	22
		OTHRS$_i$	0	1	1	0	0	2	0	0	0	0	0	0
		UKOCC$_i$	0	9	3	0	0	12	0	2	2	0	0	4
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
		<21	0	9	12	0	0	21	0	1	9	1	0	11
	AGEFN$_i$	21-30	2	46	41	2	2	93	1	36	50	3	3	93
		31-40	2	50	42	3	2	99	4	54	60	1	1	120

		41-50	3	49	37	1	1	91	5	41	44	0	1	91
		51-60	3	37	22	0	0	62	3	28	26	3	3	63
		>60	2	8	6	0	0	16	0	4	12	0	0	16
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
	GDRFN$_i$	*GMALEi*	4	73	69	4	1	151	2	53	78	4	2	139
		GFMALi	8	126	91	2	4	231	11	111	123	4	6	255
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
	MTVFN$_i$	*MTOPP*$_i$	11	120	119	6	5	261	7	112	148	8	7	282
		MTNEC$_i$	1	78	41	0	0	120	6	50	51	0	1	108
		UKMTV$_i$	0	1	0	0	0	1	0	2	2	0	0	4
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
v*FRATT*$_i$	*NMOWN*$_i$	1	7	145	102	2	3	259	8	130	123	4	2	267
		2	5	40	33	0	1	79	4	30	57	2	4	97
		3	0	7	17	1	0	25	0	2	10	1	0	13
		>3	0	7	8	3	1	19	1	2	11	1	2	17
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
	TMSZE$_i$	1	0	1	0	0	0	1	0	2	1	0	0	3
		2	0	2	1	1	0	4	0	2	4	1	1	8
		3 to 10	0	2	0	0	0	2	0	3	9	1	0	13
		>10	0	1	1	0	0	2	0	0	0	0	1	1
		Total	**0**	**6**	**2**	**1**	**0**	**9**	**0**	**7**	**14**	**2**	**2**	**25**
	FRAGE$_i$	*UP42M*$_i$	11	121	72	5	4	213	13	106	96	3	4	222
		OL42M$_i$	0	3	3	0	0	6	0	1	6	0	0	7
		UKFRA$_i$	1	75	85	1	1	163	0	57	99	5	4	165
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
v*ESMEX*$_i$	*MKEXP*$_i$	*NOMKX*$_i$	6	73	42	2	1	124	6	56	66	2	3	133

		SMXNT$_i$	4	47	41	2	2	96	3	30	50	4	3	90
		SMXWT$_i$	1	65	66	2	2	136	3	67	75	1	1	147
		PFMKX$_i$	1	14	11	0	0	26	1	11	10	1	1	24
		UKMXP$_i$	0	0	0	0	0	0	0	0	0	0	0	0
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
	TECHN$_i$	*LOTEC*$_i$	12	199	160	6	5	382	13	163	201	8	8	393
		MDTEC$_i$	0	0	0	0	0	0	0	0	0	0	0	0
		HITEC$_i$	0	0	0	0	0	0	0	1	0	0	0	1
		UKTEC$_i$	0	0	0	0	0	0	0	0	0	0	0	0
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
	COMPT$_i$	*MNYBC*$_i$	3	62	81	4	4	154	4	55	89	3	1	152
		FEWBC$_i$	0	38	37	2	0	77	2	36	63	5	3	109
		NONBC$_i$	1	11	15	0	1	28	1	4	16	0	1	22
		UKCOM$_i$	8	88	27	0	0	123	6	69	33	0	3	111
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
	INTOR$_i$	*>=76P*$_i$	0	0	0	0	0	0	0	0	2	0	1	3
		2675P$_i$	0	0	1	0	1	2	1	5	9	1	1	17
		0125P$_i$	3	14	24	3	1	45	1	16	29	4	2	52
		ZEROP$_i$	9	181	134	3	3	330	11	124	160	3	4	302
v*ESEPN*$_i$		*UKINT*$_i$	0	4	1	0	0	5	0	19	1	0	0	20
		Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**
	EXPOR$_i$	*MO90P*$_i$	0	0	0	0	0	0	0	0	0	0	1	1
		7690P$_i$	0	0	0	0	0	0	0	0	1	0	0	1
		5175P$_i$	0	0	0	0	1	1	0	1	1	1	1	4

2650P$_i$	0	0	1	0	0	1	1	1	7	0	0	9
1125P$_i$	0	2	4	1	0	7	0	1	4	0	1	6
LE10P$_i$	0	6	19	2	2	29	0	5	17	4	1	27
ZERPR$_i$	4	100	108	3	2	217	6	85	137	3	2	233
UKEXP$_i$	8	91	28	0	0	127	6	71	34	0	2	113
Total	**12**	**199**	**160**	**6**	**5**	**382**	**13**	**164**	**201**	**8**	**8**	**394**

Regression

Table 5 presents our Linear GMM and OLS results. It is accompanied by Table 6 that details issues we have encountered during estimation. We also interpret our regression results generally across all survey periods unless a peculiarity is observed for a specific year.

From Table 5, with respect to founder characteristics, education is generally statistically insignificant in influencing entrepreneurial venture growth, with the exception of having graduate studies, which has a negative impact on entrepreneurial venture growth. This contradicts most literature such as that of Siegel et al. (1993), Almus and Nerlinger (1999), and Dencker et al. (2009). Holding statistical significance constant, we can see that having higher education has a positive impact on entrepreneurial venture growth (Almus & Nerlinger, 1999). Similarly, occupation of the founder is generally statistically insignificant in driving entrepreneurial venture growth, contradictory to the findings of Siegel et al. (1993), Almus and Nerlinger (1999), Audia and Rider (2005), Koeller and Lechler (2006), Dencker et al. (2009), and Eesley et al. (2014). We can construe that education and occupation may be necessary but not sufficient conditions for entrepreneurial venture growth. Likewise, age and gender are insignificant factors to entrepreneurial venture growth. However, the opportunistic motive of entrepreneurs is a significant predictor of entrepreneurial venture growth, consistent with Lumpkin and Dess (1996), Constable (2018), and Juneja (n.d.). Alternatively, although there is no severe multicollinearity in the model, founder characteristics may have an indirect impact on entrepreneurial venture growth. It may

moderate [7] entrepreneurial strategies, or entrepreneurial strategies may mediate [8] founder characteristics in explaining entrepreneurial venture growth.

With respect to firm attributes, we can see from Table 5 that firm size, represented by the number of owners, is positively and statistically significant in explaining entrepreneurial venture growth. Although this does not follow the findings of Jovanovic (1982), Evans (1987), Lotti et al. (2003), and Calvo (2006), it is consistent with Aileron (2017), wherein having multiple owners lets entrepreneurs see the market and business environment with a broader and different perspective, allowing them to navigate it as smart as possible. However, it comes at a cost of reconciling differences between and among owners and their ownership and management roles, communicating proactively, and becoming conscious of motivating factors (Aileron, 2017). Nonetheless, results show that the combination of various comparative advantages among owners can propel entrepreneurial venture growth, net of the disadvantages. Meanwhile, business longevity, measured by firm age, is not a significant predictor of entrepreneurial venture growth, which is again different from Jovanovic (1982), Brock and Evans (1986), Evans (1987), Bates (1990), Lotti et al. (2003), and Calvo (2006) who found that younger firms tend to grow faster than older ones. Alternatively, although there is no severe multicollinearity in the model, it is also likely that firm attributes do not have a direct impact on entrepreneurial venture growth. It may be the case that firm attributes moderate entrepreneurial strategies, or entrepreneurial strategies mediate firm attributes in explaining entrepreneurial venture growth.

[7] A moderator variable is involved in an interaction with another variable in a model such that the effect of the other variable depends upon the value of the moderator variable (i.e., interaction effect) (Hayes, 2013).
[8] A mediator variable sits between an exogenous variable and the endogenous variable such that some of the effect of the exogenous variable on the endogenous variable passes through the mediator variable (i.e., indirect effect; Hayes, 2013).

