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Two Essays on the Creation and Success of New Ventures

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TWO ESSAYS ON THE CREATION AND SUCCESS OF NEW VENTURES

by

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ABSTRACT

TWO ESSAYS ON THE CREATION AND SUCCESS OF NEW VENTURES

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Old Dominion University, 2018
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New venture creation is a complicated, idiosyncratic process that starts with an individual's ambition to exploit an opportunity and involves putting together resources to create value from the opportunity. During this journey, some entrepreneurs can initiate a new venture while others never exploit the discovered opportunity. Additionally, while many new ventures deploy the same resources, some entrepreneurial ventures are successful whereas others barely break even. Although extant literature acknowledges the importance of new venture creation, nonetheless, various drivers of innovative new ventures and factors facilitating the success of such ventures remain understudied.

Given this gap in the literature, the first essay sheds light on drivers of innovative entrepreneurship, as the most productive type of entrepreneurship. Using a sample of 29,000 entrepreneurs in 62 countries, Essay 1 employs a multi-level model to investigate how entrepreneurs' ability, motivation, and opportunity recognition (AMO) and their interaction with national institutions result in innovative new venture formation. Findings indicate that institutional voids appear to facilitate or hinder the human capital, opportunity actualization motivation, and opportunity seeking of founders of innovative, opportunity-based ventures.

Essay 2, breaks new ground by examining entrepreneurial resource management strategies using a configurational approach. Building on a fuzzy-set analysis of more than 500 new ventures in the U.S., our research identifies five distinct configurations of resource structuring, bundling, and leveraging that collectively explain the profitability of entrepreneurial firms

operating within both dynamic and stable industries. Results aim to uncover different resource management pathways that lead to the establishment of successful new ventures. Further, by illustrating that there are multiple successful paths that entrepreneurs can take, the findings indicate the equifinality of resource management strategies.

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This dissertation is dedicated to my mother, Mahin, and my wife, Negar, who have loved me unconditionally and whose positive examples have given me the strength and motivation to be a better person.

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ESSAY 1

INNOVATIVE ENTREPRENEURSHIP: THE EFFECTS OF ENTREPRENEURIAL COMPETANCIES AND INSTITUTIONAL VOIDS

ABSTRACT

Innovative entrepreneurship has been the focus of attention for both individual entrepreneurs as well as policymakers. Building on evolving idiosyncrasy view regarding opportunity, to capture the significant drivers of innovative entrepreneurship (IE), we argue that both entrepreneurs' competencies and contextual factors are influential. Applying a hierarchical linear modeling technique for more than 29,000 individuals from 63 countries, consistent with ability, motivation, and opportunity seeking (AMO) framework, our results indicate that entrepreneurial human capital, entrepreneurial opportunity actualization motivation, and entrepreneurial opportunity seeking are influential individual level drivers of IE. Additionally, our findings suggest that public and private institutional voids affect the relationship between entrepreneur competencies and new innovative venture creation. Thus, to establish innovative, opportunity-based ventures, different institutional voids appear to facilitate or hinder the ability, motivation, and opportunity seeking of entrepreneurs. Overall, we contribute to entrepreneurship literature by revealing specific entrepreneurial competencies as well as identifying contextual institutional conditions for successful innovative venture creation.

Keywords: Innovative Entrepreneurship, Institutional Voids, Hierarchical Linear Modeling, AMO

1. INTRODUCTION

“When conjectures are offered to explain historical slowdowns or great leaps in economic growth, there is the group of usual suspects that are regularly rounded up—prominent among them, the entrepreneur” ~ William Baumol

Entrepreneurship has always been considered as one of the primary drivers of economic growth (Shumpeter, 1961; Kirzner, 1973). Accordingly, to shed light on one of the desired facilitators of economic development, a considerable stream of research is focused on the drivers of entrepreneurial activities (e.g., Ericson & Pakes, 1995; Bowen & De Clercq, 2008). Consequently, for many countries, as one of the main priorities, economic policymakers aim to facilitate the process of firm birth through the creation of new ventures, known as entrepreneurial opportunity exploitation (Reynolds & Miller, 1992). Given the bright side of entrepreneurial activities, although new venture creation is supposed to garner positive outcomes, the increased number of entrepreneurial ventures has not been as advantageous as it is expected to be. As an example, Haiti, a Caribbean developing country, is suffering from a very high unemployment rate. As a result, many people are forcing into entrepreneurship to survive. Entrepreneurship is no longer a fancy or a dream job for many Haitians since the decision to become an entrepreneur is driven by necessity (Pereira, 2011). Surprisingly, contrary to expectations, such unexpected effects are not limited to developing and underdeveloped countries. For instance, in Germany, a developed European country, less than 50% of newly established businesses survive longer than five years (Fritsch, Brixy, & Falck, 2006).

Given the fact that entrepreneurship has not been as fruitful as a flawless economic development facilitator, scholars have provided at least two main reasons to justify these unanticipated consequences (Hessels, Van Gelderen, Thurik, 2008). First, not all the new

ventures are beneficial for the economic development of a country. As an example, individuals may engage in unproductive or even destructive activities (e.g., illegal behavior) which are not associated with a definite prospect for economic development (Bowen & De Clerq, 2008). While such entrepreneurs range from street sellers to well-educated job-seekers with little or no access to formal employment, the one element that binds them together is the need to survive.

Second, our knowledge regarding productive entrepreneurship is not comprehensive, so entrepreneurship research lacks tangible guidelines regarding what type of entrepreneurial ventures are associated with increasing wealth for individuals as well as securing economic outcomes for the states (Samuelsson, 2009). As one of the primary drivers of the paucity of practical implications for entrepreneurial research, there are many uncertainties around the notion of opportunity as the building block of entrepreneurial activities (Gartner, 1989; Shane, 2000; Shane & Vankatraman, 2000). Accordingly, limited research provides an appropriate definition of the opportunity and practical insights regarding when, where and why the opportunity label is deserved (Davidsson, 2015). Put differently, although we know that opportunity entrepreneurship is more beneficial for the economic growth, when it comes to a comprehensive definition for opportunity entrepreneurship and a proper way to measure and further facilitate that, research falls short.

In his seminal work, Baumol (1990) argues that the resulted innovativeness and dissemination of the technological discoveries is the main pertinent factor to allocate entrepreneurial efforts between productive and unproductive activities. Hence, consistent with new insights from the entrepreneurial ventures' taxonomy (e.g., productive and unproductive), many scholars have recently focused on innovative and knowledge-based entrepreneurship as the type of entrepreneurial activities closely associated with economic development (Samuelsson &

Davidsson, 2009; Urbano, Aparicio, & Audretsch, 2018). Inline with this stream of research, our study aims to answer the question: what are the antecedents of innovative entrepreneurship (IE) across different countries at multiple levels of analysis.

We argue that for innovative entrepreneurship different and additional abilities are needed that have rarely been considered. Just as the successful performance of any activity depends on the ability, motivation, and opportunity to perform the task (Blumberg & Pringle, 1982; Boxall & Purcell, 2003), innovative ventures creation depends on entrepreneurs' ability, motivation, and opportunity seeking (AMO). As such, for this study we draw upon AMO framework to examine the effect of entrepreneurial human capital (EHC; the ability aspect), entrepreneurial opportunity actualization motivation (EOAM; the motivation aspect), and entrepreneurial opportunity seeking (EOS; the opportunity aspect) as the main micro level drivers of innovative entrepreneurship. Our theoretical framework not only takes into account the psychological attributes of individuals but also acknowledges the combinations of the capabilities and intentions of those who engage in IE.

We also build on institutional theory and enhance it with focusing on the effects of national institutional voids, as the degree to which some or all of the required institutions are under-developed or missing, to identify national-level drivers of opportunity-driven, innovative venture formation (Aldrich & Fiol, 1994). We address the implications of institutional voids by integrating sociopolitical systems, openness, market effectiveness, and labor and capital markets into public and private institutional voids (Khanna, Palepu, & Sinha, 2005). As such, we argue that entrepreneurs' competencies are shaped jointly by constraints, incentives, and resources provided by public and private institutions (DiMaggio & Powell, 1991).

We endeavor to make three main contributions to theory, practice, and policymaking. First, overall we contribute to the broader literature on entrepreneurship, in which a fundamental issue is to identify what kind of ventures are deserved to label as an opportunity-driven one. We argue the fundamental pillar of entrepreneurship is disrupting the market equilibrium by generating newness in the market (Schumpeter, 1983). Thus, consistent with the arguments from the market process of Austrian Economics, innovativeness is the primary dimension to capture the opportunity variance of new ventures (Dahlqvist & Wiklund, 2012). Consequently, we empirically show that investigating the innovativeness of new ventures could be a useful alternative proxy for measuring the degree to which new ventures are opportunity-based.

Second, we go beyond the existing antecedents of IE by adopting the AMO framework and thereby addressing previous calls for identifying entrepreneurs' competencies that facilitate innovative venture creation (Gartner, 1989; Thornton, 1999). We identify three entrepreneurial competencies and explain engagement in innovative new venture creation by considering both human capital aspects as well as the motivational/ behavioral theories. Third, our focus on institutional voids perspective adds a missing piece to research on IE. We respond to call for greater consideration of the context in entrepreneurship (Welter, 2011) and offer a contextual understanding of the role of entrepreneurial competencies by combining AMO framework and institutional voids. Although institutional voids perspective has been discussed in the extant literature (Baumol, 1990) but it has rarely applied on IE and tested empirically. We develop a multilevel- multinational model with the aim of leveraging institutional voids perspective to predict the different effects of entrepreneurial competencies in different countries on IE.

2. THEORETICAL DEVELOPMENT

2.1 Innovative Entrepreneurship: An Opportunity-Based Entrepreneurship Perspective

Considering the entrepreneurship process a journey from non-existence to the existence of new ventures, both micro- and macro-level antecedents affect the formation of such venture (Shane & Venkataraman, 2000). In general, the micro level or the actor side attributes address mental and behavioral prerequisites such as opportunity identification, initiation, persistence, and success. On the other hand, the macro level attributes, or non-actor determinants, facilitate or hinder venture development by influencing the context in which individuals are pursuing opportunities.

To provide a more credible measurement to differentiate entrepreneurial ventures, we emphasize the innovativeness of new ventures. Relating the notion of IE to economic development, the innovativeness of new ventures encompasses any economic change that expresses a creative aspect. This type of change highlights the irrelevance of equilibrium in a changing environment and is in line with the arguments of Schumpeterian and Austrian Economics (Hayek, 1994; Kirzner 1973). As such, we define IE as discovery and further exploitation of innovative entrepreneurial ventures (Samuelson & Davidsson, 2009). To explore different antecedents of innovative entrepreneurship, we start with the micro level characteristics, also known as the actor side of entrepreneurship. Additionally, we shed light on innovation-based entrepreneurship contextual determinants by investigating the macro, national level antecedents of this entrepreneurial activity.

2.2 Individual Antecedents of Innovative Entrepreneurship

To answer the question of why some entrepreneurs engage in innovative activities, we need to move our attention beyond invoking causes towards exploring what happens during this process (McKelvey, 2004). Supply-side perspectives of entrepreneurship consider specific characteristics that differentiate entrepreneurs from non-entrepreneurs (Aldrich, & Martinez,

2001). Accordingly, entrepreneurs possess not only certain abilities but also demonstrate specific behaviors that make them different from non-entrepreneurs. Such differences result from entrepreneurs with different competencies and affect and drive both entrepreneurial intentions as well as entrepreneurial actions such as opportunity discovery and opportunity evaluation.

Consistent with the supply side of entrepreneurship, the ability-motivation- opportunity (AMO) framework suggests that individuals' ability, motivation, and opportunity seeking are the significant drivers of successful task performance (Blumberg & Pringle, 1982; Boxall & Purcell, 2011). Ability refers to the required knowledge, experience, and skills to perform a task. Motivation encompasses the person's willingness to initiate a task, and finally, opportunity seeking refers to the search and utilization of the essential resources to perform the task (Blumberg, 1980).

Although the original impetus for AMO framework development was to improve job satisfaction and further productivity and performance of employees (Blumberg, 1978; 1980), scholars have applied this framework on a variety of business-related aspects (e.g. Lean production and employee learning, Sterling & Boxal, 2013; marketing performance, Clark, Abela, & Ambler, 2005). Among our research relevant aspects, AMO dimensions have been shown to not only improve the performance of individuals but also they are more influential for knowledge-intensive, productive tasks. For example, Chang, Gong, and Peng (2012) indicate that MNCs expatriate AMO competencies are associated with more efficient knowledge transfer from the headquarter to the subsidiaries. Similarly, Davidsson (1991) proposed and empirically indicated that AMO attributes are essential determinants of continued entrepreneurship. Applying the AMO framework, we identify three dimensions of entrepreneur competencies, entrepreneurial human capital (in line with ability), entrepreneurial opportunity actualization

motivation (in line with motivation), and entrepreneurial opportunity seeking (in line with opportunity). For the next part of this research, we focus on three main dimensions of entrepreneur competencies.

2.2.1 Entrepreneurial Human Capital. In line with the “ability” dimension of AMO, entrepreneurial human capital (EHC) refers to the individual’s *knowledge base* and *expertise* regarding initiation or recognition of innovative opportunities resulted from the social and economic changes (Davidsson & Honig, 2003; Schumpeter, 1983). Based on the definition of IE, Kirzner (1973) argues that entrepreneurial opportunities are the result of changes in the society. Such changes may be initiated by the entrepreneur or just discovered by the entrepreneur (Schumpeter, 1983). Regardless of the creator of the change, entrepreneurs should be able to distinguish innovative opportunities out of the change. Put differently, the entrepreneur can be either an initiator or an arbitrageur (Dahlqvist & Wiklund, 2012). Nonetheless, recognition of such opportunity takes talent, creativity, expertise and even imagination. When it comes to innovativeness, such knowledge base and expertise is more influential since entrepreneurship entails establishing a new venture with products or services that diverge significantly from existing ones.