With respect to entrepreneurial strategy (market expansion), Table 5 shows that any amount of market expansion contributes to entrepreneurial venture growth, consistent with Davidsson (1989), Bhide (1994), Baron et al. (1996), Nichter and Goldmark (2005), Beckman and Burton (2008), and Kumaran (2018). The more profound market expansion is, the faster entrepreneurial venture growth is. Holding competition constant, when a business continuously finds new markets to sell its existing products, it can increase sales and profits (Suttle, 2019). Likewise, technology plays a critical role in driving entrepreneurial venture growth. Consistent with Nichter and Goldmark (2005) and Kumaran (2018), market expansion accompanied by technology facilitate business growth because of resulting efficiencies in production, cost savings, and economies of scale. Lastly fewer competition has a more robust impact on entrepreneurial venture growth. Although market competition often benefits society, Stucke (2013) argued four scenarios where competition results in suboptimal results. Indeed, our results provide an alternative perspective on the findings of Bhide (1994) on the ambiguity of the influence of having business plans or strategies (i.e., effect of too much analysis) on entrepreneurial venture growth.

Finally, with respect to entrepreneurial strategy (external participation), Table 5 shows that having higher degrees of international and export orientations, measured by the share of foreign customers in output and of output for exports, respectively, are powerful predictors of entrepreneurial venture growth. This supports Martin (1988), Michael (1996), Almus and Nerlinger (1999), and Koeller and Lechler (2006). In today's global economy, enterprises, regardless of size, are encouraged to establish their presence in foreign markets to take advantage of greater opportunities for market growth and diversification (van Rossum, 2017). However, having an international presence is conditional on whether enterprises have access to global value chains (Francisco et al., 2018).

Table 5

Regression Results (Endogenous Variable: EVG_i)

Vector	Variables	Categories	2006	2013	2014	2015
$\mathbf{v}FOCHR_i$	$EDFCN_i$	$UPSSE_i$	Dropped	Dropped	Dropped	Dropped
		$SECDE_i$	0.6814 [0.6694]	-2.7358 [2.1474]	-0.3657 [1.5563]	9.9133 [9.4894]
		$POSEC_i$	0.6697 [0.4343]	-2.0634 [1.9553]	5.1421 [4.5578]	11.7417 [9.8099]
		$GRADX_i$	-2.0308*** [0.4912]	-2.4098* [1.4573]	-2.9562 [4.3663]	50.8849 [56.2277]
	$OCCFN_i$	$FULLT_i$	0.2008 [0.5930]	-6.341451 [5.6330]	4.3745 [3.6318]	12.3257 [15.3907]
		$PARTT_i$	Omitted	-7.3876 [5.7760]	1.1213 [2.7456]	-1.9240 [7.2765]
		$RETDS_i$	Omitted	-13.0411* [7.1239]	1.9720 [3.4985]	0.8030 [15.4487]
		$HOMEM_i$	Omitted	-6.1620 [5.4296]	2.6152 [3.2224]	18.7693 [17.0901]
		$STDNT_i$	Omitted	-8.5618 [5.8744]	-8.5724 [10.7799]	-3.7326 [12.8791]
		$NOTWK_i$	Omitted	-7.3419 [5.7060]	-1.6714 [3.8995]	-2.3820 [8.7389]
		$OTHRS_i$	Omitted	Omitted	2.5308 [3.0012]	Omitted
		$UKOCC_i$	Dropped	Dropped	Dropped	Dropped
	$AGEFN_i$		0.0877 [0.1494]	-0.9668 [0.6918]	-0.5728 [0.8425]	-0.1057 [3.9967]
	$AGEFN^2_i$		-0.0012 [0.0017]	0.0128 [0.0094]	0.0045 [0.0080]	-0.0023 [0.0440]
	$GDRFN_i$	$GMALEi$	0.4289 [0.5142]	-0.7486 [1.2752]	5.8453 [6.2452]	6.2401 [15.8066]
		$GFMALi$	Dropped	Dropped	Dropped	Dropped
	$MTVFN_i$	$MTOPP_i$	1.0429** [0.5132]	2.4200 [2.8362]	11.3833 [10.1059]	16.6497* [9.4052]
		$MTNEC_i$	Omitted	0.9893 [2.1230]	10.0061 [10.0605]	-0.3707 [6.3860]

		$UKMTV_i$	Dropped	Dropped	Dropped	Dropped
	Constant		-1.0962 [3.1217]	25.1275* [13.1842]	0.3391 [7.1953]	-13.4178 [73.2569]
	$NMOWN_i$		0.7021 [0.7165]	1.8097* [1.0804]	1.4139* [0.8170]	7.8934 [7.5930]
	$TMSZE_i$		No data	Insufficient data	Insufficient data	Insufficient data
$\mathbf{v}FRATT_i$	$FRAGE_i$	$UP42M_i$	0.4875 [0.4936]	1.3995 [1.6354]	4.6269 [4.5277]	16.4094 [12.8084]
		$OL42M_i$	0.2383 [0.9255]	0.1254 [0.7379]	-5.3238 [4.0678]	-7.8738 [5.7028]
		$UKFRA_i$	Dropped	Dropped	Dropped	Dropped
	Constant		0.4256 [0.6951]	-0.9399 [1.6062]	-0.5311 [1.4599]	-7.3613 [10.5192]
	$MKEXP_i$	$NOMKX_i$	0.0396 [0.5490]	1.3240* [0.7928]	Omitted	-24.4649 [27.0576]
		$SMXNT_i$	Omitted	2.1354** [1.0440]	-4.5778 [6.1805]	Omitted
		$SMXWT_i$	0.6983 [0.6415]	5.0124* [2.9624]	-6.5381 [7.2986]	-10.1331 [27.8616]
		$PFMKX_i$	10.5504** [4.6768]	Omitted	-5.8600 [5.2585]	-20.5405 [20.2481]
		$UKMXP_i$	Dropped	Dropped	Dropped	Dropped
$\mathbf{v}ESMEX_i$	$TECHN_i$	$LOTEC_i$	1.2721*** [0.4003]	1.0432 [1.4778]	Omitted	Omitted
		$MDTEC_i$	Omitted	Omitted	Omitted	Omitted
		$HITEC_i$	14.3491*** [3.9599]	Omitted	Omitted	-46.8359 [32.4848]
		$UKTEC_i$	Dropped	Dropped	Dropped	Dropped
	$COMPT_i$	$MNYBC_i$	-0.2787 [0.4768]	-2.2837 [2.8131]	7.8039 [5.7477]	-39.8575 [26.5487]
		$FEWBC_i$	0.2287 [0.5383]	-0.8901 [2.2090]	1.9389** [0.9313]	-43.0527 [30.0899]
		$NONBC_i$	1.9785 [1.4558]	1.4946 [3.3314]	5.6493 [3.5758]	-41.5862 [31.2442]
		$UKCOM_i$	Dropped	Dropped	Dropped	Dropped

	Constant		0.1310 [0.5439]	-0.3240 [0.7928]	4.1564 [4.2859]	56.9690 [40.9250]
v*ESEPN*$_i$	*INTOR*$_i$	*>=76P*$_i$	7.3043*** [0.4756]	-1.4103 [0.9390]	Omitted	3.9500*** [0.0495]
		2675P$_i$	3.5043 [3.4485]	-1.5657* [0.9444]	3.2000*** [0.7232]	0.4500 [0.4425]
		0125P$_i$	-0.2839 [0.9817]	9.8915 [9.0421]	-2.2189 [1.9238]	0.4237 [0.2704]
		ZEROP$_i$	-0.0454 [0.6418]	-1.1894 [0.9106]	-0.1644 [0.7493]	58.3123 [40.9728]
		UKINT$_i$	Dropped	Dropped	Dropped	Dropped
	EXPOR$_i$	*MO90P*$_i$	Omitted	1.5594* [0.8089]	Omitted	54.0000*** [0.0000]
		7690P$_i$	Omitted	2.1261 [1.7322]	Omitted	-3.0000*** [0.0000]
		5175P$_i$	3.800 [5.6898]	1.3345 [1.0936]	896.0000*** [0.0000]	141.0000 [119.8003]
		2650P$_i$	29.8000*** [3.4155]	2.4530* [1.3384]	Omitted	2.7222** [1.1213]
		1125P$_i$	0.7882 [1.3241]	-11.0758 [9.0068]	4.5617** [2.2979]	10.8597 [9.0359]
		LE10P$_i$	0.8282 [1.1338]	-8.5758 [9.0332]	6.1756** [2.4603]	4.1559*** [1.3416]
		ZERPR$_i$	-0.3845 [0.4991]	1.5346** [0.5636]	1.6178*** [0.5220]	-55.9374 [40.9742]
		UKEXP$_i$	Dropped	Dropped	Dropped	Dropped
	Constant		1.6957 [0.4756]	1.6842* [0.8995]	0.8000 [0.7232]	.0500 [0.0495]

Note: *Dropped* means category was intentionally excluded to avoid dummy variable trap (Gujarati & Porter, 2009). *Omitted* means category was excluded during the regression process due to perfect multicollinearity because of the number of observations within and in-between categories.

[ ] robust standard error; * significant at 10%, ** significant at 5%, *** significant at 1%

Table 6. *Regression details*

Year	Particulars	v$FOCHR_i$	v$FRATT_i$	v$ESMEX_i$	v$ESEPN_i$
2006	GMM failed in estimating the full model because the initial weight matrix is not positive definite	Estimated using OLS because initial weight matrix is not positive definite	Estimated using GMM	Estimated using OLS because initial weight matrix is not positive definite	Estimated using OLS because initial weight matrix is not positive definite
	Number of observations	426	426	426	426
	Prob > F	.	-	0.0000	.
	R-squared	0.0203	-	0.0836	0.1256
	Root MSE	5.1547	-	4.9853	4.8757
	GMM weight matrix	-	Robust	-	-
2013	GMM failed in estimating the full model because the initial weight matrix is not positive definite	Estimated using OLS because initial weight matrix is not positive definite	Estimated using GMM	Estimated using OLS because initial weight matrix is not positive definite	Estimated using GMM
	Number of observations	474	474	474	474
	Prob > F	.	-	.	-
	R-squared	0.0404	-	0.0137	-
	Root MSE	14.973	-	15.066	-
	GMM weight matrix	-	Robust	-	Robust
2014	GMM failed in estimating the full model because the initial weight matrix is not positive definite	Estimated using OLS because iterations are non-convergent due to non-concavity	Estimated using GMM	Estimated using OLS because initial weight matrix is not positive definite	Estimated using OLS because initial weight matrix is not positive definite
	Number of observations	382	382	382	382
	Prob > F	.	-	0.0087	.
	R-squared	0.0127	-	0.0095	0.9847
	Root MSE	46.963	-	46.473	5.791
	GMM weight matrix	-	Robust	-	-
2015	GMM failed in estimating the full model because the initial weight matrix is not positive definite	Estimated using OLS because initial weight matrix is not positive definite	Estimated using GMM	Estimated using OLS because initial weight matrix is not positive definite	Estimated using OLS because iterations are non-convergent due to non-concavity
	Number of observations	394	394	394	394
	Prob > F	0.9754	-	.	.
	R-squared	0.0081	-	0.0187	0.0299
	Root MSE	146.75	-	144.63	144.55
	GMM weight matrix	-	Robust	-	-

On Moderation and Mediation

To investigate whether founder characteristics moderate entrepreneurial strategies, we generated an interaction effect between them. This measures moderation effect. We then estimated the model inclusive of the interaction effect. If the interaction effect is statistically insignificant, then moderation is not supported.[9] We also did the same for entrepreneurial strategies and firm attributes. Meanwhile, to investigate whether entrepreneurial strategies mediate founder characteristics and firm attributes, we implemented the methodology of Baron and Kenny (1986).[10]

However, because of the number of interaction effects that have to be generated given the categories captured by GEM APS, we would digress from the parsimony[11] principle of multiple linear regression (Gujarati & Porter, 2009). Hence, we choose $AGEFN_i$ (i.e., discrete) to represent founder characteristics, *NMOWNi* to represent firm attributes, $SMXWT_i$ to represent entrepreneurial strategies (market expansion), and $5175P_i$ to represent entrepreneurial strategies (external participation) as test variables to confirm moderation and mediation.

From Table 7, we found that the interaction effects of entrepreneurial strategies with founder characteristics and firm attributes are statistically significant. Hence, moderation is supported. That is, founder characteristics and firm attributes moderate entrepreneurial strategies in influencing entrepreneurial ventures while demonstrating consistency with our a priori expectations. However, from Table 8, we found that mediation is not supported. Therefore, the insignificance of founder characteristics and firm attributes in Table 5 is because it is a moderating variable to entrepreneurial strategies. Hence, from the developments in our results, we can modify Figure 3 into Figure 4.

[9] https://www.statisticssolutions.com/directory-of-statistical-analyses-general-moderator-variable/.
[10] http://web.pdx.edu/~newsomj/semclass/ho_mediation.pdf.
[11] Parsimonious data modeling states that if two models are deemed to sufficiently model a given dataset, the one that has fewer parameters will have better predictive ability given new data (Seasholtz & Kowalski, 1993).

Table 7

Moderation Results (Endogenous Variable: EVG_i)

Vector	Variables	2006	2013	2014	2015
$\mathbf{v}FOCHR_i$	$AGEFN_i$	0.1117	-0.9788	0.2355*	-2.2596
		[0.1447]	[0.8474]	[0.1265]	[4.9489]
	$AGEFN^2_i$	-0.0017	0.0123	-0.0031**	0.0162
		[0.0017]	[0.0102]	[0.0015]	[0.0506]
$\mathbf{v}FRATT_i$	$NMOWN_i$	0.8388	1.9512*	0.1338	3.4814
		[0.7487]	[1.1327]	[0.2517]	[3.0035]
$\mathbf{v}ESMEX_i$	$SMXWT_i$	-1.3672	-6.6582	-0.7135	-18.6986
		[2.0653]	[11.8831]	[1.2371]	[51.8953]
$\mathbf{v}ESEPN_i$	$5175P_i$	81.0104***	-5.1258	Omitted	-186.2630***
		[20.4867]	[3.8005]		[58.7588]
Interaction effects	$AGEFN_i * SMXWT_i$	0.0552*	0.3244	-0.0170	0.9268
		[0.0329]	[0.3790]	[0.0286]	[1.0616]
	$AGEFN_i * 5175P_i$	-1.5861***	0.1027	34.5423***	1.7837
		[0.4978]	[0.0977]	[0.0143]	[1.1075]
	$NMOWN_i * SMXWT_i$	-0.3857	-1.9132	0.8695**	-9.0067
		[0.9237]	[1.6111]	[0.4211]	[7.0668]
	$NMOWN_i * 5175P_i$	Omitted	1.3371	Omitted	61.1974***
			[1.0394]		[2.9028]
	Constant	-1.1176	16.2064	-2.3951	67.9291
		[2.8841]	[16.3104]	[2.1122]	[114.9646]
	Number of observations	426	474	382	394
	Prob > F	.	.	.	0.0000
	R-squared	0.0465	0.0726	0.9846	0.0401
	Root MSE	5.0852	14.64	5.8104	143.42

Note: *Omitted* means category was excluded during the regression process due to perfect multicollinearity because of the number of observations within and in-between categories.

[ ] robust standard error; * significant at 10%, ** significant at 5%, *** significant at 1%

The significance of the interaction effects indicates that moderation is supported.

Table 8

Mediation Results

Year	Steps by Baron and Kenny (1986)	(1)	(2)	(3)	(4)			Remarks
		Show that *X* (exogenous variable) is correlated with *Y* (endogenous variable)	Show that *X* is correlated with *M* (mediator variable)	Show that *Y* and *M* are correlated	Full mediation is supported if *X* is no longer significant when *M* is controlled.	Some form (partial) of mediation is supported if the effect of *M* remains significant after controlling for *X*.	Partial mediation is supported if both *X* and *M* significantly predict *Y*.	
	Regression process	Conduct a simple regression analysis with *X* predicting *Y*.	Conduct a simple regression analysis with *X* predicting *M*.	Conduct a simple regression analysis with *M* predicting *Y*.	Conduct a multiple regression analysis with *X* and M predicting *Y*.			
2006	*Y*: $EJG5Y_i$ *X*: $AGEFN_i$, $AGEFN^2_i$ *M*: $SMXWT_i$	0.0849 [0.1469] -0.0013 [0.0018]	0.0064*** [0.0020] -0.0001*** [0.0000]	0.4371 [0.5777]	0.0776 [0.1620] -0.0012 [0.0019] 0.4268 [0.5777]	-	-	Mediation is not supported because (1) and (3) are not satisfied.
	Y: $EJG5Y_i$ *X*: $NMOWN_i$ *M*: $SMXWT_i$	0.7260 [0.6816]	-0.0256 [0.0179]	0.4371 [0.5777]	0.7393 [0.6826] 0.5184 [0.5773]	-	-	Mediation is not supported because (1), (2), and (3) are not satisfied.
	Y: $EJG5Y_i$ *X*: $AGEFN_i$, $AGEFN^2_i$ *M*: $5175P_i$	0.0849 [0.1469] -0.0013 [0.0018]	0.0006* [0.0003] -0.0000 [0.0000]	7.3073 [4.5143]	0.0624 [0.1608] -0.0010 [0.0019] 7.3692 [4.4819]	-	-	Mediation is not supported because (1) and (3) are not satisfied.
	Y: $EJG5Y_i$ *X*: $NMOWN_i$ *M*: $5175P_i$	0.7260 [0.6816]	-0.0034 [0.0021]	7.3073 [4.5143]	-	0.7520 [0.6788] 7.5651* [4.5243]	-	Mediation is not supported because (1), (2), and (3) are not satisfied.
2013	*Y*: $EJG5Y_i$ *X*: $AGEFN_i$, $AGEFN^2_i$ *M*: $SMXWT_i$	-0.9783** [0.3830] 0.0132*** [0.0046]	0.0032 [0.0022] -0.0000 [0.0000]	2.7874 [2.2973]	-0.9585 [0.6642] 0.0130 [0.0093]	-	-	Mediation is not supported because (2) and (3) are not satisfied.