EHC is dependent on the degree to which an entrepreneur's mind is prepared to grasp, analyze, and synthesize the related information. Accordingly, EHC enhances openness, flexibility and independent thinking as the vital prerequisites for engagement in self-initiated and professional actions (Schwartz, 2006). Additionally, such mental capabilities improve the degree to which an entrepreneur’s mind is capable of initiating a new opportunity-oriented venture (Estrin, Mickieqicz, & Stephan, 2016).

Concerning the expertise, EHC prepares entrepreneurs to identify opportunities and simultaneously identify and organize resources and bear associated risks to initiate an innovative venture (Reynolds, 2010). Such risk-taking attitude and resource management are essential prerequisites to develop an innovative venture. As such, EHC is associated with being sensitive to opportunities, being proactive as well as developing creative business models for exploiting such opportunities (Lorenz & Valeyre, 2005). As such:

H1a: The entrepreneur's human capital is positively associated with innovative entrepreneurship.

2.2.2 Entrepreneurial Opportunity Actualization Motivation. In line with the motivation dimension of AMO, a proper intention to exploit the innovative opportunities is required, so the entrepreneur takes advantage of them. Entrepreneurial opportunity actualization motivation (EOAM) refers to the willingness to devote time and resources to establish an innovative venture. As such EOAM pertains to the intention to create a productive new venture or create new ventures in the existing ones (Bird, 1988).

EOAM facilitates IE through different mechanisms. First, a substantial opportunity actualization motivation will positively affect entrepreneurs' innovative ambitions (Hessels, Van Gelderen, & Thurik, 2008). Accordingly, entrepreneurs with a stronger actualization motivation are significantly different from entrepreneurs who are not inclined to opportunity actualization regarding venture growth preferences, risk-return preferences, and intended sales. Since innovativeness is associated with high growth orientation and risk-taking attitude, a substantial opportunity actualization motivation facilitates IE (Morris, Miyasaki, Watters, & Coombes, 2006).

Second, an entrepreneur's strong motivation to exploit and actualize an innovative opportunity signals that the opportunity deserves further follow up and thus the resulted venture is more likely to be productive. The actualization of each opportunity requires financial, social, and human capital (Aldrich & Martinez, 2001). As such, innovative entrepreneurs benefit from stronger actualization motivation since they are less likely to be constrained in their access to different type of resources. On the other hand, replicative entrepreneurs possess a weaker actualization aspiration and consequently, they have a lower expectation concerning venture growth and innovativeness because they are acting on less promising opportunities (Morris et al., 2006). Thus we expect to see a positive association between opportunity actualization and IE.

H1b: The entrepreneur's opportunity actualization motivation is positively associated with innovative entrepreneurship.

2.2.3 Entrepreneurial Opportunity Seeking. Entrepreneurial opportunity seeking (EOS) encompasses the capability to recognize new and innovative ways of putting resources into use through the creation of a new viable business (Schumpeter, 1942).

EOS affects the process of innovative venture formation at least in two different ways. First, EOS is influential for the process of IE since innovative entrepreneurs initiate economic progress by identifying creative ways of putting productive resources to uses hitherto untried and withdrawing them from the uses they served (Schumpeter, 1942). Such capability varies among entrepreneurs since whereas some entrepreneur's behavior (i.e., innovative entrepreneurs) is manifested in long-term developmental changes, for others (i.e., replicative entrepreneurs) such manifestation is in the form of imitation and short-run movements (Kirzner, 1973). In line with Schumpeterian arguments, identification of innovative venture ideas represents a particular form of entrepreneurial behavior. As such, entrepreneurs who manifest this particular ability are

among first to enter a novel domain that others have not yet recognize or sought to exploit (Samuelsson & Davisson, 2009). In this vein, entrepreneurs who can identify promising opportunities (e.g., unique ways of resource utilization) are more likely to initiate an innovative venture.

Second, according to Austrian Economic Model, product markets are heterogeneous and thus, resources are asymmetrically distributed (Hayek, 1994). Accordingly, since not all individuals' access to full information regarding market, entrepreneur's capability to assign a value to different opportunities is heterogeneous (Shane, 2000). In this vein, entrepreneurs perceive opportunities based on recognizing the value of information to which they are exposed. Thus, those entrepreneurs who are exposed to more valuable market information or those who could infer more innovative, unique opportunities out of this information are more capable of establishing a new innovative business. Thus:

H1c: The entrepreneur's opportunity recognition potential is positively associated with innovative entrepreneurship.

2.3 Moderating Influence of National Institutions on Innovative Entrepreneurship

Institutions referred to fundamental aspects of social structure and taken for granted rules that can be explicit or act as implicit guidelines for individual actions (North, 1990). In line with the demand side of entrepreneurship, the broad contextual factors that either facilitate or hinder entrepreneurship, proper institutions provide constructive incentives for entrepreneurs while weak ones are likely to be deleterious (Davidsson, 2015).

For this study, we draw upon the evolving idiosyncrasy view which develops an actor-contingent nature for the opportunity (Dimov 2011; Sarason, Dillard, & Dean, 2010). According

to evolving idiosyncrasy view, an opportunity is an unproven idea that exists early in the process but can be modified significantly by the non-actor and actor attributes during the time (Sarasvathy, 2001). As such, each opportunity is unique and is developed by the interplay between entrepreneur (actor) and the context (non-actor).

2.4 Institutional Voids and Opportunity-Based Entrepreneurship

Although the entrepreneurial literature is rich regarding the effect of institutions as the main non-actor components on the entrepreneurial development (e.g., Bowen & Declerq, 2008; Stephan, Uhlaner, & Stride, 2015) the knowledge about how different institutions affect IE is scarce. As an example, prior knowledge expresses that better institutions are associated with more entrepreneurial activities (Baumol, 1990; 1993). But most of the previous research is built upon the discovery view or the creation view regarding the opportunity. In this vein, the literature lacks a clear explanation for what would happen to the opportunity if the institutional dimensions are weak or missing. Additionally, scholars have put little insight into what dimensions of the institutional environment influence the development of more innovative entrepreneurial ventures (Acs, Desai, & Hessels, 2008; Desai, Gompers, & Lerner, 2003).

Building on the arguments of evolving idiosyncratic view, external enablers are among the critical drivers of IE. External enablers encompass any distinct outside circumstance with the potential to play a vital role in supporting or eliciting an entrepreneurial action (Davidsson, 2004). Although labeled external enabler, such attributes may diminish the pace of venture formation or even impede the establishment of a new innovative endeavor. Thus, to evaluate the effect of non-actor attributes of opportunity evolving view, instead of institutions, we focus on institutional voids. Institutional void pertains to the degree to which institutions infrastructure

exists (Khanna & Palepu, 2005). As an example, for many developing or underdeveloped markets, institutional infrastructures are either weak or missing.

Recently, Khanna et al. (2006) argue that there are five main indices for mapping institutional voids. As such, institutional voids result from ineffectiveness of institutions in the following dimensions: *Sociopolitical system* encompasses the primary political and social attributes of each country, *openness* refers to degree of economic transaction freedom, *product markets* encompasses availability and appropriate flow of information, and *labor and capital markets* encompasses the capability of workforce along with the availability of financial capital.

Consistent with the Evolving Idiosyncrasy View regarding opportunity seeking, institutions may change the nature of the opportunity during the process of IE. As such, we categorize institutions into public and private institutions and consequently categorize voids into public and private institutional voids (i.e., the degree to which each type of institutions are weak/ missing). Public institutions are the deepest rooted and slowest changing constitutional dimensions that are considered as the primary rules of the game (Williamson, 2000). Entrepreneurs are exposed to a specific set of public institutions and do not have the luxury to adopt them. Public institutions are relatively predictable and can influence IE by raising transactional costs, setting cumbersome regulations, decrease the security of the claims for the returns from established ventures, and affect the freedom of investment (Desai et al., 2003; Fogel, Hawk, Morck, Yeung, 2006;).

On the other hand, private institutions shape the way that individuals interact, align, and adapt to different types of transactions. Private institutions affect the allocation of occupational resources, provision of finance, and the development of supply and distribution networks (Gompers & Lerner, 1999). In comparison to public institutions, private institutions may be affected by primary market regulations and entrepreneurs may apply the appropriate ones while

avoiding the destructive arrangements. Similar to public institutions, private institutions may be formal with codified rules, or informal with rules that members know, but no one explicitly states. Additionally, private institutions are responsive to the reach of public ones. As such, private institutions revise to complement or substitute the public institutions (De Castro, Khavul, & Bruton, 2014)

Connecting the main five dimensions of institutional voids to public-private categorization, since the sociopolitical system consists of political, governmental, social, relational, and ethnic factors, we consider the combination of sociopolitical factors as a public institution. Similarly, since government's economic policies set openness, we consider openness as a public institution. On the other hand, we categorize capital market among private institutions since entrepreneurs mainly rely on private funding or venture capitals to acquire financial resources (Sahlman, 1990). Market effectiveness and labor market cannot be adequately categorized as public or private. Market effectiveness encompasses both the soft aspects of consumer responsiveness (e.g., consumer satisfaction) as well as the hard required logistics (e.g., quality of transportation infrastructure). As such, we split market effectiveness into the public effectiveness and the private effectiveness. Similarly, for labor market, we consider the educational quality part as the public aspect while the flexibility of the labor market as the private part. For the next part, we explore the effect of public and private institutions on the association between entrepreneurial competencies and IE.

2.4.1 Public Institutional Quality. Public institutions entail sociopolitical systems, market openness, quality of public education system, and the public side of market effectiveness (Khanna et al., 2006). The political part pertains to the degree to which entrepreneurs can count on the rule of law and fair enforcement of legal contracts (Beach & O'Driscoll, 2003). The social

system institutes the norms, values, and beliefs related to human behavior. Relating social system effectiveness to IE, the social system encompasses how social values favor opportunity-driven activities and secure accessibility of resulted benefits for the entrepreneur (Verheul et al., 2002).

For countries with an effective political system, entrepreneurs have stronger motivation towards opportunity actualization since such institutional dimension affects the level of risk involved in the formation process of an innovation-driven entrepreneurial venture. Accordingly, a quality political system can shape the opportunity actualization motivation by adoption and enforcement of different rules and policies (Stenholm, Acs, & Wuebker, 2013). As an example, since motivation to actualize innovative opportunities requires more and sophisticated resources, such a political system strengthens the association between entrepreneurial competencies and IE by influencing the level of access to required resources or even the entry mode.

Furthermore, as we discussed before, a strong actualization motivation affects the level of the established venture innovativeness. Accordingly, the complexity of the political system (e.g., administrative burdens, bureaucracy, and complexity) impacts entrepreneur's motivation and further the innovativeness of their venture. Capelleras, Mole, Greene, and Storey (2008) claim that for countries with this institutional void, innovative firms are fewer and their growth rate is slower since individual entrepreneurs are not motivated to initiate such ventures. On the other hand, there are large ventures established by the government that are barely innovative.

The social part of sociopolitical systems bounds the discourse on desired goals (e.g., motivation to pursue an opportunity) and detail the means to pursue the objective (i.e., establishing an innovative venture; Scott, 1995). In this vein, social system quality facilitates the willingness of entrepreneurs to pursue innovative opportunities through strengthening the desired intentions as well as directing the aspiration of entrepreneurs toward an innovative venture

creation. As the social system continues such facilitation, entrepreneurs with risk-taking, growth-oriented, innovative aspirations pursue the identified opportunities more rigorously.

Further, for countries where social system supports innovative businesses, entrepreneurs are given more time and room to establish their identity and legitimacy publicly. Later, such legitimacy fosters entrepreneur's access to acquire resources to establish an innovative venture (Lounsbury & Glynn, 2001). Similarly, the value associated with the entrepreneurial activities shapes what type of opportunities will be exploited by entrepreneurs. For example, whereas some cultures expect entrepreneurs to create something new, in some others entrepreneurs are expected not to make any changes. Apparently, in former countries, entrepreneurs are expected to further innovative opportunities. Finally, as a result of a supporting social system, a Kirznerian alert entrepreneur is more likely to perceive an innovative opportunity since dealing with different people is more likely to result in accessing valuable information and resources (Shane, 2000).

The market openness aspect of public institutional quality address the degree to which individuals are allowed to conduct economic transactions (e.g., the absence of production, distribution, and consumption constraints and coercion, and financial transaction freedom; Beach & O'Driscoll, 2003). Market openness can hinder or facilitates the entrepreneur competencies to identify promising innovative opportunities. In this vein, constraints put on economic transactions (e.g., import and export of specific products) lead to diminishing entrepreneurs' access to information regarding unique opportunities (Heckelman, 2000). Moreover, the protectionism resulted from low market openness prevent talented individuals from crafting innovative ideas and further impedes the formation of opportunity-driven ventures (World Bank,

2005). In such contexts, entrepreneurs are sensitive to opportunities that result in known products rather than innovative products.

Additionally, for innovative entrepreneurs, market openness encompasses the degree to which local entrepreneurial ventures are allowed to conduct economic exchanges regarding trade, investment, and business both domestically and internationally. Such dimension provides entrepreneurs with not only the target international customers, but also the foreign direct investment, international listing and proper knowledge linkages and knowledge spillovers all around the world (Acs, O’Gorman, Szerb, & Terjesen, 2007). As such, the higher levels of market openness empower entrepreneurs to discover more promising opportunities within markets and initiate their innovative venture.