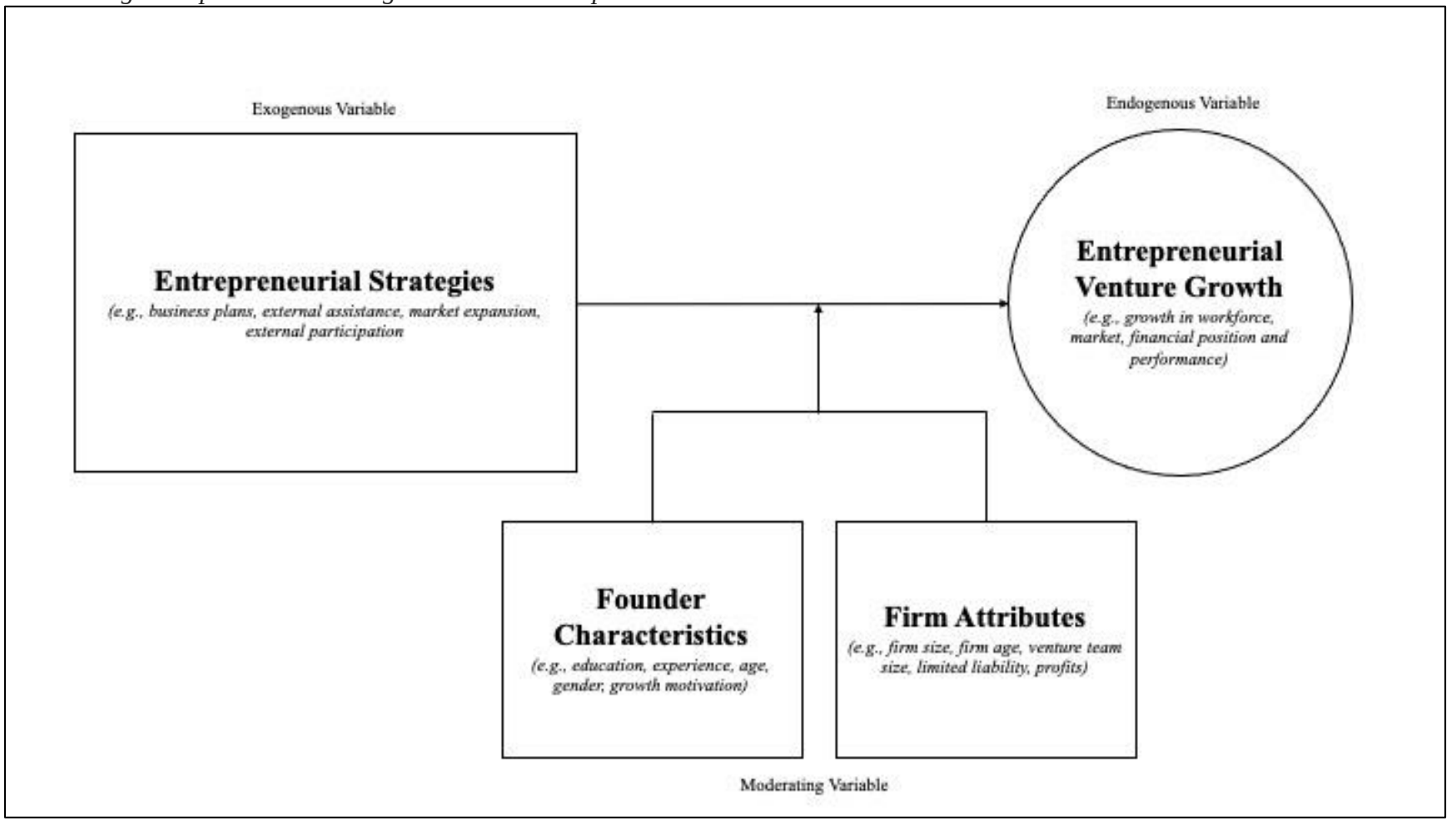
					2.9187 [2.3820]			
	Y: $EJG5Y_i$ *X*: $NMOWN_i$ *M*: $SMXWT_i$	1.8122* [1.0921]	-0.0234*** [0.0090]	2.7874 [2.2973]	1.8855* [1.0846] 3.1294 [2.2590]	-	-	Mediation is not supported because (3) is not satisfied.
	Y: $EJG5Y_i$ *X*: $AGEFN_i$, $AGEFN^2_i$ *M*: $5175P_i$	-0.9783** [0.3830] 0.0132*** [0.0046]	0.0008 [0.0007] -0.0000 [0.0000]	-0.8584 [1.3467]	-0.9799 [0.6824] 0.0132 [0.0095] -0.7061 [1.3158]	-	-	Mediation is not supported because (2) and (3) are not satisfied.
	Y: $EJG5Y_i$ *X*: $NMOWN_i$ *M*: $5175P_i$	1.8122* [1.0921]	-0.0013 [0.0038]	-0.8584 [1.3467]	1.8114* [1.0933] -0.6358 [0.8695]	-	-	Mediation is not supported because (2) and (3) are not satisfied.
2014	*Y*: $EJG5Y_i$ *X*: $AGEFN_i$, $AGEFN^2_i$ *M*: $SMXWT_i$	-0.3339 [1.2560] 0.0014 [0.0155]	0.0031 [0.0026] -0.0000 [0.0000]	-3.4634 [3.6935]	-0.3789 [0.6074] 0.0018 [0.0051] -4.0193 [4.2290]	-	-	Mediation is not supported because (1), (2), and (3) are not satisfied.
	Y: $EJG5Y_i$ *X*: $NMOWN_i$ *M*: $SMXWT_i$	1.1466* [0.6102]	0.0264 [0.0180]	-3.4634 [3.6935]	1.2449* [0.7014] -3.7209 [3.8194]	-	-	Mediation is not supported because (2) and (3) are not satisfied.
	Y: $EJG5Y_i$ *X*: $AGEFN_i$, $AGEFN^2_i$ *M*: $5175P_i$	-0.3339 [1.2560] 0.0014 [0.0155]	0.0002 [0.0002] -0.0000 [0.0000]	898.1207*** [0.3016]	-	-	0.1980 [0.1317] -0.0027* [0.0015] 897.9664*** [0.2827]	Mediation is not supported because (1) and (2) are not satisfied.
	Y: $EJG5Y_i$ *X*: $NMOWN_i$ *M*: $5175P_i$	1.1466* [0.6102]	0.0006 [0.0006]	898.1207*** [0.3016]	-	-	0.6254** [0.2496] 897.8712*** [0.3052]	Mediation is not supported because (3) is not satisfied.

2015	Y: $EJG5Y_i$ X: $AGEFN_i$, $AGEFN^2_i$ M: $SMXWT_i$	-0.7943 [4.221238] 0.0040 [0.0513]	0.0086*** [0.0026] -0.0001*** [0.0000]	2.2328 [15.9522]	-0.8088 [4.2258] 0.0042 [0.0461] 1.3406 [15.9899]	-	-	Mediation is not supported because (1) and (3) are not satisfied.
	Y: $EJG5Y_i$ X: $NMOWN_i$ M: $SMXWT_i$	8.5878 [7.5952]	0.0097 [0.0202]	2.2328 [15.9522]	8.5711 [7.6841] 1.7073 [16.1885]	-	-	Mediation is not supported because (1), (2), and (3) are not satisfied.
	Y: $EJG5Y_i$ X: $AGEFN_i$, $AGEFN^2_i$ M: $5175P_i$	-0.7943 [4.221238] 0.0040 [0.0513]	-0.0007 [0.0007] -0.0000 [0.0000]	128.9641 [118.4832]	-0.0129 [4.4961] -0.0066 [0.0502] 134.1085 [120.1021]	-	-	Mediation is not supported because (1), (2), and (3) are not satisfied.
	Y: $EJG5Y_i$ X: $NMOWN_i$ M: $5175P_i$	8.5878 [7.5952]	0.0153 [0.0133]	128.9641 [118.4832]	6.8508 [5.2824] 113.6202 [99.6722]	-	-	Mediation is not supported because (1), (2), and (3) are not satisfied.

All regression analysis were done using OLS with robust standard errors.
[ ] robust standard error; * significant at 10%, ** significant at 5%, *** significant at 1%

Figure 4

Moderating Entrepreneurial Strategies Towards Entrepreneurial Venture Growth



Source: Constructed by the authors

Therefore, given our empirical results, we have established that external participation is both a necessary and sufficient condition for entrepreneurial venture growth. Moreover, entrepreneurial strategies are moderated by founder characteristics and firm attributes. Both are necessary for an entrepreneur to create strategic moves to achieve internationalization.

Conclusions and Recommendations

Entrepreneurial venture growth requires the capacity to produce products that are acceptable to the market; and the level of support given to enterprises to help them produce, innovate, and gain market access. The need to pursue entrepreneurial venture growth for MSMEs in the Philippines, given the risks brought about by a VUCAD-world, motivated us to conduct this study and pose our research problem on how founder characteristics, firm attributes, and entrepreneurial strategies impact entrepreneurial venture growth. In addressing our research problem, we were guided by three objectives.

In addressing our first research objective of developing a framework that will capture determinants of entrepreneurial venture growth, we conducted a literature review to understand what scholarly literature is explicating about driving entrepreneurial venture growth. We found various factors, both internal and external, to the firm. These factors can then be reclassified into founder characteristics, firm attributes, and entrepreneurial strategies. Meanwhile, entrepreneurial strategies can be further classified into market expansion and external participation. These findings, fundamentally guided by Storey (1994) and Shah et al. (2013), served as the basis of our conceptual and empirical framework.

Hence, from our framework, we addressed our second research objective of estimating the impact of founder characteristics, firm attributes, and entrepreneurial strategies on entrepreneurial

venture growth. In operationalizing our conceptual framework, we subjected various survey periods of the GEM APS for the Philippines to OLS and GMM to probe the impact of these selected critical drivers on entrepreneurial venture growth. We found GEM APS as the appropriate dataset because it contains the necessary variables that can represent the constructs indicated by scholarly literature.

Regression results have revealed that founder characteristics (i.e., education, occupation, age, gender, motivation) and firm attributes (i.e., number of owners, firm age) are either statistically insignificant but intuitive or statistically significant but counterintuitive. Thus, we conclude that these variables are inadequate predictors of entrepreneurial venture growth. Moreover, we also construed that they are just necessary variables that explain entrepreneurial venture growth but not sufficient. This is because these factors do not have a direct impact on entrepreneurial venture growth but have a moderating effect on entrepreneurial strategies.

Furthermore, from our regression results, we found that entrepreneurial strategies (market expansion) are positively and statistically significant in driving entrepreneurial venture growth. This result highlights the critical importance of continuously innovating, finding new markets, adapting new technologies, and engaging in an appropriate degree of competition. Likewise, entrepreneurial strategies (external participation) are positively and highly statistically significant in influencing entrepreneurial venture growth. This result also emphasizes that international orientation and export orientation are the way to go for businesses. However, this is conditional on the technical and productive capabilities of the business and its owners as well as gaining access to global value chains. It is also important to note that external participation is more powerful in explaining entrepreneurial venture growth than market expansion. These findings made prominent that entrepreneurial strategies are both necessary and sufficient conditions in driving

entrepreneurial venture growth. Correspondingly, entrepreneurial strategies are moderated by founder characteristics and firm attributes, which are means for an enterprise to craft better strategies towards expansion and internationalization.

These results have policy implications. Hence, in addressing our third research objective, we provide policy recommendations for both entrepreneurs and government that can build on the external participation of Philippine MSMEs.

For Entrepreneurs

First, we found from our results that few competitions have a more robust impact on entrepreneurial venture growth. Hence, entrepreneurs should find new markets where competition is not yet stiff. That is, implement more of a blue ocean strategy where Philippine MSMEs target the right market where early mover advantages can be established. Second, they should harness economies of scale and scope in production. For instance, entrepreneurs should invest in property, plant, and equipment that can be useful for a variety of products and product lines. Third, entrepreneurs may consider a value chain approach to external participation. For instance, if direct exporting is too gargantuan for MSMEs, indirect exporting, outsourcing, or subcontracting can be an alternative where entrepreneurs provide inputs in the form of raw materials and work-in-progress to other larger domestic businesses who have exporting capabilities and who have access to the global value chain. Ultimately, because education is a moderating variable, entrepreneurs should continue retooling themselves with newer and better ways of doing business. Although higher levels of education (i.e., at least a college degree) are not required for a business venture, it can provide technical, conceptual, soft skills, and other specialized skills that can help start, manage, and sustain a business. Likewise, entrepreneurs should also take advantage of available

government-sponsored programs, including entrepreneurial training or in-aid programs, that support entrepreneurship.

For Government

First, it is important to be cognizant not only of the fact that MSMEs comprise 99% of the total establishments in the Philippines but also of its implications. These MSMEs are fragmented from across diverse sectors, industries, and markets. Hence, they face distinct challenges that require distinct approaches as well. Enterprise policies should not be from a macro perspective. Second, the scale and scope of MSMEs in the country warrant the need for the collection, management, and maintenance of timely MSME data, particularly on their sentiments on business and economic policies, perceptions on the external environment, coping mechanisms against diversifiable and non-diversifiable risks, and as highlighted by our results, international participation (e.g., export participation, access to global value chains). These data would be useful in crafting effective policies that take into account peculiarities among MSMEs. As Francisco et al. (2018) emphasized, there is a need to "monitor progress through statistics" (p. 28). Concurrently, building on the recommendations of Francisco et al. (2018), the government may also enhance, simplify, integrate, and streamline its processes to make the conduct of business much easier with the introduction of technology, shift to automation, reduction of trade fair participation costs, and reduction of red tape, among others.

Moreover, echoing the recommendation of Rivera (2019), other than encouraging MSMEs to access credit through longer repayment terms and preferential interest rates, the government can also facilitate greater access to finance not only by amplifying "policy and regulatory activities to cover newfangled areas such as crowd funding, asset-based financing, block chain technology, seed and early stage finance, and SME cluster financing" (p. 38). A holistic policy framework that

caters to various financing needs of MSMEs is critical to entrepreneurial venture growth. Of equal importance, the government may also provide incentives, through tax cuts or holidays, subsidies, and policy attention that will assist enterprises to produce higher-value products that can participate in the international market. This can also be complemented by government assistance towards establishing forward and backward linkages with larger enterprises that are already linked with the global value chain. Finally, because we have superimposed that education is a moderating variable, the government can also intervene by constantly providing training and mentoring programs that entrepreneurs can seamlessly avail. This is technically strengthening and interconnecting both local and global value chains.

Governments do have a critical role in reducing constraints faced by entrepreneurs who intend to globalize their activities, particularly those whose business ventures have high growth and export potential. These enterprises can develop and exploit niche markets, expand their businesses abroad, and put local products into the world market. According to the Organisation for Economic Co-operation and Development (2004), "governments need to ensure that regulatory, administrative and policy environments do not inhibit access to global markets" (p. 17–18), so it would benefit MSME trade and foreign direct investment (FDI) involvement.

In terms of future studies, to establish internal validity, researchers can continue this track by subjecting the GEM APS to alternative statistical treatments and methodologies. As most of the dataset variables are categorical in nature, qualitative response models (e.g., logit and probit) may be implemented albeit with a different model specification. We have used in this study job growth as a metric for an entrepreneurial venture. Future studies may explore alternative metrics for entrepreneurial venture growth, such as customers, revenue, liquidity, profits, geographic location, among others, as suggested by Marko (2010). Therefore, this will augment our

knowledge about the drivers of growth in most entrepreneurial ventures and, in the future, confidently explain growth patterns.