Public institutional quality encompasses education quality (Verheul, Wennekers, Audretsch, & Thurik, 2002) which is one of the most critical stimulators of entrepreneurship (Robinson, Stimpson, Heufner, & Hunt, 1991; Wilson, Kickul, & Marlino, 2007). The education quality aspect of public institutions concerns the available supply of capable human capital regarding knowledge and expertise within an economy. Entrepreneurs in a functional public institutional environment acquire a better competence of new product development through a proper knowledge base and a reliable stack of experience (Pezeshkan, Smith, Fainshmidt, & Amini Sedeh, 2016).

A quality education system boosts entrepreneur’s human capital and as a result improves their abilities and skills to craft innovative ideas (Reynolds, Hay, & Camp, 1999). Furthermore, a country’s education system broadens individual’s horizon and subsequently makes them more equipped to pursue IE (Reynolds, 2010). Another aspect of a national education system pertains to providing individuals with the required entrepreneurial knowledge and skills (e.g., creativity,

risk-taking, and perseverance). Accordingly, the extent to which a national education system is concerned with entrepreneurship-related issues influences entrepreneurship actors' willingness to be involved in an innovative or imitative activity (Bowen & Declercq, 2008).

The public side of product markets encompasses the quality of the required infrastructure for enterprises to reach and serve different customers along with the effectiveness of anti-monopoly policies of the government. The quality of infrastructure enables entrepreneurs to access the densely populated centers with a natural advantage over less populated centers (Venkataraman, 2004). Accordingly, productive new opportunities will be discovered and diffused more efficiently and speedily due to access to proper markets advantages. Even competence entrepreneurs will be affected if they could not access proper product markets and consumers through appropriate infrastructure. What is more important than this physical infrastructure is the competitiveness of the product market as a vital intangible infrastructure. Product markets that are dominated by enormous, government-supported firms do not leave any room for recognition and actualization of innovative opportunities (Venkataraman, 2004).

H2a: Public institutional quality positively moderates the relationship between entrepreneurial human capital and innovative entrepreneurship.

H2b: Public institutional quality positively moderates the relationship between entrepreneurial opportunity actualization motivation and innovative entrepreneurship.

H2c: Public institutional quality positively moderates the relationship between entrepreneurial opportunity recognition potential and innovative.

2.4.2 Private Institutional Quality. In line with Khanna et al., (2006) institutional void categorization, private institutional quality encompasses labor market flexibility, the private aspect of product markets along with capital markets. As the first aspect, labor market flexibility reflects the degree to which workforce within each society is allocated to its most effective use in the economy (World Economic Forum, 2012). Such national labor market results in efficient mobility and flexibility of human capital and increases the probability that individuals with proper levels of ability step forward and further sense, seize, and capture innovative opportunities (Hall & Soskice, 2001). On the other hand, for economies with an inflexible labor market, individuals cannot channel their abilities through the most proper profession since they do not possess the required expertise and skills. As such, the probability of IE is lower for such contexts.

The private product market aspect addresses the extent to which consumers are provided with a right mix of product and services (World Bank, 2007). As such, private institutions are more influential within the economies with corporations that provide goods demanded by consumers. Market effectiveness results in increased competition and customer demand (Ford, Karande, & Seifert, 1998). As the competition within an economy intensifies, economic actors are more concerned with acquiring and processing diverse information to seize the opportunities. In this vein, product market effectiveness not only garners exposure to diverse information but also strengthens the sensitivity of entrepreneurs to the economic market. Additionally, the sophisticated nature of customer demands in open markets causes entrepreneurs to pursue unique, creative opportunities that are potentially associated with a sustainable competitive advantage (Porter, 1990). Considering the significant dependence of recognition of unique opportunities on asymmetries of information and beliefs, the intense nature of competition makes

pursuing not promising business ideas (e.g., replicative entrepreneurship) inefficient (Shane & Venkatraman, 2000).

Moreover, since entrepreneurs require a clear picture of the market they are operating in to allocate their human and financial capital to productive research and further the establishment of innovative ventures, such efficient markets provide them with more promising opportunities, and thus entrepreneurs are more inclined to establish their venture. Similarly, efficient product markets support and promote the collection, dissemination, and responsiveness to economic intelligent to serve customer need in a unique way (Atuahene-Gima & Ko, 2001). Thus, entrepreneurs in such markets allocate their resources more efficiently to identify innovative opportunities that are consistent with customer needs.

The capital market aspect of private institutional quality is critical since entrepreneurs are vulnerable to financial constraints particularly during the early stages of the venture creation (Aldrich, & Fiol, 1994). Such obstacle is more pronounced for innovative ventures than replicative ones since innovation is associated with unpredictable and increasing probability of failure. Entrepreneurs may access the required capital through financial corporations such as banks and credit unions or venture capitalists. Capital market highlights the importance of a functional and well-functioning financial system for all the economic activities. An efficient financial system strengthens the motivation for the actualization of unique opportunities by evaluating innovative ideas, monitoring managers, and reducing financing costs (Hsu, Tian, & Xu, 2014). As such, due to a quality capital market, entrepreneurs become more motivated to channel resources to the projects.

Further, innovative ventures require unique types of financial resource (Gompers, 1999). As an example, entrepreneurs need access to required investment through effective stock markets. In a

more developed financial market, entrepreneurs can access these specialized forms of investment through venture capitalists. Additionally, quality financial systems provide entrepreneurs with required mechanisms to deal with agency issues. Thus, they will be more motivated to pursue unique opportunities (Sahlman, 1990). Additionally, a sound financial system provides innovative entrepreneurs with the luxury of accessing to the required capital as well as exit opportunities through well- regulated stock markets.

H3a: Private institutional quality positively moderates the relationship between entrepreneurial human capital and innovative entrepreneurship.

H3b: Private institutional quality positively moderates the relationship between entrepreneurial opportunity actualization motivation and innovative entrepreneurship.

H3c: Private institutional quality positively moderates the relationship between entrepreneurial opportunity recognition potential and innovative entrepreneurship.

3. METHODS

3.1 Data and Sample

To determine the drivers of IE, we estimate the individual side variables along with the primary dependent variable of this study from the Global Entrepreneurship Monitor (GEM) survey to create an initial database of more than 29,000 respondents in 63 countries with adult individuals from 18 to 64 years old (Reynolds et al., 2005). Additionally, data for country-level variables were collected from different data sources and came from the World Bank, World Economic Forum, and Heritage Foundation. We lagged all country-level variables by at least one

year to reduce the potential endogeneity resulted from the hypothesized associations. As such, for this research, we develop cross-national empirical research on the individual and country level antecedents of IE.

3.2 Measures

3.2.1 Innovative entrepreneurship. The dependent variable of this study is innovative entrepreneurship. For small entrepreneurial firms, R&D intensity underestimates the significance of innovative activities (Kleinknecht, 1987). Additionally, patent data is more proper for larger and more mature firms (Samuelsson & Davidsson, 2009). As a result, in line with innovation literature, we combine product innovation and process innovation to constitute a composite measure of innovativeness (Rosenbusch, Brinckmann, & Bausch, 2011). For the product innovation GEM asks respondent "How many (potential) customers consider product new/unfamiliar?" (1=all, 2= some, 3=none). For the process innovation, GEM asks respondents "Were the technology or procedures available more than a year ago?"(1= no, 2=yes but not before five years ago, 3= yes). Combining these items resulted in an IE scale. We conducted a factor analysis to uncover the underlying factor structure. Factor analysis indicated that these two subscales could be combined into a single scale (KMO=0.764; $\chi^2 = 107.807$; $p \leq 0.000$). Thus, we consider the factor scores as the dependent variable of our model.

3.2.2 Entrepreneurial human capital. In line with the entrepreneurial literature, we measured knowledge base of entrepreneurs through their level of education (Estrin et al., 2013; 2016). Additionally, we capture entrepreneurial expertise by exploring their related experience (Martin, McNally, & Kay, 2013). Thus, to develop a proper measure for EHC we used two questions from GEM as related proxies. Question one addresses the education level: The highest educational degree attained by the respondent ("No education", "Some secondary education,"

"Secondary degree," "Post-secondary education," and "Graduate degree"). Question 2 captures the previous entrepreneurial experience of the entrepreneur: Respondents were asked whether they have in the past 12 months, sold, shut down, discontinued or quit a business they owned and managed, any form of self-employment, or selling goods or services to anyone (0=No; 1=Yes). To develop a scale for entrepreneurial human capital we integrate education and past experience and run a confirmatory factor analysis. Factor analysis indicated that these two subscales could be combined into a single factor ($KMO=0.821$; $\chi^2 = 118.14$; $p \leq 0.000$).

3.2.3 Entrepreneurial opportunity actualization motivation. A proxy that captures the motivation of entrepreneurs can enable us to test our hypothesis (Krueger, Reilly, & Carsrud, 2000). GEM asks respondent: are you alone or with others expecting to start a new business including any type of self-employment within the next three years (1=yes, 0=no). Using this question, we differentiate entrepreneurs who consider the opportunity desirable enough to establish a commercial venture to exploit the opportunity and reap the benefits.

3.2.4 Entrepreneurial opportunity seeking. Consistent with our arguments, to measure EOS, capturing the sensitivity of entrepreneurs to the existing opportunities along with their capability to seize these opportunities is crucial. As such for EOS, we capture the degree to which entrepreneurs actively search for opportunities (Chang et al., 2012). To capture the effect of opportunity seeking on establishing a new innovative business, we use the GEM question on opportunity perception (Roper and Scott, 2009). GEM asks the respondents whether there would be, in the next six months, good opportunities for starting a business in the area where they lived. This measure is a binary variable (1=yes, 0=no).

3.2.5 Public and private institutional quality. The second group of independent variables is country-level institution void attributes which are obtained from different data sources. In line

with Khana and Palepu (2005), we consider government effectiveness, judiciary independence, political stability, regulatory quality, property rights, control of corruption, and entrepreneurial supporting norms as the proxies for the sociopolitical system. For capturing openness, we obtain data for trade freedom, business freedom, investment freedom, the time required to start a new business and FDI inflow (in billions; Khanna & Palepu, 2005). Product market is captured by using the quality of infrastructure, quality of anti-monopoly policies, consumer orientation index, and local competition index (Khanna & Palepu, 2005). Labor market includes the quality of the educational system, flexibility of wage determination, and the state of employee-employer relations. Similarly, for the capital market, we combine availability of financial services, ease of access to loans, and availability of venture capital (Khanna & Palepu, 2005).

Before running our factor analysis, we test for multicollinearity. Results indicate that the correlation score between some subscales is higher than the threshold (0.8) which signals severe multicollinearity. After excluding the correlated factors, judiciary independence, political stability, control of corruption and property rights constitute the sociopolitical system. Openness includes trade freedom, business freedom, and FDI inflow; market effectiveness consists of consumer orientation index, local competition, anti-monopoly policies, and quality of infrastructure; quality of the educational system, flexibility of wage determination, and employer-employee cooperation form labor market; and financial services availability and venture capital availability form capital markets.

In order to combine sub-dimensions to develop our public and private institutional voids, we run a confirmatory factor analysis (CFA). Consistent with our expectation, sub-dimensions load on two main factors ($KMO= 0.754$; $\chi^2 = 296.17$; $p \leq 0.000$). Judiciary independence, political stability, control of corruption, property rights, trade freedom, business freedom, FDI inflow,

quality of education system, quality of infrastructure, and anti-monopoly policies load primarily on public institutional voids. On the other hand, financial services availability, venture capital availability, labor market flexibility, employer-employee relations, local competition, and consumer orientation load on the private institutional voids. Table 1.1 displays public and private institutional quality factors scores.

Insert Table 1.1 about here

3.2.6 Control variables. For individual level controls, prior research shows that age has an impact on individual's entrepreneurship through the different strength of motivation for pursuing an entrepreneurial activity during different stages of life (Singh, & Verma, 2001). Additionally, age has been shown to affects entrepreneurial growth aspiration (Kolvereid, 1992). We also control for the gender of respondents since the career psychology literature provides a substantial amount of evidence that gender is a significant variable in pursuing entrepreneurial activities (Carter, Anderson, & Shaw, 2001). Additionally, we control for individual's level of income since it is likely that the level of wealth of individuals affects their motivation regarding a start-up formation (Levesque & Minniti, 2006). As another proxy for the individual motivation towards establishing an innovative venture, we control for entrepreneurial social capital. Social capital is known to be one of the primary required resources for entrepreneurs and thus has a significant effect on both opportunity recognition and opportunity exploitation (Aldreih & Fiol, 1994). To measure entrepreneur social capital, we use GEM question: whether individuals know any other entrepreneur (Donkels, 1991). Further, we control for entrepreneurial self-efficacy, along with the fear of failure from starting an entrepreneurial activity since these variables are shown to affect the desirability and feasibility of discovering and perusing an opportunity (Shane

& Venkatraman, 2000). For measuring self-efficacy, Respondents were asked whether they believed to have the knowledge, skill, and experience required to start a new business (0=No; 1=Yes). Similarly, in order to capture entrepreneur risk-taking attitude as well as negative motivation towards entrepreneurship we used fear of failure (Giacomin, & Janssen, 2012). Fear of failure is measured by asking respondents whether fear of failure would prevent them from starting a business (0=No; 1=Yes).

As the country level controls, we exclude the effect of national wealth since this variable has been associated with the prevalence of entrepreneurship (Acs et al., 2008; Estrin et al., 2016). As such, we control for GDP per capita in purchasing power standards expressed in millions of international dollars (Levie & Autio, 2008). Similarly, since the change in national wealth may also affect IE, we control for GDP growth during the previous year of GEM survey (World Bank, 2012). Additionally, since unemployment is among the main factors that steer individuals towards replicative entrepreneurship, we control for employment rate along with each the population (Verheul et al., 2002).