About the Authors

Brian C. Gozun was Dean of De La Salle University (DLSU) – Ramon V. Del Rosario College of Business (RVRCOB). He was a postdoctoral fellow at the Innova Institute, La Salle – Ramon Llull University in Barcelona, Spain. He held academic and administrative positions at the University of the Philippines (UP) Diliman – Virata School of Business, UP Diliman Extension Program (Clark, Pampanga), and the Holy Angel University – College of Business and Accountancy (Angeles City, Pampanga). He was involved in research and consultancy work for the Asian Development Bank Institute (Tokyo) and the World Bank Office (Manila) on the field of immigration, regional development, health, and education. He is also a member of the national team of the Global Entrepreneurship Monitor (GEM) in the Philippines. He obtained his Bachelor's degree in Business Management and Master's in Urban and Regional Planning from UP, Master's in Policy Analysis at the Graduate School of Policy Science, Saitama University (Japan); and Ph.D. in Social Systems Analysis at the National Graduate Institute for Policy Studies (Japan).

John Paolo R. Rivera is Adjunct Faculty at the Asian Institute of Management (AIM), Consultant at AIM Consulting, Inc., and Associate Director of the AIM – Dr. Andrew L. Tan Center for Tourism. He was Visiting Research Fellow at the Ritsumeikan Center for Asia Pacific Studies of the Ritsumeikan Asia Pacific University (Beppu, Japan). He was Consultant at the Philippine Center for Environmental Protection and Sustainable Development Inc. and the Economic Research Institute for ASEAN and East Asia (Jakarta, Indonesia). He was involved in projects related to tourism, sustainability, poverty, labor migration, international trade, and macroeconomic growth spearheaded by the Philippine Department of Tourism, ASEAN

Secretariat, Asian Development Bank, Asia-Pacific Economic Cooperation, Asia-Pacific Research and Training Network on Trade, East Asian Development Network, and World Bank. He was an Associate Professor at the De La Salle University – School of Economics. He obtained his Doctor of Philosophy in Economics, Master of Science in Economics, and Bachelor of Science in Applied Economics (*magna cum laude*) from De La Salle University.

Acknowledgement

This study was funded by the De La Salle University – Angelo King Institute for Economic and Business Studies (DLSU-AKI) under the *AKI Research Grants 2018-2019 – Research on Entrepreneurship and Family Studies* (Project Account Number 900-124). The authors would like to acknowledge the research assistance provided by Ms. Eylla Laire M. Gutierrez.

References

Aileron. (2017, June 19). Multiple owners? Tips to make better decisions. *Forbes.* https://www.forbes.com/sites/aileron/2017/06/19/multiple-owners-tips-to-make-better-decisions/?sh=4cba1824665f

Alom, F., Abdullah, M. A., Moten, A. R., & Azam, S. F. (2016). Success factors of overall improvement of microenterprises in Malaysia: An empirical study. *Journal of Global Entrepreneurship Research, 6*(7). https://doi.org/10.1186/s40497-016-0050-2

Almus, M., & Nerlinger, E. A. (1999). Growth of new technology-based firms: Which factors matter? *Small Business Economics, 13*, 141–154. https://doi.org/10.1023/A:1008138709724

Arruda, W. (2018, February 11). Why aspiring entrepreneurs should put their education first. *Forbes.* https://www.forbes.com/sites/williamarruda/2018/02/11/why-aspiring-entrepreneurs-should-put-their-education-first/?sh=7aa4cea3467c

Arthur, W. B. (1989). Competing technologies, increasing returns, and lock-in by historical events. *The Economic Journal, 99*(394), 116–131. https://doi.org/10.2307/2234208

Audia, P. G., & Rider, C. I. (2005). A garage and an idea: What more does an entrepreneur need? *California Management Review, 48*(1), 6–28. https://doi.org/10.2307%2F41166325

Ayegba, O., & Omale, S. A. (2016). A study on factors affecting entrepreneurial development in Nigeria. *European Journal of Business and Management, 8*(12), 43–51. https://core.ac.uk/download/pdf/234627228.pdf

Ball, R., & Foster, G. (1982). Corporate financial reporting: A methodological review of empirical research. *Journal of Accounting Research, 20*, 161–234. https://doi.org/10.2307/2674681.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182. https://doi.org/10.1037//0022-3514.51.6.1173

Baron, J., Burton, M., & Hannan, M. (1996). The road taken: Origins and evolution of employment systems in emerging companies. *Industrial and Corporate Change, 5*(2), 239–275. https://doi.org/10.1093/icc/5.2.239

Bates, T. (1990). Entrepreneur human capital inputs and small business longevity. *The Review of Economics and Statistics, 72*, 551–559. https://doi.org/10.2307/2109594

Battilana, J., & Lee, M. (2014). Advancing research on hybrid organizing – Insights from the study of social enterprises. *The Academy of Management Annals, 8*(1), 397–441. https://doi.org/10.1080/19416520.2014.893615

Baum, C. F., Schaffer, M. E., & Stillman, S. (2003). Instrumental variables and GMM: Estimation and testing. *The Stata Journal: Promoting Communications on Statistics and Stata, 3*(1), 1–31. https://doi.org/10.1177%2F1536867X0300300101

Bechetti, L., & Trovato, G. (2002). The determinants of growth for small and medium sized firms. *Small Business Economics, 19*, 291–306. https://www.jstor.org/stable/40229240

Beckman, C. M., & Burton, M. D. (2008). Founding the future: Path dependence in the evolution of top management teams from founding to IPO. *Organization Science, 19*(1), 3–24. https://doi.org/10.1287/orsc.1070.0311

Bhide, A. V. (1994). How entrepreneurs craft strategies at work. *Harvard Business Review, 72*(2), 150–161. https://hbr.org/1994/03/how-entrepreneurs-craft-strategies-that-work

Birley, S., & Westhead, P. (1994). A taxonomy of business start-up reasons and their impact on firm growth and size. *Journal of Business Venturing, 9*(1), 7–31. https://doi.org/10.1016/0883-9026(94)90024-8

Bischoff, K. (2019). A study on the perceived strength of sustainable entrepreneurial ecosystems on the dimensions of stakeholder theory and culture. *Small Business Economics.* https://doi.org/10.1007/s11187-019-00257-3

Blau, P. M., Heydebrand, W. V., & Stauffer, R. E. (1966). The structure of small bureaucracies. *American Sociological Review, 31*(2), 179–191. https://doi.org/10.2307/2090903

Boeker, W., & Karichalil, R. (2002). Entrepreneurial transitions: Factors influencing founder departure. *Academy of Management Journal, 45*(4), 818–826. https://doi.org/10.2307/3069314

Bolido, L. B. (2020, January 17). Small businesses, big economic impact. *Philippine Daily Inquirer*. https://business.inquirer.net/287195/small-businesses-big-economic-impact

Brock, W. A., & Evans, D. S. (1986). *The economics of small businesses: Their role and regulation in the US economy.* Holmes and Meier.

Cabral, L., & Mata, J. (2003). On the evolution of firm size distribution: Facts and theory. *The American Economic Review, 93*(4), 1075--1095. https://www.jstor.org/stable/3132279

Calvo, J. L. (2006). Testing Gibrat's law for small, young and innovating firms. *Small Business Economics, 26*(2), 117–123. https://doi.org/10.1007/s11187-004-2135-5/

Carlos, A. (2020, May 2). Filipino MSMEs weather the COVID storm. *The Manila Times.* https://www.manilatimes.net/2020/05/02/business/columnists-business/filipino-msmes-weather-the-covid-storm/721615/

Castrillon, C. (2019, February 4). Why more women are turning to entrepreneurship. *Forbes.* https://www.forbes.com/sites/carolinecastrillon/2019/02/04/why-more-women-are-turning-to-entrepreneurship/?sh=488a284b542a

Chamanski, A., & Waagø, S. J. (2001). Organizational performance of technology-based firms – The role of technology and business strategies. *Enterprise and Innovation Management Studies, 2*(3), 205–223. https://doi.org/10.1080/14632440110105062

Chandler, A. D. (1990). *Scale and scope: The dynamics of industrial capitalism.* Harvard University Press. https://www.hup.harvard.edu/catalog.php?isbn=9780674789951

Constable, K. (2018, April 30). Serious entrepreneurs have 2 goals: Passive income and multiple revenue streams. *Entrepreneur*. https://www.entrepreneur.com/article/312611

Cooney, T. M. (2012). *Entrepreneurship skills for growth-oriented businesses*. Report for the Workshop on Skills Development for SMEs and Entrepreneurship. Organisation for Economic Co-operation and Development (OECD). https://www.oecd.org/cfe/leed/cooney_entrepreneurship_skills_HGF.pdf

Davidsson, P. (1989). Entrepreneurship – And after? A study of growth willingness in small firms. *Journal of Business Venturing, 4*(3), 211–226. https://doi.org/10.1016/0883-9026(89)90022-0

Davidsson, P., Achtenhagen, L., & Naldi, L. (2006). What do we know about small firm growth? In S. C. Parker (Ed.), *The life cycle of entrepreneurial ventures* (pp. 361–398). Springer. https://doi.org/10.1007/978-0-387-32313-8_13

De Franzo, S. E. (n.d.). The benefits of cross tabulation in survey analysis. *Snap Surveys.* https://www.snapsurveys.com/blog/benefits-cross-tabulations-survey-analysis/

de Vera, I. J. M. (2012). An assessment of micro, small and medium enterprises that underwent UP ISSI's integrated plant surveys for the period 2006 to 2011. *Procedia Economics and Finance, 4*, 350–364. https://doi.org/10.1016/S2212-5671(12)00349-8

Dencker, J. C., Gruber, M., & Shah, S. K. (2009). Pre-entry knowledge, learning, and the survival of new firms. *Organization Science, 20*(3), 516–537. https://www.jstor.org/stable/25614672

Department of Trade and Industry. (2020). *2019 MSME statistics.* https://www.dti.gov.ph/resources/msme-statistics/

DeSantola, A., & Gulati, R. (2017). Scaling: Organizing and growth in entrepreneurial ventures. *Academy of Management Annals, 11*(2), 640–668. https://doi.org/10.5465/annals.2015.0125

Drucker, P. F. (1984, January). Our entrepreneurial economy. *Harvard Business Review.* https://hbr.org/1984/01/our-entrepreneurial-economy

Eesley, C. E., Hsu, D. H., & Roberts, E. B. (2014). The contingent effects of top management teams on venture performance: Aligning founding team composition with innovation strategy and commercialization environment. *Strategic Management Journal, 35*(12), 1798–1817. https://doi.org/10.1002/smj.2183

Eisenmann, T. R., & Wagonfeld, A. B. (2012). *Scaling a startup: People and organizational issues* (Case Study). Harvard Business School. https://store.hbr.org/product/scaling-a-startup-people-and-organizational-issues/812100?sku=812100-PDF-ENG

Eisenhardt, K., & Schoonhoven, K. (1990). Organizational growth: Linking founding team, strategy, environment, and growth among U.S. semiconductor ventures, 1978-1988. *Administrative Science Quarterly, 35*(3), 504–529. https://doi.org/10.2307/2393315

Evangelista, R. P. G. (2013, November 15). *Entrepreneurship in the Philippines: Opportunities and challenges for inclusive growth.* Center for International Private Enterprise. https://www.cipe.org/resources/entrepreneurship-philippines-opportunities-challenges-inclusive-growth/

Evans, D. S. (1987). The relationship between firm growth, size and age: Estimates for 100 manufacturing industries. *The Journal of Industrial Economics, 35*(4), 567–581. https://doi.org/10.2307/2098588

Fong, B. W. (2018, May 18). Realizing the full growth potential of SMEs in PH. *Philippine Daily Inquirer*. https://business.inquirer.net/251036/realizing-full-growth-potential-smes-ph

Francisco, J. P., Canare, T., & Labios, J. R. (2018, July). *Obstacles and enablers of internationalization of Philippine SMEs through participation in global value chains* (PIDS Discussion Paper Series No. 2018-07). Philippine Institute for Development Studies. https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps1807.pdf

Gaerlan, C. S. (2015, June). *The difference between Manila and Metro Manila.* https://www.expatch.org/2015/06/15/the-difference-between-manila-and-metro-manila/

Galbraith, J. R. (1973). *Designing complex organizations*. Addison-Wesley.

Gaskell, A. (2019, December 11). Are older entrepreneurs the best entrepreneurs? *Forbes.* https://www.forbes.com/sites/adigaskell/2019/12/11/are-older-entrepreneurs-the-best-entrepreneurs/?sh=45ce431a5f60

Gilbert, B. A., McDougall, P. P., & Audretsch, D. B. (2006). New venture growth: A review and extension. *Journal of Management, 32*(6), 926–950. https://doi.org/10.1177%2F0149206306293860

Gozun, B. C., & Rivera, J. P. R. (2016). Characterizing the Filipino entrepreneurial propensity using the Global Entrepreneurship Monitor data. *International Journal of Small and Medium Enterprises and Business Sustainability*, *2*(1), 23–49. http://www.usakti-cisbucs.com/index.php/archives/volume-02/v02n01nov2016/66-characterizing-the-filipino-entrepreneurial-propensity-using-the-global-entrepreneurship-monitor-data.

Gozun, B. C., & Rivera, J. P. R. (2017). Role of education in encouraging youth employment and entrepreneurship. *DLSU Business & Economics Review, 27*(1), 72–88. https://www.dlsu.edu.ph/wp-content/uploads/2019/03/4gozun-072617.pdf

Greene, W. H. (2003). *Econometric analysis* (5th ed.). Prentice Hall.

Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed.). McGraw-Hill Companies, Inc.

Hamilton, B. H. (2000). Does entrepreneurship pay? An empirical analysis of the returns to self-employment. *Journal of Political Economy, 108*(3), 604–631. https://doi.org/10.1086/262131

Hansen, L. P. (1982). Large sample properties of generalized method of moments estimators. *Econometrica, 50*(4), 1029–1054. https://doi.org/10.2307/1912775

Hayes, A. F. (2013) *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* Guilford Press.

Johnson, V. (2007). What is organizational imprinting? Cultural entrepreneurship in the founding of the Paris Opera. *American Journal of Sociology*, *113*(1), 97–127. https://doi.org/10.1086/517899

Jovanovic, E. (1982). Selection and the evolution of industry. *Econometrica, 50*(3), 649–670. https://doi.org/10.2307/1912606

Juneja, P. (n.d.). Why entrepreneurs must be opportunists and be in control over their future. *Management Study Guide.* https://www.managementstudyguide.com/entrepreneurs-must-be-opportunists-and-in-control-of-their-future.htm

Kantis, H., Ishida, M., & Komori, M. (2002). *Entrepreneurship in emerging economies: The creation and development of new firms in Latin America and East Asia.* Inter-American Development Bank. https://publications.iadb.org/publications/english/document/Entrepreneurship-in-Emerging-Economies-The-Creation-and-Development-of-New-Firms-in-Latin-America-and-East-Asia.pdf

Kennedy, P. (1976). Cultural factors affecting entrepreneurship and development in the informal economy in Ghana. *The IDS Bulletin, 8(*2), 17-21. https://doi.org/10.1111/j.1759-5436.1976.mp8002005.x.

Kimberly, J. R., & Miles, R. H. (1980). *The organizational life cycle: Issues in the creation, transformation, and decline of organizations*. Jossey-Bass.

Kirzner, I. M. (1973). *Competition and entrepreneurship*. University of Chicago Press.

Knight, F. (1921). *Risk, uncertainty, and profit*. Hart, Schaffner and Marx.

Koeller, C. T., & Lechler, T. G. (2006). Employment growth in high-tech new firms. *Journal of Labor Research, 27*(2), 135–147. https://www.jstor.org/stable/23286114

Korunka, C., Kessler, A., Frank, H., & Lueger, M. (2011). Conditions for growth in one-person startups: A longitudinal study spanning eight years. *Psicothema*, *23*(3), 446–452. http://www.psicothema.com/PDF/3908.pdf

Kritikos, A. S. (2014, May). *Entrepreneurs and their impact on jobs and economic growth.* IZA World of Labor. http://dx.doi.org/10.15185/izawol.8

Kumaran, K. (2018, August 13). Why technology is important to entrepreneurs today. *Entrepreneur*. https://www.entrepreneur.com/article/318362

Lavinsky, D. (2014, April 11). Famous entrepreneurs: Who they are and how they were educated? *Forbes.* https://www.forbes.com/sites/davelavinsky/2014/04/11/famous-entrepreneurs-who-they-are-and-how-they-were-educated/?sh=7a1f2553444e

Lind, D. A., Marchal, W. G., & Wathen, S. A. (2006). *Basic statistics for business & economics* (5th ed.). McGraw-Hill Education.