3.3 Analytical Technique

Given the multilevel nature of our data, we tested our hypotheses using hierarchical linear modeling (HLM) analyses with the HLM 7.0 program (Raudenbush, & Bryk, 2002). Fitting a multi-level model has different advantages over a single-level regression analysis. First, a multi-level model decreases type one error due to the acknowledging the existence of different levels of analysis (Hofmann, 1997). Second, it offers an improvement over aggregating data to higher levels, known as the ecological fallacy (Peterson, Arregle, & Martin, 2012). The mixed model of our study is:

$$\text{Innovative entrepreneurship } (IE)_{ij} =$$

$$\begin{aligned}
& \gamma_{00} + \gamma_{01}PUBLIC_j + \gamma_{02}PRIVATE_j + \gamma_{03}GDPGRO_j + \gamma_{04}GDPPERCAP_j + \gamma_{05}UNEMPLOY_j \\
& + \gamma_{10}GENDER_{ij} + \gamma_{20}AGE_{ij} + \gamma_{30}KNOW_{ij} + \gamma_{40}SELF_{ij} + \gamma_{50}FEAR_{ij} \\
& + \gamma_{60}INCOM_{ij} + \gamma_{70}EHC_{ij} + \gamma_{71}PUBLIC \times EHC_{ij} + \gamma_{72}PRIVATE \times EHC_{ij} \\
& + \gamma_{80}EOS_{ij} + \gamma_{81}PUBLIC_j \times EOS_{ij} + \gamma_{82}PRIVATE_j \times EOS_{ij} + \gamma_{90}EOAM_{ij} \\
& + \gamma_{91}PUBLIC_j \times EOAM_{ij} + \gamma_{92}PRIVATE_j \times EOAM_{ij} + u_{7j} \times EHC_{ij} + u_{8j} \\
& \times EOAM_{ij} + u_{9j} \times EORP_{ij} + r_{ij}
\end{aligned}$$

Where γ_{00} = intercept, γ_{01} and γ_{02} = main effect coefficient of country-level predictors, γ_{03} to γ_{05} main effect coefficient of country-level controls, γ_{10} to γ_{60} = main effect coefficient of individual-level controls, γ_{70} to γ_{90} = main effect coefficients of individual-level predictors, and u_{ij} represents the random part of the equation.

4. RESULTS

Table 1.2 depicts the descriptive statistics and correlation matrix both for individual level and country level variables. To ensure that multicollinearity is not an issue, we run the required collinearity tests. Results show that all the variance inflation factors (VIFs) are below 3 which is a satisfactory cut-off threshold (Warner, 2008). We perform a one-way ANOVA with IE as the dependent variable. This test indicates significant between-group variance within the data, with $\chi^2 = 5327.03$ ($p \leq 0.000$; Hoffman, 1997).

Insert Table 1.2 about here

The results of running the model for individual level antecedents of IE are presented in Table 1.3. To test our proposed model involving direct effects and moderation, as shown in Table 1.3, we first enter all the individual level control variables in Model 1. Among control variables, age, income, entrepreneur's social capital, self-efficacy, and fear of failure (negatively) are associated

with our dependent variable. Accordingly, results show that gender (female), is not a significant predictor for IE.

In order to test the direct effect of individual-level antecedent hypotheses, entrepreneurial competencies, we use a random coefficient regression model. For Model 2, which is used to test the first three sets of hypotheses, we enter individual level control variables along with our three main independent variables which are EHC, EOAM, and EOS. Hypothesis 1a proposes that EHC is positively associated with IE. As shown in Table 1.3, results from testing Model 2 indicate that the relationship is significantly positive ($\gamma_{70}=0.10$; $t= 3.86$; $p < .001$). As such, we receive strong support for our hypothesis 1a. Looking at the results in Table 1.3, we also observe that in line with hypothesis 1b, EOAM is positively associated with IE ($\gamma_{80}= 0.09$; $t= 12.65$; $p < .001$). In line with our hypothesis 1c expectation, EOS is also a significant positive predictor for IE ($\gamma_{90}= 0.18$; $t= 5.37$; $p < .001$), suggesting that acquiring the potential to discover a relatively more promising opportunity results in an innovative venture. Comparing this model to the previous model, level-1 R^2 (difference in between group variances divided by between-group variance for the previous model; Hoffman, 1997) is equal to 12%.

Using intercepts as outcomes for model 3, we add country-level control variable to find out what would happen to the relation between our individual predictors of IE in the presence of country-level factors. As shown in model 3, we again receive strong support for our first three hypotheses. As such, after controlling for individual-level predictors of IE along with national-level factors, EHC ($\gamma_{70}= .09$; $t= 3.23$; $p < .001$), and EOAM ($\gamma_{80}= .08$; $t= 3.90$; $p < .001$), and EOS ($\gamma_{90}= .17$; $t= 6.61$; $p < .001$) are significantly associated with IE. Among our national level control variables, GDP per capita and unemployment rate are significant predictors of our dependent variable. Thus, again we find significant support for the relationship between

entrepreneurial competencies and IE. For this model, the level-1 $R^2 = .10$ whereas the level 2 R^2 (difference in residual intercepts of this model and the previous one divided by the residual intercept of the previous model; Hoffman, 1997) is equal to 0.14. In sum, all three individual dimensions of the entrepreneur's ability/motivation/opportunity seeking characteristics are associated with IE in our global sample.

In order to test the effect of institutional voids on the relation between entrepreneurial competencies and IE, we test our hypotheses 2a to 3c using a slopes as-outcomes model (Table 1.3, fourth column; Hofmann, 1997). Hypothesis 2a predicts that public institutions positively influence the association between EHC and IE. According to our results, public institutions have a significant moderating effect on the direct relationship between the mentioned two variables ($\gamma_{71} = .09$; $t = 2.27$; $p < .01$). In this vein, our hypothesis 2a also receives support from our data.

Our results offer strong support for hypothesis 2b predicting that public institutions positively influence the relationship between EOAM and IE. According to Table 1.3, public institutions are a significant moderator ($\gamma_{81} = .11$; $t = 5.32$; $p < .001$). Further, public institutions efficiency also positively moderate the relationship between EOS and IE ($\gamma_{91} = .17$; $p < .01$), providing support for hypothesis 2c. As such, results indicate that for countries with a higher quality of public institutions, entrepreneurial competencies are stronger predictors of IE and our hypothesis 2 is fully supported.

As far as the effect of private institutions, our results show that private institutions are a positive, significant moderator for the relationship between EHC and IE ($\gamma_{72} = .12$; $t = 4.27$; $p < .001$). Thus, our hypothesis 3a is supported. Additionally, private institutions positively moderate the direct association between EOAM and IE ($\gamma_{82} = .19$; $t = 2.12$; $p < .01$), indicating support for

hypothesis 3b. Considering the relationship between EOS and IE, our results show a significant moderation effect for the mentioned relationship ($\gamma_{92} = .09$; $t = 1.84$; $p < .05$). Thus, we receive support for hypothesis 3c. For this model, as the main model of this study, our reliability estimate is 96%. Level-2 R^2 (difference in slopes residuals between this model and the previous model divided by slope residuals of the previous model) is equal to 0.16 whereas level-1 $R^2 = 0.10$. In sum, the quality of private institutions also accentuates the individual competency-IE relationship as well, according to our global data.

 Insert Table 1.3 about here

To make the evaluation of interactions easier, we plot the moderating effects in Fig. 1.1 and Fig. 1.2 to display the association of IE and three different aspects of entrepreneurial competencies for countries with strong/weak institutional environments. We can see that the association of entrepreneurial competencies and IE is stronger (the lines are steeper) in the presence of strong (vs. weak) public and private institutional arrangements.

 Insert Figure 1.1 and 1.2 about here

4.1 Robustness Tests

In order to explore the robustness of our results, we conduct a range of robustness checks. First, to exclude the potential time element of the three dimensions of entrepreneur competencies we ran an additional test. As such, we set EHC as the independent variable and the sum of EOAM and EOS as the dependent variable and we collect the residuals. Similarly, as the second step, we regress EOAM on EOS and collect the residuals. Finally, we replaced EHC with first step's collected residuals and EOAM with step 2 residuals and reran our model. Although the

magnitude of coefficients changed, the robustness test did not affect the significance of our results.

As another test, we aggregated two institutional moderators into one composite variable and reran the model. The new model shows significant positive moderation effect for the new combined variable. Further, to exclude the potential multicollinearity from our fourth model, we replicated our analysis by adding each dimension of institutional voids to the model individually. Although the results indicated different levels for the magnitude of moderating effects, the significance of the results remains unchanged. Finally, considering the effects of other national level variables, we added government expenditure, age structure of population, ethnical diversity, religious diversity and government tax burden on individuals as well as on corporations (Bowen & De Clercq, 2008). Adding these control level variables did not change the pattern of our main findings.

5. DISCUSSION

This study aims to advance research on productive entrepreneurship by outlining essential drivers of IE and contingencies of relationships causing heterogeneity among different entrepreneurs across national contexts. Hence, we developed a multi-level model to explore the required entrepreneurial competencies as the primary drivers of innovative new venture creation while simultaneously investigating the contextual effects of institutional voids. We found that in line with AMO framework, entrepreneurial human capital, opportunity actualization motivation, and opportunity seeking are essential antecedents of IE and institutional voids moderate the effects of such competencies. Past research mainly focusses of the consequences of innovative venture creation (Carter et al., 2001) while the facilitators of new entrepreneurial, innovative venture formation are less well understood.

5.1 Theoretical Implications

Our study contributes to the entrepreneurship literature in three ways. First, through the novel application of idiosyncrasy view regarding opportunity, we develop a new proxy for capturing the opportunity-driven nature of new ventures based on their level of innovativeness. The opportunity lies at the heart of the entrepreneurship phenomenon, but little effort has devoted to develop a clear proxy to capture and measure opportunities (Suddaby, 2010). As such we answered the recent calls to identify, conceptualize, and operationalize the salient characteristics of opportunity based ventures (Davidsson, 2015). We argue that innovation (novelty) is a potentially a significant characteristic for the future opportunity-driven ventures. While major entrepreneurship research has failed to control for variance in opportunity, our theoretical contribution is not only to capture the variance in opportunity but also extend it by combining it with variance in entrepreneur competencies as well institutional environment.

Second, our research offers a more comprehensive understanding of individual characteristics and IE by integrating predictions from AMO framework. Although the prior literature has examined different drivers of IE, the innovative venture creation is treated as a black box (Dahlqvist & Wiklund, 2012). Many entrepreneurs establish their ventures without possessing the required competencies. Thus, it is not surprising that the established venture is not innovative or unique. We theoretically identified three dimensions of entrepreneur competencies- human capital (ability), opportunity actualization motivation, and opportunity seeking- for establishing an innovative venture and empirically showed that they are significantly distinct, influential, and related.

As our third contribution, our research offers a contextual understanding of entrepreneurial competencies by incorporating arguments from institutional voids perspective. That is, national

level public and private institutional quality act as a vital contingency influencing the costs and returns from entrepreneurial competencies. We show that the direct effects of entrepreneur competencies on innovative venture creation can be strengthened (weakened) when public and private institutions are stronger (weaker). The effect of entrepreneur competencies on IE is stronger when the surrounding institutional environment is more efficient. This moderation effect is manifested in two different ways. First, entrepreneur competencies more positively lead to IE when public institutions are more efficient. Second, AMO of an entrepreneur is more strongly associated with IE when private institutions are stronger.

More importantly, our findings suggest that the joint effect of institutional configurations of public and private institutions offer more explanatory power than the examination of entrepreneur competencies. The presence of entrepreneur competencies alone may not lead to the formation of most innovative ventures. IE reaches the proper level when both public and private institutions are stronger. To our knowledge, no prior study has empirically tested the effect of institutional voids on IE. Thus this study reveals the importance of mapping institutional voids on IE and thus provides a valuable extension to related research.

5.2 Practical Implications

Our findings on the relationship between competencies, contextual factors, IE provides the basis for improving business-related policies as well as pedagogical policies regarding educating and developing competent entrepreneurs. This study provides one potential explanation regarding why the formation of new ventures in different countries is associated with more economic development. It may be that entrepreneurs in those economies have greater competencies in innovative venture establishment. According to our findings, higher levels of expertise and education is a crucial factor in developing innovative ventures. As such, a more

significant support for entrepreneurial education among the younger generation may be justified. Further, encouraging entrepreneurs to acquire the relevant skills and expertise before develop a new venture facilitates innovative venture formation. As a broader implication, policymakers pay more attention to the entrepreneur competencies as a mean of developing innovative new ventures to facilitate economic development.

Our results also can be interpreted as offering some predictions about the potential formation of innovative new ventures in different institutional environments. We have found that in weaker institutional environments, IE is hindered by the low quality of either or both public and private instructions. As the first priority, the policy makes concerned to increase economic growth and innovation and stimulate innovation through entrepreneurship, should try to comprehend what aspects of the institutional environment is deficient. They may develop a systematic, long-term plan to improve instructional context consistently.