Lotti, F., Santarelli, E., & Vivarelli, M. (2003). Does Gibrat's law hold among young small firms*? Journal of Evolutionary Economics, 13*, 213–235. https://doi.org/10.1007/s00191-003-0153-0

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, *21*(1), 135–172. https://doi.org/10.2307/258632

Mahoney, J. (2000). Path dependence in historical sociology. *Theory and Society*, *29*(4), 507–548. https://www.jstor.org/stable/3108585

Manir, H. (2017, August 11). What should be entrepreneurs' right strategy for their venture growth? *Entrepreneur*. https://www.entrepreneur.com/article/298607

Marko, T. (2010, June). Entrepreneurial growth: An entrepreneur's choice. *Technology Innovation Management Review*. https://timreview.ca/article/357

Martin, R.E. (1988). Franchising and risk management. *American Economic Review, 78*, 954-968. https://www.jstor.org/stable/1807159.

Michael, S. C. (1996). To franchise or not to franchise: An analysis of decision rights and organizational form shares. *Journal of Business Venturing, 11*, 59–71. https://doi.org/10.1016/0883-9026(95)00088-7

Mintzberg, H. (1987). The strategy concept I: Five Ps for strategy. *California Management Review, 30*(1), 11–24. https://doi.org/10.2307%2F41165263

Moscoso, D. (2017, February 13). Is social capital the secret ingredient for entrepreneurial success. *Economonitor*. https://www.thestreet.com/economonitor/emerging-markets/is-social-capital-the-secret-ingredient-for-entrepreneurial-success

Nichter, S., & Goldmark, L. (2005). *Understanding micro and small enterprise growth.* Accelerated Microenterprise Advancement Project, USAID.

Organisation for Economic Co-operation and Development. (2004). *Facilitating SMEs access to international markets*. Paper presented at the 2nd OECD Conference of Ministers Responsible for Small and Medium-Sized Enterprises (SMEs) held in Istanbul, Turkey on June 3–5, 2004. http://www.oecd.org/industry/smes/31919223.pdf

Pajarinen, M., Rouvinen, P., Ylä-Anttila, P. (2006). *Uusyrittä jien kasvuhakuisuus, KTM julkaisuja* [Growth drivers of new entrepreneurs, M.Sc. Publications]. Ministry of Employment and the Economy. https://www.etla.fi/julkaisut/dp1052-fi/

Papadaki, E., Chami, B., & Branch, S. B. P. (2002). *Growth determinants of micro-businesses in Canada*. Small Business Policy Branch, Industry Canada. https://www.ic.gc.ca/eic/site/061.nsf/vwapj/growth_determinants.pdf/$FILE/growth_determinants.pdf

Parker, S. C. (2009). *The economics of entrepreneurship.* Cambridge University Press. https://doi.org/10.1017/CBO9780511817441

Rafael, F. V., Rafael, L. E., Villaruz, G. B., & Cuyugan, V. P. (2020). Business process reengineering in a volatility, uncertainty, complexity, ambiguity, and disruptive (VUCAD) landscape. *International Journal of Recent Technology and Engineering, 8*(5), 5376–5381. https://www.ijrte.org/wp-content/uploads/papers/v8i5/E4561018520.pdf

Rivera, J. P. R. (2019). Greater access to finance as driving factor for sustainable development among tourism-related SMEs in the Philippines: An empirical framework. *Ritsumeikan Journal of Asia Pacific Studies*, *37*, 37–45. http://www.apu.ac.jp/rcaps/uploads/fckeditor/publications/journal/3_RJAPS37_Rivera.pdf

Rivera, J. P. R., & Gozun, B. C. (2019). Estimating the effect of government programs on youth entrepreneurship in the Philippines. *DLSU Business & Economics Review, 28*(3), 112–120. https://www.dlsu.edu.ph/wp-content/uploads/2019/10/11-rivera-gozum-041519.pdf

Sanyang, S. E., & Huang, W. C. (2010). Entrepreneurship and economic development: The EMPRETEC showcase. *International Entrepreneurship and Management Journal*, *6*, 317–329. https://doi.org/10.1007/s11365-008-0106-z

Schumpeter, J. A. (1934). *The theory of economic development.* Harvard University Press.

Schutjens, V., & Wever, E. (2000). Determinants of new firm success. *Papers in Regional Science, 79*, 15–159. https://doi.org/10.1007/s101100050040

Seasholtz, M. B., & Kowalski, B. (1993). The parsimony principle applied to multivariate calibration. *Analytica Chimica Acta, 277*(2), 165–177. https://doi.org/10.1016/0003-2670(93)80430-S

Shah, S. F. H., Nazir, T., Zaman, K., & Shabir, M. (2013). Factors affecting the growth of

enterprises: A survey of the literature from the perspective of small- and medium-sized enterprises. *Journal of Enterprise Transformation, 3*(2), 53–75. https://doi.org/10.1080/19488289.2011.650282

Shane, S. (2003). *A general theory of entrepreneurship: The individual-opportunity nexus.* Edward Elgar. https://www.e-elgar.com/shop/gbp/a-general-theory-of-entrepreneurship-9781843769965.html

Shane, S. (2012, March 12). Entrepreneurs' job creation: Expectations versus reality. *Small Business Trends.* https://smallbiztrends.com/2012/03/entrepreneurs-job-creation-expectations-versus-reality.html

Siegel, R., Siegel, E., & Macmillan, I. C. (1993). Characteristics distinguishing high-growth ventures. *Journal of Business Venturing, 8*(2), 169–180. https://doi.org/10.1016/0883-9026(93)90018-Z

St. Pierre, R. (2017, May 26). How older entrepreneurs can turn age to their advantage. *Entrepreneur*. https://www.entrepreneur.com/article/294799

Stinchcombe, A. L. (2000). Social structure and organizations. In J. A. C. Baum & F. Dobbin (Eds.), *Economics meets sociology in strategic management* (Advances in strategic management, Vol. 17; pp. 229–259). Emerald Group Publishing Limited. https://doi.org/10.1016/S0742-3322(00)17019-6

Storey, D. J. (1994). *Understanding the small business sector.* Routledge. https://doi.org/10.4324/9781315544335

Stucke, M. E. (2013). Is competition always good? *Journal of Antitrust Enforcement, 1*(1), 162–197. https://doi.org/10.1093/jaenfo/jns008

Sutton, J. (1997). Gibrat's legacy. *Journal of Economic Literature, 35*(1), 40–59. https://www.jstor.org/stable/2729692

Suttle, R. (2019, February 12). Growth strategies in business. *Chron.* https://smallbusiness.chron.com/growth-strategies-business-4510.html

Sykes, T. (2017, January 11). 6 timeless strategies that drive successful entrepreneurship. *Entrepreneur*. https://www.entrepreneur.com/article/242573

Thompson, J. D. (1967). *Organizations in action*. McGraw-Hill.

Trigueiros, D. (2000). *A theoretical definition and statistical description of firm size.* Instituto Universitário de Lisboa (ISCTE). http://home.iscte-iul.pt/~dmt/publ/2000_A_theoretical_definition_and_statistical_description_of_firm_size.pdf

University of the Philippines Institute for Small-Scale Industries – Diliman. (2020, February 21). *Uplifting micro, small, and medium enterprises (MSMEs) in the Philippines thru DTI's 7Ms: Suggested policies for implementation.* https://beta.entrepreneurship.org.ph/2020/02/21/uplifting-micro-small-and-medium-enterprises-msmes-in-the-philippines-thru-dtis-7ms-suggested-policies-for-implementation/

van Rossum, J. E. (2017, December 18). 5 benefits of international expansion. *The Business Journals.* https://www.bizjournals.com/bizjournals/how-to/growth-strategies/2017/12/5-benefits-of-international-expansion.html

Variyam, J. N., & Kraybill, D. S. (1992). Empirical evidence on determinants of firm growth. *Economic Letters, 38*(1), 31–36. https://doi.org/10.1016/0165-1765(92)90157-T

Watson, R. (1990). Employment change, profits and directors' remuneration in small and closely-held UK companies. *Scottish Journal of Political Economy*, *37*(3), 259–274. https://doi.org/10.1111/j.1467-9485.1990.tb00586.x

Weber, M. (1946). *From Max Weber: Essays in sociology*. Oxford University Press.

Wickham, P. (2006). *Strategic entrepreneurship.* Financial Times Prentice-Hall.

Wiklund, J. (2007). Small-firm growth strategies. In A. Zacharakis & S. Spinelli, Jr. (Eds.), *The engine of growth* (Vol. 2; pp. 135–154). Praeger.