5.3 Limitations

This study has at least three limitations that set the stage for the future research. First, two of our independent variables- EOAM and EOS- have a categorical nature. The dummy variables may limit the explanatory power of the multi-level model due to the nature of answer to the question which is in the form of 0 or 1. Future research may use different proxies to capture motivation and opportunity seeking more comprehensively. Second, similar to other research using GEM dataset, reverse causality is a concern due to the cross-sectional nature of the data (Estrin et al., 2016). Although we used lagged data for our national level variables, there is the need for further research to address this issue using longitudinal data. We also acknowledge that GEM used specific questions for measuring innovativeness. The interpretation of different items may vary across cultures. Using different theoretical frameworks that allow for integration of

cultural variables, future research may address this concern. Similar to cultural difference across different countries, our study does not categorize results based on the state of economic development. Although there is no theoretical reason to believe that IE facilitators would be different for different contexts, it would be useful to replicate our results for different contexts with different economic development. Last but not least, the entrepreneur motivation measure in this study captures the willingness or intention of entrepreneurs. As such, our findings regarding entrepreneur motivation should be more conservative. Future research may replicate our findings by using a different proxy for motivation.

6. CONCLUSION

Our study reinforces the importance of IE and makes several contributions to the literature. We advanced the understanding of innovative entrepreneurship by drawing attention to the critical role of specific competencies and related contextual contingencies. We applied AMO framework and identified three different dimensions of entrepreneur competencies fostering IE. We additionally examined the moderating effect of institutional voids on the direct relationship between entrepreneur competencies and IE. Theoretically, we suggest that both entrepreneur competencies, as well as institutional context, can facilitate the process of innovative venture formation. Empirically, we showed that entrepreneurs must acquire the relevant competencies and policymakers need to close the institutional voids to smoothen IE. In conclusion, to create more innovative ventures, entrepreneurs need to develop their competencies. To achieve the greatest formation of innovative ventures, public and private institutions are influential.

7. REFERENCES: ESSAY 1

- Acs, Z. J., Desai, S., & Hessels, J. 2008. Entrepreneurship, economic development and institutions. *Small Business Economics*, 31(3), 219-234.
- Acs, Z.J., O’Gorman, C., Szerb, L., & Terjesen, S. 2007. Could the Irish miracle be repeated in Hungary? *Small Business Economics*, 28(2-3), 123–142.
- Aldrich, H. E., & Fiol, C. M. 1994. Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19(4), 645-670.
- Aldrich, H. E., & Martinez, M. A. 2001. Many are called, but few are chosen: An evolutionary perspective for the study of entrepreneurship. *Entrepreneurship Theory and Practice*, 25(4), 41-56.
- Atuahene-Gima, K., & Ko, A. 2001. An empirical investigation of the effect of market orientation and entrepreneurship orientation alignment on product innovation. *Organization Science*, 12(1), 54-74.
- Baumol, W. J. 1990, Entrepreneurship: productive, unproductive, and destructive, *Journal of Political Economy*, 5(1), 893-921
- Baumol, W. J. 1993. Formal entrepreneurship thEORPy in economics: Existence and bounds. *Journal of Business Venturing*, 8(3), 197-210.
- Beach, W.W. & O’Driscoll, G.P. 2003. Explaining the factors of the index of economic freedom. In 2003 index of freedom. Available at <http://www.heritage.org/research/features/index/2003/chapters/Chapter5.html>, accessed April, 15th, 2017.
- Bird, B. 1988. Implementing entrepreneurial ideas: The case for intention. *Academy of Management Review*, 13(3), 442-453.

- Blumberg, M. 1980. Job switching in autonomous work groups: An exploratory study in a Pennsylvania coal mine. *Academy of Management Journal*, 23(2), 287-306.
- Blumberg, M., & Pringle, C. D. 1982. The missing opportunity in organizational research: Some implications for a theory of work performance. *Academy of Management Review*, 7(4), 560-569.
- Bowen, H. P., & De Clercq, D. 2008. Institutional context and the allocation of entrepreneurial effort. *Journal of International Business Studies*, 39(4), 747-767.
- Boxall, P., & Purcell, J. 2008. *Strategy and human resource management*. Basingstoke, U.K., Palgrave Macmillan
- Capelleras, J.-L., Mole, K.F., Greene, F.J., Storey, D.J., 2008. Do more heavily regulated economies have poorer performing new ventures? Evidence from Britain and Spain. *Journal of International Business Studies*, 39 (4), 688-704.
- Carter, S., Anderson, S. and Shaw, E. 2001. *Women's business ownership: A review of the academic, popular, and internet literature: report to the small business service*. London, Small Business Service.
- Chang, Y. Y., Gong, Y., & Peng, M. W. 2012. Expatriate knowledge transfer, subsidiary absorptive capacity, and subsidiary performance. *Academy of Management Journal*, 55(4), 927-948.
- Clark, B. H., Abela, A. V., & Ambler, T. 2005. Organizational motivation, opportunity and ability to measure marketing performance. *Journal of Strategic Marketing*, 13(4), 241-259.
- Dahlqvist, J., & Wiklund, J. 2012. Measuring the market newness of new ventures. *Journal of Business Venturing*, 27(2), 185-196.
- Davidsson, P. 1991. Continued entrepreneurship: Ability, need, and opportunity as determinants of small firm growth. *Journal of Business Venturing*, 6(6), 405-429.

- Davidsson, P. 2004. *Researching entrepreneurship*. New York, Springer.
- Davidsson, P. 2015. Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing* 30(2), 674-695.
- Davidsson, P., Honig, B., 2003. The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301-331.
- De Castro, J. O., Khavul, S., & Bruton, G. D. (2014). Shades of grey: how do informal firms navigate between macro and meso institutional environments? *Strategic Entrepreneurship Journal*, 8(1), 75-94.
- Desai, M., P. Gompers, and J. Lerner, 2003. Institutions, capital constraints and entrepreneurial firm dynamics: evidence from europe. *National Bureau of Economic Research*, WP Series no. 10165
- DiMaggio, P. J., & Powell, W. W. (Eds.). 1991. *The new institutionalism in organizational analysis* (Vol. 17). Chicago, IL, University of Chicago Press.
- Dimov, D. 2011. Grappling with the unbearable elusiveness of entrepreneurial opportunities. *Entrepreneurship Theory and Practice*, 35(1), 57-81.
- Donckels, R. 1991. Education and entrepreneurship experiences from secondary and university education in Belgium. *Journal of Small Business & Entrepreneurship*, 9(1), 35-42.
- Ericson, R., & Pakes, A. 1995. Markov-perfect industry dynamics: A framework for empirical work. *The Review of Economic Studies*, 62(1), 53-82.
- Estrin, S., Mickiewicz, T., & Stephan, U. 2016. Human capital in social and commercial entrepreneurship. *Journal of Business Venturing*, 31(4), 449-467.

- Fogel, K., Hawk, A., Morck, R., Yeung, B., 2006. Institutional obstacles to entrepreneurship. In: Casson, M., Yeung, B., Basu, A., Wedeson, N. (Eds.). *The Oxford handbook of entrepreneurship*. Oxford University Press, Oxford, pp. 540-579.
- Ford, J. B., Karande, K. W., & Seifert, B. M. 1998. The role of economic freedom in explaining penetration of consumer durables. *Journal of World Business*, 33(1), 69-86.
- Fritsch, M., Brixy, U. and O. Falck. 2006. The Effect of Industry, Region, and Time on New Business Survival – A Multi-Dimensional Analysis. *Review of Industrial Organization*, 28(3), 285-306.
- Gartner, W. B. 1989. Some suggestions for research on entrepreneurial traits and characteristics. *Entrepreneurship Theory and Practice*, 14(1), 27-38.
- Giacomin, O., & Janssen, F. 2012. Necessity and/or Opportunity Entrepreneurship: Which Impact on the Firm's Creation. Louvain School of Management Doctoral Thesis.
- Gompers, P. A., Lerner, J. , 1999. *The venture capital cycle*. MIT Press, Cambridge, MA
- Hall, P. A., & Soskice, D. 2001. An introduction to varieties of capitalism. In P. A. Hall, & D. Soskice (Eds.), *Varieties of capitalism: The institutional foundations of comparative advantage*, pp. 1–70. Oxford, UK: Oxford University Press.
- Hayek, F.A., 1994. Competition as a discovery procedure. In: Kirzner, I. (Ed.), *Austrian Economics: the age of Mises and Hayek*, Vol. 3. Pickering & Chatto, London, pp. 273-283 (Article originally published 1978).
- Heckelman, J.C. 2000. Economic freedom and economic growth: A short-run causal investigation. *Journal of Applied Economics*, 3(1), 71-91.
- Hessels, J., Van Gelderen, M., & Thurik, R. 2008. Entrepreneurial aspirations, motivations, and their drivers. *Small Business Economics*, 31(3), 323-339.

- Hofmann, D. A. 1997. An overview of the logic and rationale of hierarchical linear models. *Journal of Management*, 23(6), 723-744.
- Hofmann, D. A., & Gavin, M. B. 1998. Centering decisions in hierarchical linear models: Implications for research in organizations. *Journal of Management*, 24(5), 623-641.
- Hsu, P. H., Tian, X., & Xu, Y. 2014. Financial development and innovation: Cross-country evidence. *Journal of Financial Economics*, 112(1), 116–135.
- Khanna, T., & Palepu, K. 2005. Spotting institutional voids in emerging markets. Watertown, MA, Harvard Business School Press.
- Khanna, T., Palepu, K. G., & Sinha, J. (2005). Strategies that fit emerging markets. *Harvard Business Review*, 83(6), 4-19.
- Kirzner, I.M., 1973. *Competition and entrepreneurship*. University of Chicago Press, Chicago, IL.
- Kleinknecht, A. 1987. Measuring R&D in small firms: How much are we missing? *Journal of Industrial Economics*, 36, 253-256.
- Kolvereid, L. 1992. Growth aspirations among Norwegian entrepreneurs. *Journal of Business Venturing*, 7(3), 209-222.
- Krueger Jr, N. F., Reilly, M. D., & Carsrud, A. L. 2000. Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5-6), 411-432.
- Levesque, M., & Minniti, M. 2006. The effect of aging on entrepreneurial behavior. *Journal of Business Venturing*, 21(2), 177-194.
- Levie, J., & Autio, E. 2008. A theoretical grounding and test of the GEM model. *Small Business Economics*, 31(3), 235-263.

- Lorenz, E., & Valeyre, A. 2005. Organizational innovation, human resource management and labor market structure: A Comparison of the EU-15. *The Journal of Industrial Relations*, 47(4), 424-442.
- Lounsbury, M., Glynn, M.A., 2001. Cultural entrepreneurship: stories, legitimacy, and the acquisition of resources. *Strategic Management Journal*, 22 (6-7), 545-564.
- Martin, B. C., McNally, J. J., & Kay, M. J. 2013. Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing*, 28(2), 211-224.
- McKelvey, B. 2004. Toward a complexity science of entrepreneurship. *Journal of Business Venturing*, 19(3), 313-341.
- Morris, M. H., Miyasaki, N. N., Watters, C. E., & Coombes, S. M. (2006). The dilemma of growth: understanding venture size choices of women entrepreneurs. *Journal of Small Business Management*, 44(2), 221–244.
- North, D. 1990. *Institutions, institutional change, and economic performance*. New York, Norton
- Pereira, E. 2011. Does entrepreneurship drive economic growth?.
<https://www.forbes.com/sites/megacities/2011/04/25/does-entrepreneurship-drive-economic-growth/#a7128a8a7128>, accessed on April, 25th, 2017.
- Peterson, M. F., Arregle, J. L., & Martin, X. 2012. Multilevel models in international business research. *Journal of International Business Studies*, 43(5), 451-457.
- Pezeshkan, A., Smith, A., Fainshmidt, S., & Sedeh, A. A. 2016. National business systems and firm innovation: A study of developing economies. *Journal of Business Research*, 69(11), 5413-5418.
- Porter, M. E. 1990. The competitive advantage of nations. *Competitive Intelligence Review*, 1(1), 14-14.

- Raudenbush, S. W., & Bryk, A. S. 2002. *Hierarchical linear models: Applications and data analysis methods* (Vol. 1). London, Sage.
- Reynolds, P., 2010. New firm creation: a global assessment of national, contextual, and individual factors. *Foundations and Trends in Entrepreneurship*, 6(5-6), 315–496.
- Reynolds, P. D., M. Hay and S. Michael Camp, 1999, *GEM Global 1999 Executive Report*, Kansas City, Kaufman Center.
- Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., ... & Chin, N. 2005. Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics*, 24(3), 205-231.
- Reynolds, P., & Miller, B. 1992. New firm gestation: Conception, birth, and implications for research. *Journal of Business Venturing*, 7(5), 405-417.
- Roper, S., & Scott, J. M. 2009. Perceived financial barriers and the start-up decision an econometric analysis of gender differences using GEM data. *International Small Business Journal*, 27(2), 149-171.
- Robinson, P. B., Stimpson, D. V., Huefner, J. C., & Hunt, H. K. 1991. An attitude approach to the prediction of entrepreneurship. *Entrepreneurship Theory and Practice*, 15(4), 13-31.
- Rosenbusch, N., Brinckmann, J., & Bausch, A. 2011. Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing*, 26(4), 441-457.
- Sahlman, W. A. 1990. The structure and governance of venture capital organizations. *Journal of Financial Economics*, 27(2), 473-521.

- Samuelsson, M., & Davidsson, P. 2009. Does venture opportunity variation matter? Investigating systematic process differences between innovative and imitative new ventures. *Small Business Economics*, 33(2), 229-255.
- Sarason, Y., Dillard, J. F., & Dean, T. 2010. How can we know the dancer from the dance?: Reply to “Entrepreneurship as the structuration of individual and opportunity: A response using a critical realist perspective”.(Mole and Mole, 2008). *Journal of Business Venturing*, 25(2), 238-243.
- Sarasvathy, S. D. 2001. Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243-263.
- Schumpeter, J. A. 1942. *Capitalism, socialism, and democracy*, New York, Harper and Row.
- Schumpeter, J. A. 1961. *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. London, Oxford University Press.
- Schumpeter, J.A., 1983. *The theory of economic development*. Transaction Publishers, New Brunswick, NJ. (Original published in 1934).
- Scott, W.R., 1995. *Institutions and organizations*. Sage Publications, Thousand Oaks, CA.
- Shane, S., 2000. Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science*, 11 (4), 448–469.
- Shane, S., & Venkataraman, S. 2000. The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217-226.
- Singh, G. & Verma, A. 2001. Is there life after career employment? Labour market experience of early retirees. In V. Marshall, W. Heinz, H. Krueger, & A. Verma (eds.), *Restructuring work and the life course*. Toronto, University of Toronto Press.

- Stenholm, P., Acs, Z. J., & Wuebker, R. 2013. Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*, 28(1), 176-193.
- Stephan, U., Uhlaner, L. M., & Stride, C. 2015. Institutions and social entrepreneurship: The role of institutional voids, institutional support, and institutional configurations. *Journal of International Business Studies*, 46(3), 308-331.
- Sterling, A., & Boxall, P. 2013. Lean production, employee learning and workplace outcomes: a case analysis through the ability-motivation-opportunity framework. *Human Resource Management Journal*, 23(3), 227-240.
- Suddaby, R. 2010. Challenges for institutional theory. *Journal of Management Inquiry*, 19(1), 14-20.
- Thornton, P. H. 1999. The sociology of entrepreneurship. *Annual Review of Sociology*, 25(1), 19-46.
- Urbano, D., Aparicio, S., & Audretsch, D. 2018. Twenty-five years of research on institutions, entrepreneurship, and economic growth: what has been learned?. *Small Business Economics*, 1-29.
- Venkataraman, S. 2004. Regional transformation through technological entrepreneurship. *Journal of Business Venturing*, 19(1), 153-167.
- Verheul, I., Wennekers, S., Audretsch, D., & Thurik, R. 2002. An eclectic theory of entrepreneurship: policies, institutions and culture. In *Entrepreneurship: Determinants and policy in a European-US comparison*, (pp. 11-81). US, Springer.
- Warner, R. M. 2008. *Applied statistics: From bivariate through multivariate techniques*. London, Sage.
- Welter, F., & Smallbone, D. 2011. Institutional perspectives on entrepreneurial behavior in challenging environments. *Journal of Small Business Management*, 49(1), 107-125.
- Williamson, O., 2000. New institutional economics. *Journal of Economic Literature*, 38(3), 595-613.

Wilson, F., Kickul, J., & Marlino, D. 2007. Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: implications for entrepreneurship education. *Entrepreneurship Theory and Practice*, 31(3), 387-406.

World Bank. 2005. *Doing business in 2005: Removing obstacles to growth*. Washington, DC, World Bank, the International Finance Corporation, and Oxford University Press.

World Bank. 2007. *World development report 2008: Agriculture for development*. World Bank.

World Economic Forum. 2012. Outlook on the Global Agenda 2012. Available at <http://outlook.weforum.org>. Accessed May 11, 2017.

TABLE 1.1
Public/Private Institutional Voids Factor Scores

| Institutional Voids | Factor Loadings | |
|--|-----------------|---------|
| | Public | Private |
| Judiciary Independence | .72 | |
| Political Stability | .81 | |
| Property Rights | .77 | |
| Control of Corruption | .78 | |
| Trade Freedom | .77 | |
| Business Freedom | .85 | |
| FDI Inflow | .68 | |
| Infra-Structure Quality | .60 | |
| Antimonopoly Policies | .83 | |
| Quality of Education | .71 | |
| Consumer Orientation Index | | .75 |
| Local Market Competition | | .76 |
| Employer-Employee Relationship Quality | | .74 |
| Flexibility of Wage Determination | | .68 |
| Financial Services Availability | | .80 |
| Venture Capital Availability | | .83 |

TABLE 1.2

Descriptive Statistics and Correlations- Individual and Country-Level Variables

| Variable | Mean | S.D | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|----------------------------|-------|-------|--------|--------|--------|--------|--------|-------|--------|--------|--------|
| 1.IE | 0.00 | 1.00 | | | | | | | | | |
| 2.EHC | 0.00 | 1.00 | .07** | | | | | | | | |
| 3.EOAP | .64 | .48 | .04** | .04** | | | | | | | |
| 4.EOS | .68 | .47 | .12** | .08** | .11** | | | | | | |
| 5.Gender | 1.41 | .49 | -.04** | -.07** | -.02** | -.02** | | | | | |
| 6.Age | 36.51 | 12.36 | -.02* | .06** | .05** | -.06** | .01 | | | | |
| 7.Income | 2.10 | .84 | .04** | .13** | .06** | .03** | -.1** | .01 | | | |
| 8.Entre's Social Capital | .65 | .47 | .05** | .08** | .16** | .04** | -.05** | .06** | .2** | | |
| 9.Entre's Self-efficacy | .84 | .36 | .04** | .04** | .15** | .07** | -.05** | .02** | .07** | .14** | |
| 10.Entre's Fear of Failure | .27 | .45 | -.09** | .02** | -.12** | -.03** | .05** | .00 | -.06** | -.05** | -.17** |

| Variable | Mean | S.D | 1 | 2 | 3 | 4 | 5 |
|---------------------------------|----------|----------|--------|--------|-------|------|------|
| 1.Public Institutional Quality | 0.00 | 1.00 | | | | | |
| 2.Private Institutional Quality | 0.00 | 1.00 | .00** | | | | |
| 3.GDP Per Capita (PPP) | 20902.47 | 15826.47 | .51** | .48** | | | |
| 4.GDP Growth | 2.70 | 8.40 | .46** | .35** | -.05 | | |
| 5.Unemployment Rate | 10.64 | 8.99 | -.21** | -.36** | -.22* | -.09 | |
| 6.Population (Millions) | 76.48 | 217.34 | .33** | .21* | -.17 | -.13 | -.09 |

** $p < .01$, two-tailed

* $p < .05$, two-tailed

TABLE 1.3

Results of Hierarchical Linear Modeling Analyses: Main and Interactive Effects

| Variables | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---------|---------|---------|---------|
| Individual Level Controls | | | | |
| Gender | .04 | -.01 | .01 | .01 |
| Age | -.01*** | -.01** | -.01** | -.01** |
| Income | .02*** | .01* | .02* | .0* |
| Social Capital | .05** | .04** | .03** | .03* |
| Self-Efficacy | .11*** | .09*** | .08*** | .07*** |
| Fear of Failure | -.02* | -.02* | -.03* | -.02** |
| Country Level Variables | | | | |
| GDP Growth | | | .01 | .01 |
| GDP Per Capita | | | .01* | .01* |
| Unemployment Rate | | | .02*** | .02*** |
| Public Institutional Voids (Public) | | | .07 | .04 |
| Private Institutional Voids (Private) | | | .13 | .09 |
| Individual Level Predictors | | | | |
| Entrepreneurial Human Capital (EHC) | | .10*** | .09*** | .11*** |
| Opportunity Actualization Motivation (EOAM) | | .09*** | .08*** | .07*** |
| Opportunity Seeking (EOS) | | .18*** | .17*** | .21*** |
| Cross Level Interactions | | | | |
| EHC*Public | | | | .09** |
| EOAM*Public | | | | .11*** |
| EOS*Public | | | | .17*** |
| EHC*Private | | | | .12*** |
| EOAM*Private | | | | .19** |
| EOS*Private | | | | .09* |
| Number of Observations | 29102 | 29102 | 29102 | 29102 |
| Number of Countries | 63 | 63 | 63 | 63 |
| Prob > χ^2 | 0.000 | 0.000 | 0.000 | 0.000 |
| Deviance | 5331 | 5205 | 5111 | 5013 |

* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 1.1

Interaction Effect Entrepreneurial Competencies and Public Institutional Quality

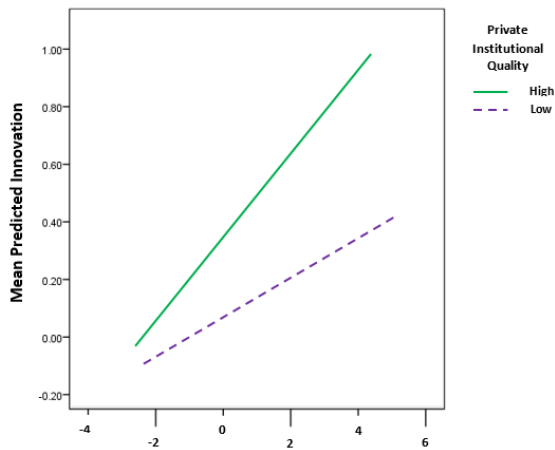


Fig 1.1a EHC and Public Inst. Quality

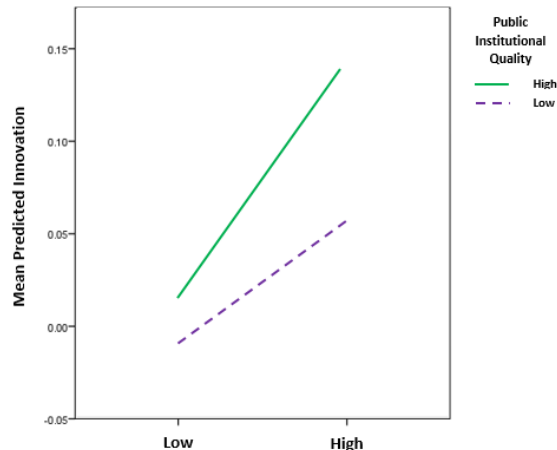


Fig 1.1b EOAM and Public Inst. Quality

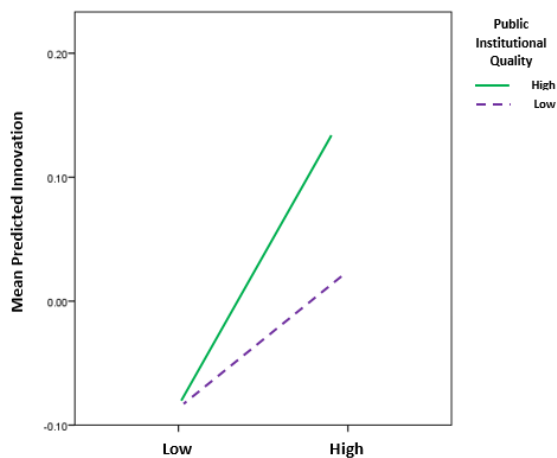


Fig 1.1c EOS and Public Ins. Quality

Figure 1.2

Interaction Effect Entrepreneurial Competencies and Private Institutional Quality

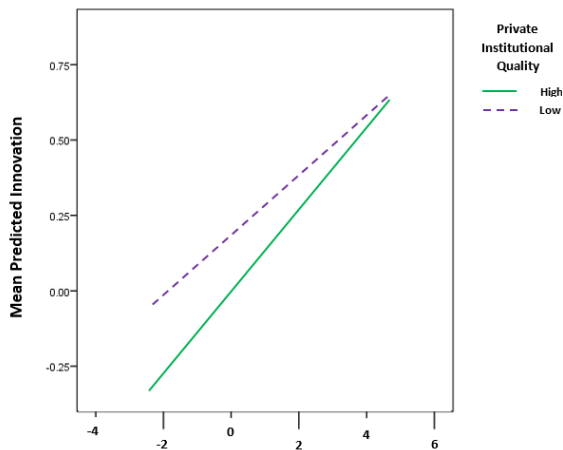


Fig 1.2a EHC and Private Inst. Quality

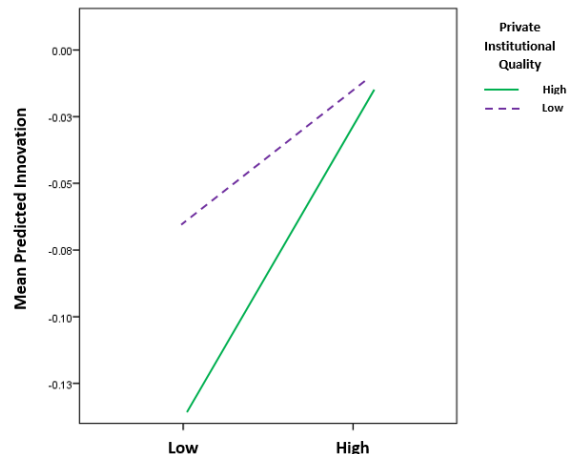


Fig 1.2b EOAM and Private Inst. Quality

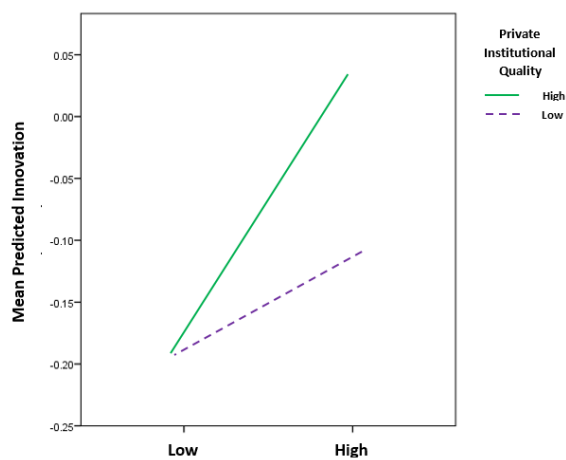


Fig 1.2c EOS and Private Ins. Quality

ESSAY 2

ENTREPRENEURIAL RESOURCE MANAGEMENT: A CONFIGURATIONAL ANALYSIS

ABSTRACT

Although prior research on the resource bundles of new ventures has substantially advanced our understanding of how isolated resources and capabilities affect new venture's outcomes, entrepreneurs consider resource development as a complex interactive set of factors, rather than a collection of independent factors. Hence, this study breaks new ground by examining entrepreneurial resource management strategies using a configurational approach. Building on a fuzzy-set analysis of more than 500 new ventures in the U.S., our research identifies five distinct configurations of resource structuring, bundling, and leveraging that collectively explain the profitability of entrepreneurial firms operating within both dynamic and stable industries. By illustrating that there are multiple successful pathways that entrepreneurs can take, the findings indicate the equifinality of resource management strategies. Consequently, these findings offer new insights to both practitioners and scholars who are interested in entrepreneurial new ventures.

Keywords: Qualitative comparative analysis, resource management, entrepreneurial ventures success

1. INTRODUCTION

In today's economy where potential entrepreneurs need a bright idea, a dynamic web page, and a memorable name to launch a new business, the primary objective of each new venture is to create value for customers and wealth for entrepreneurs (Conner, 1991). Given the critical role of resources in value creation, one of the most important explanations for a new venture's success is the entrepreneur's resource choices (Brush, Manolova, & Edelman, 2008). For entrepreneurial ventures, resources are important not only in the "emergence" (i.e., startup) stage, but also are central drivers of product development, growth, creating a competitive advantage, and ultimate survivability (Clarysse, Bruneel, & Wright, 2014).

Although resource-based view (RBV) framework has provided the core logic to link resources to new ventures profitability, prior research has criticized RBV for its simple and static view regarding resources. That is, the RBV does not clarify *how* different resources are connected to the strategies that new venture pursue (Barney & Arkan, 2001). Additionally, research on new ventures using RBV as the underlying theory treated resources individually and the evidence on the effectiveness of any of resources is not encouraging (Hansen, Perry, & Reese, 2004). Furthermore, it has proven difficult to test which specific resource developments lead to profitability and whether different resource development strategies are equally successful in developing a competitive advantage using RBV.

Therefore, development of competitive advantages is not guaranteed by possession of resources; instead, we believe that the full value of resources is captured when they are structured, bundled and appropriately leveraged (Sirmon, Hitt, & Ireland, 2007). In other words, the resource bundles of entrepreneurial ventures are complex configurations (i.e., *gestalts*), rather than an assembly of independent characteristics. This notion reflects the critical differences

between resources, processes, and capabilities. While resources are the factors of production that entrepreneurs control, processes are the related actions to set the stage for a specific objective and capabilities are the way that entrepreneurs manage these processes (Kraaijenbrink, Spender, & Greon, 2010; Ray, Barney, & Muhanna, 2004). Additionally, since the RBV is silent about the external environment contingencies, the effects of entrepreneurial ventures' external environment on the process of managing resources needs to be further examined (Bettis & Hitt, 1995).

Given the previous arguments, what is lacking from prior investigations of new ventures, rather than *which* resources they need to possess, is *what* they need to do with their resources. To fill this gap, some scholars suggest that investigation and further understanding of the outcomes of resources require distinguishing between various types of resources and evaluating the interdependencies of these types using novel empirical approaches (Chandra, Balodi, & Prabhu, 2014). However, we still know little of how different resources work together to afford new venture's profitability.

In this study, we build upon the resource management perspective, the comprehensive process of structuring the resource portfolio, bundling resources to build capabilities, and leveraging capabilities with the purpose of creating and maintaining value for customers and owners (Sirmon et al., 2007). In so doing, we attempt to complement and enhance the current understanding about how resources are bundled together to yield value. Consistent with resource management arguments, we posit that new entrepreneurial ventures must develop proficiency at structuring, bundling, and leveraging capabilities to effectively capture opportunities, develop a competitive advantage, and reap the benefits. We intend to extend literature regarding entrepreneurial resource management through an investigation of new ventures' capabilities

focused on our research question: What types of resource management strategies lead to entrepreneurial ventures' success?

To address this question, we apply fuzzy-set Qualitative Comparative Analysis (fsQCA: Ragin, 2008). Fuzzy-set analysis, a nonlinear, qualitative-quantitate technique, allows us to examine different configurations of resource management elements and the related subprocesses. Therefore, fsQCA provides us with fresh insight regarding how different resource management configurations influence creating a competitive advantage. FsQCA not only has potential to extend our understanding about the value of entrepreneurial capabilities but also allows us to build the theory on equifinality effects. That is, there exists multiple, context-specific resource management pathways to new venture's success and profitability.

Our findings contribute to the extant research on entrepreneurship and RBV in different ways. First, we intend to disentangle the complicated association between combinations of resources and capabilities that are likely to lead to competitive advantage. Therefore, we explore the different aspects of resource management in new ventures to shed light on *necessary* entrepreneurial capabilities to establish a successful venture. In this vein, we evaluate resource management strategies to precisely demonstrate how different resource structuring, bundling, and leveraging capabilities in different environmental contexts affect the competitive advantage development.

Second, following prior research applying fsQCA to strategic management research (e.g., Campbell, Sirmon, & Schijven, 2016; Greckhamer, Misangyi, Elms, & Lacey, 2008), we intend to apply a deductive approach to identify causal factors and an inductive theory-building approach to develop new predictions with respect to configurations of resource management components. Accordingly, our results may shed light on the most critical capabilities for new

ventures in different industries. We also provide entrepreneurs with fresh insights by exploring how new ventures that lack specific capabilities may decrease the odds of failure.

2. THEORETICAL DEVELOPMENT

2.1 Entrepreneurial Ventures Success

Nascent entrepreneurs are individuals who initiate activities that are intended to culminate in a viable new firm (Reynolds, 1994). Although over the years, our understanding of different factors enabling or hindering entrepreneurship has increased, it is only recently that scholars have addressed the question of why some new ventures are successful whereas some others fail. Furthermore, although research on successful new ventures in terms of legitimizing activities (i.e., developing and incorporating a business plan), financing activities (i.e., acquiring initial capital), and formation activities (i.e., completion of organizing activities) is abundant, little research has addressed creating value, the primary objective of every business entity, as the primary antecedent of new ventures' success (Conner, 1991).

When evaluating value creation, the extant literature recognizes creating a competitive advantage as an important factor in facilitating success through new venture's enhanced growth and overall market value (Kuratko 2009; Wiklund, Patzelt, & Shepherd, 2009). Although previous research acknowledges a positive association between developing capabilities and new ventures success, there are also potential costs of capability development that are even more relevant for startups (Kreiser, Marino, Kuratko, & Weaver, 2013). Consider high-tech ventures, for example, where technological innovation often requires a substantial initial investment of resource expenditures. Such resource allocation could be challenging during the early stages of venture's life cycle given resource constraints associated with this phase of the venture. Additionally, to be innovative, startups must develop various capabilities to differentiate

themselves from the competitors (Branzei & Vertinsky, 2006). This suggests that new ventures are only likely to succeed once they begin to generate positive cash flow by generating revenues more than initial costs through proper resource management. In this vein, new ventures must obtain essential resources to exploit opportunities, bundle them in a way to create capabilities that better able them to make sense of anticipated changes in customer needs, and leverage the capabilities to disrupt industry status quo to generate positive cash flow.

2.2 Resource Management for Entrepreneurial Venture Success

Resource management is the comprehensive process of structuring, bundling, and leveraging firm's resources to create value for the customers (Sirmon et al., 2007). Given the different nature of required resources for entrepreneurial ventures, the process of creating a competitive advantage is significantly different from traditional RBV logic for established firms (Edelman & Yli-Renko, 2010). First, the notions of opportunity discovery and exploitation, as the building blocks of new venture creation, indicate that entrepreneurs' perceptions regarding the availability of resources is not homogenous. Additionally, particularly for new ventures, the firm's environment has a central role in the development of different capabilities (Brush et al., 2001). As such, the nascent business requires a different theoretical framing than traditional RBV logic lays out.

In line with the resource management perspective, we conceptualize entrepreneurial resource management as the comprehensive process of structuring resources, bundling resources into capabilities, and leveraging the resulting capabilities to exploit the discovered niche. The process of resource management pertains to critical individual entrepreneurs capabilities. We believe that these three capabilities have a central influence on entrepreneurial venture success for several reasons. First, the purpose of entrepreneurial resource management is to effectively utilize the

new venture's resources to reach a specific objective such as gaining required initial legitimacy, establishing viability in the marketplace, transacting with the stakeholders, and scaling the venture's operation to achieve growth (Lumpkin & Dess, 2001). Second, results of empirical tests related to resource management are encouraging (Sirmon, Hitt, Ireland, Gilbert, 2008). For instance, previous research not only confirms the importance of resource bundling in firm's performance but also acknowledges the primary effects of relationships among resource management processes (e.g., Kor & Leblebici, 2005; Sirmon, Hitt, Arregle, & Campbell, 2010). As such, similar to the critical role of managers, entrepreneur's actions significantly mediate the resource-performance linkage through creating a competitive advantage (Ndofor, Sirmon, & He, 2011).

2.2.1 Resource Structuring & Entrepreneurial Venture Success. At the very beginning of an entrepreneur's journey, it all starts with a novel idea. This idea is usually a perceived market opportunity regarding a substantially new product or service, or a better way of doing things. Each entrepreneur requires a resource portfolio to exploit the perceived opportunity and to create value. The resource portfolio is the sum of all firm-controlled resources (Katz & Gartner, 1988). For simplicity, resources can be categorized into two main types, namely tangible and intangible resources (Lichtenstein & Brush, 2001). Tangible resources are simple and property based. Such resources can apply directly to the productive process or be utilized to develop other resources (Brush et al., 2008). Intangible resources are complex, systematic, and knowledge-based (Amit & Shoemaker; 1993). As the advanced factors of production, such resources are more complicated to transform, combine or exploit into a unique advantage.

To form the resource portfolio, the entrepreneur needs to make decisions regarding the order, timing, and types of resources to develop or acquire. All of these processes are strongly tied to

the success of the new venture. The latter is important because is because, while entrepreneurs may initially finance the new venture from their own savings, they often lack the required capital, material or expertise to fully exploit the opportunity (Shane, 2003). That is, for most new ventures, initial resource endowments are incomplete. Structuring the resources bundle is one of the processes by which firms develop their resource portfolio. In the process of structuring, entrepreneurs not only assemble their resource bundle but also make judgments about which resources are more or less significant. These decisions reflect the expectations of the entrepreneur about the future of the firm. Entrepreneurs usually emphasize one resource over the other one based on a time-cost trade-off. This trade-off, if based on realistic expectations, positively affects developing a competitive advantage and further success. In sum, to establish a viable startup, entrepreneurs must experiment with different experimental resource structuring patterns that enable the venture to establish a competitive advantage.

To structure the primary resource bundle, entrepreneurs must either *acquire* or *accumulate* resources. Acquiring refers to purchasing resources from factor markets whereas accumulating refers to the internal development of resources (Sirmon et al, 2007). For instance, new ventures require to acquire external financial capital, employees with technical skill, and maybe a management team. As far as the new venture's success, the proprietary resources, usually known as the secret critical ingredient, can be accumulated internally and result in the new venture's success. Additionally, acquiring the resources from the market is contingent upon the availability of resources, their costs, and the speed to completion of launching the products. As such, sometimes being the first one to get into the market justifies the acquisition costs and leads to a first mover position. This is critical since if the acquired resources are developed internally, it is likely to divert human resources from more important tasks. Finally, structuring the initial bundle

of resources affects new venture's success since this portfolio forms the foundation for subsequently bundling resources to form the primary capabilities of the venture. Overall, resource structuring components are central in creating a competitive advantage and consequent success of a new venture. Thus:

Proposition 1: The resource structuring in new ventures will significantly influence the new venture's success in a way that the effectiveness of entrepreneurial resource management requires the presence of at least one component of resource structuring.

2.2.2 Resource Bundling & Entrepreneurial Venture Success. As each venture begins with a resource portfolio, the decision regarding how to combine different resources directly affects the future success of the new venture, separate and distinct from the availability of resources. The development of basic resources into unique resources involves transferring and combining resources. This process is critical for entrepreneurial firms since new ventures that are unable to transition from reliance on basic resources and extend them to organizational capabilities will be constrained in creating value. Thus, the second component of resource management, entrepreneurial resource bundling, is concerned with how resources are combined and transformed within a new firm to create capabilities. In fact, bundling pertains to a process by which capabilities are formed (Sirmon et al., 2008). Similar to heterogeneous paths undertaken by entrepreneurs to structure the resource bundle, they have different perceptions regarding the potential for resources to be combined or transformed to create value. In the same way, to successfully develop a competitive advantage, resources which are integrated, need to be combined and institutionalized to allow the firm to take specific actions (Siggelkow, 2002)

New ventures typically have pockets of excellence that are the root of sustaining value creation and growth (Brush, Greene, & Hart, 2001). That is, there are specific activities in which

each venture excels (e.g., technological expertise, efficiency procedures). Entrepreneurs can either maintain such starting endowments or extend them. Resource bundling encompasses resource stabilizing, resource enriching, and resource pioneering. Resource bundling has been shown to significantly affect firm-level outcomes regarding competitive advantage realization and innovation (Sirmon et al., 2008; Tzabbar et al., 2008).

Resource stabilizing refers to the process of incrementally making minor changes and improvements in an existing bundle of resources. Such changes do not add any new core element to the current resources but reinforce the existing core elements. Entrepreneurial firms with an existing competitive strategy use stabilizing to maintain their advantage over time (Siggelkow, 2002). For instance, a founder of a new venture may ask the employees to attend some training classes to keep their skills relevant and update. Maintaining a unique advantage among competitors is vital for survival and further growth.

Resource enriching goes beyond resource maintenance by extending and elaborating on existing capabilities by either learning a new skill or adopting a complementary resource (Sirmon et al., 2007). In comparison to resource stabilizing, resource enriching results in a broader resource modification. Resource enriching facilitates new ventures success by transferring and tailoring the strengths of the new ventures to new market expectations and business models. For instance, a founder of a non-profit organization may extend his/her knowledge in marketing to design web-based advertising for public museums to increase the exposure of potential customers to a broader array of items to purchase. Additionally, entrepreneurs can enrich the new venture's capabilities by learning new skills or adding a new complementary resource.

As the third component of bundling, resource pioneering is focused on creating entirely new capabilities by integrating new, external resources or capabilities with existing ones (Carnes & Ireland, 2013). For instance, the acquisition of an unrelated company or resource reflects pioneering. In some specific industries (e.g., uncertain environments), to create and to maintain competitive advantage, new ventures need to use pioneering bundling. In such contexts, opportunities are fleeting and if new ventures delay exploitation due to lack of capabilities, the opportunity will be missed. Evidence of resource bundling suggests that this component of resource management has a central role in new venture's success. Hence:

Proposition 2: Resource bundling in new ventures will significantly influence the new venture's success in a way that the effectiveness of entrepreneurial resource management requires the presence of at least one component of the resource bundling capability.

2.2.3 Resource Leveraging & Entrepreneurial Venture Success. Each market is composed of different niches and segments. The resulting complexity and heterogeneity create multiple opportunities for entrepreneurial ventures to leverage their idiosyncratic capabilities (Miller, 2003). Entrepreneurial resource leveraging encompasses processes used to apply new venture capabilities to serve customers efficiently and also to create wealth for individuals (Sirmon et al., 2007); and it is the third and final component of effective resource management. As a result of an effective leveraging of firm's capabilities, new ventures develop the required learning competencies to foster their application in other market contexts.

Even the most critical and the most integrated configurations are of no value unless the entrepreneur decides where (i.e., which markets) and how (i.e., which products) leverage the capabilities to adequately satisfy the needs of the most massive amount of customers and develop the highest amount of value (Barney & Arkan, 2001). In this vein, entrepreneurial resource

leveraging, that is matching the new ventures' capabilities to customers' needs, is tightly tied to entrepreneurial firms' success (Slater & Narver, 1999).

Although different leveraging strategies are mostly idiosyncratic, Sirmon and colleagues (2007) identify three main leveraging strategies. First, *resource advantage strategy* refers to leveraging capability configurations that produce a distinctive and unique competence to provide value to customers that are superior to the value provided by competitors. Such entrepreneurial ventures leverage the same promising capability across different products. The critical point here is the leveraged capability produces a distinctive competency. This notion is similar to leveraging capabilities across different industries through a related or unrelated diversification. For instance, when Uber diversified into food delivery by launching Uber Eat, it mobilized its capability configurations in marketing and operations efficiency. Applying this capability results in product newness in the same market that addresses different needs of customers. Accordingly, the product newness creates value for customers and is a source of competitive strategy for new ventures (Hamel & Valikangas, 2003).

Exploiting market opportunities, as the second leveraging strategy, pertains to the extent that a firm explores new markets. That is, new ventures select markets in which their capabilities can be effectively leveraged. New market exploiters use the knowledge gained through serving existing customers to serve new customers in different markets. It encompasses the careful analysis of the external environment to identify opportunities for which the firm has capabilities to exploit. Many of the new ventures with innovative products actively search for new international markets to leverage its capabilities across new markets. Satisfying the needs of a larger number of audience will generate higher profit and leads to new venture's success.

The third leveraging strategy, *entrepreneurial strategy*, includes developing new capabilities to serve new markets. This leveraging strategy pertains to new venture's capability to replace the existing technologies and change the dominant design/standard of current product. As such, entrepreneurial strategy pertains to leveraging capabilities across both new products and new markets. Such new ventures learn how to use their expertise gained from serving a specific segment of customers to serve new customers with different needs. For instance, in the 1980s, Nintendo, as a successful Japanese competitor for Atari, not only blocked out the previous technology but also won the format war and dominated U.S market. In a nutshell, resource leveraging components are central dimensions of new ventures resource management and affect new venture's profitability. Thus:

Proposition 3: Resource leveraging in new ventures will significantly influence the new venture's success in a way that the effectiveness of entrepreneurial resource management requires the presence of at least one component of the resource leveraging capability.

2.3 The Influence of Environmental Contingencies

The process of managing resources to create value for customers along with the amount of value generated by the firm is affected by the environmental context (Ireland & Webb, 2007). Although traditional RBV studies have focused on internal organizational resources and capabilities that facilitate development of a successful competitive advantages based on the best practices for environmental management, scholars lack a general theory to explain how the general business environment affects the development of a proactive strategy and its impact on competitive advantage (Aragom-Correa & Sharma, 2003). Thus, one of the main shortcomings of the classic theory is the lack of consideration of exogenous factors. This is why the proponents

of the RBV support the inclusion of a contingency perspective in assessments of the competitive advantages of organizations (Barney & Arikan, 2001).

Environmental effects are crucial for entrepreneurs since they can either foster or hinder the success of new ventures. As suggested by multiple multi-level studies (e.g., Bowen & De Clercq, 2008; Hitt, Beamish, Jackson, & Mathieu, 2007), in order to fully capture the different dynamics of new entrepreneurial ventures (including new venture growth, new venture success, and new venture establishment) it is essential to consider the environmental factors. Accordingly, in line with contingent RBV, the superior performance of a new venture results from the proper alignment of internal organizational resources and external context variables. The current research incorporates the external environment perspective by investigating the effects of environmental dynamism on the complex association between entrepreneurial resource management and new venture's success.

Environmental dynamism reflects the degree to which the new venture's external environment is subject to unpredictable and rapid change (Miller, 2007). Turning to the relationship between environmental dynamism, new venture's success, and entrepreneurial resource management, high levels of environmental dynamism, due to the resulted uncertainty, jeopardizes sustaining a competitive advantage and pushes new ventures to manage resources differently to seek temporary complete advantages (Lichtenstein & Brush, 2001).

Extant empirical research shows that patterns of capabilities, those that enhance new venture fit, vary considerably with market dynamism (Eisenhardt & Martin, 2000). Such variance is rooted in the effects of the environment on acquiring the resources, nature of the demand, industry attributes, institutional context, boundaries, and environmental risks (Mckelvie & Davidsson, 2009). That is, the efficiency of capabilities varies with market dynamism, and

market dynamism affects the development of capabilities (Teece, Pisano, & Shuen, 1997). As such, environmental dynamism effect over new venture's success influences development of resource management pathways (i.e., firms structure, bundle, and leverage resources differently). For instance, the introduction of wireless technology into the telecommunication markets made high-tech new ventures seek new intangible resources, recombine resources, and deploy them differently to deal with the ambiguous expectations of customers and compete effectively to create a competitive advantage. Such effect is so influential that environmental dynamism is a critical factor in resource management of new ventures. Thus we propose that:

Proposition 4: Environmental dynamism will significantly influence the new venture's success in a way that the effectiveness of entrepreneurial resource management requires consideration of it.

2.4 The Configurational Approach to Resource Management

Generally, from the preceding discussion, we can see that different dimensions and components of entrepreneurial resource management are at play to affect new ventures profitability and further success. Thus, it is not surprising that there exist multiple investigations of independent effects of entrepreneurial resource management components (e.g., Carnes & Ireland, 2013; Chirico, Sirmon, Sciascia, & Mazzola, 2011) using theoretical and empirical treatments of linear modeling.

For this research, we argue that although some research on the relationship among different resource management components has produced impressive results (e.g., Hitt, Bierman, Shimizu, & Kochhar, 2001; Kor & Leblebici, 2005), what is lacking is a comprehensive analysis that allows for testing effectiveness of different configurations (i.e., pathways of resource management) and all the possible substitutabilities and complementarities among different

components of resource structuring, bundling, leveraging. This is why in this study we try to contribute to the literature by considering the entrepreneurial resource management process as an integrated process. Accordingly, we aim to identify the most useful configurations of resource management elements that facilitate new venture success. As such, although each component and related subprocess is critical, multiple paths can be pursued by entrepreneurs to manage resources, create value, and develop a competitive advantage. In this vein, there are several different resource management pathways to establish a successful new venture (Brush et al., 2001).

Generally, the effectiveness of resource management affects new firm's performance through different combinations which can be created using different elements. That is, although entrepreneurial ventures might hold the same resources and face similar environmental contingencies, they produce heterogeneous outcomes (Zott, 2003). This is because entrepreneurs differ in not only their resource management capabilities but also the success of the new venture is contingent upon the quality of the synchronization across resource management processes (Holcomb, Holmes, & Connelly, 2009). This notion underlies the configurational approach and pertains to the fact that resource management elements are interwoven. Moreover, given the possibility of multiple pathways to create a competitive advantage in new ventures, there may be equifinality in achieving new venture's success.

Due to the configurational and equifinal role of different resource management pathways, we adopt fsQCA analytical technique to address our research question adequately. In fact, fsQCA is an ideal mythological tool when scholars are aware of the different causal factors but are not confident of all the possible configurations leading to the outcome (Fiss, 2007). We will discuss our methodological approach in more details in the methodology section.

2.5 The Complementary Influence of Resource Management Components

Given the critical importance of each subprocess of entrepreneurial resource management for new venture's success, regardless of the external environment contingencies, the relative importance and consequences are significantly influenced by the presence or absence of other components (Sirmon et al., 2008). In general, value creation begins by providing value to customers when the venture generates greater utility than competitors do. That is, for both dynamic and stable environments, a competitive advantage fosters new venture success when above the average industry profit is generated from new venture's capabilities that exceed that of competitors in addressing customer needs. For new ventures, value creation is optimized when the processes *between* resource management elements are synchronized in a way that the maximum level of value to price ratio is provided to customers. Thus, the harmony, integration, and balancing of resource management process is a prerequisite of value creation. Regardless, however of, the amount of value generated, new ventures must have resources to bundle into capabilities and leverage them to generate, at least, some value.

The required harmony and the importance of interdependent process highlight two critical treatments of fuzzy arguments. First, this pertains to notions of *necessity* and *sufficiency* conditions in fuzzy logic. A necessary condition must be present in all the configurations, whereas a sufficient condition can produce the outcome by itself (Ragin, 2008). We argue that the resulted new venture's success in all environments is dependent upon the presence of multiple subprocesses from different resource management elements and no subprocess, by itself, is not capable of value creation and the subsequent profitability in new ventures.

Second, the preceding clarifies the notion of complementary effect between resource structuring, bundling, and leveraging (Ragin, 2008). That is, the value created by one resource

management element (e.g., resource bundling) depends on or complements that of other components (e.g., resource structuring). Comparing the substitution and complementary effects, the latter suggests these processes replace each other and are mutually exclusive whereas the former, on the other hand, argues for the co-presence of resource management process in new ventures meaning a successful new venture needs the presence of subprocesses from each resource management element.

Consider, for example, the interdependence between resource acquiring, enriching, and leveraging across new markets. New ventures can access to the most valuable resource through acquiring, which can further be extended to create value for new customers in new markets. However, the acquisition of unique resources is unlikely to be an effective replacement for enriching capability because without continuously extending the resource capabilities to keep them up to date, expansion to new markets will not lead to profitability for new ventures in any environment. For instance, among family entrepreneurial ventures, founders are less likely to make significant changes to their resource bundle. That is, resource stabilizing through utilizing firm-specific tacit knowledge to deploy current practices effectively is the primary resource bundling strategy among entrepreneurial firms with high femaleness as a resource (Carnes & Ireland, 2013). While stabilizing leads to incremental improvement and maintaining the current position by remaining up to date, it requires a specific type of resource leveraging. That is, the inflexibility and lack of willingness to explore new markets require the entrepreneurial family business to be more focused on the resource advantage strategy of resource leveraging. Thus, a useful resource management process encompasses the presence of all the resource management components while they complement each other:

Proposition 5a: New ventures' success is related to the configuration of interdependent resource management elements all within its environmental context, such that none of the elements alone is a sufficient or necessary condition for high levels of new ventures' success.

Proposition 5b: The effectiveness of the resource management requires the simultaneous presence of resource structuring, resource bundling, and resource leveraging components, such that these subprocesses complement each other all within its environmental context.

3. METHODS

3.1 Data and Sample

Data for this research is drawn from the National Panel Study of Entrepreneurship Dynamics II (PSED II), a longitudinal study of nascent entrepreneurs. The data collection process for PSED II started in 2006 and a total of 64,622 individuals in the United States were contacted through random digit dialing. PSED II followed entrepreneurs for five subsequent years to develop a longitudinal panel data source. Out of all the contacted individuals, responders who answer yes to the question “whether or not they are alone, or with others trying to start a business” were designated as a “nascent entrepreneur” for this study.

For PSED II, 1,214 individuals qualified for the next rounds of the survey. Out of this number of entrepreneurs, we sampled only new ventures that reported either a positive or negative cash flow during the six years of survey completion. These individuals were beginning to bundle the required resources to initiate a venture but had not yet launched the venture (Dimov, 2010). The longitudinal nature of PSED II allows researchers to identify robust metrics which represent the resource management process and performance at specific stages of entrepreneurial venture creation and makes this dataset ideal for testing how different configurations of resources affect new venture performance.

3.2 Analytical Approach

To further advance the resource management of new ventures in this study, we turn to the set-theoretic methodology. Following similar research in management (e.g., Campbell, Sirmon, & Schijven, 2016; Fiss 2011) the specific set-theoretic tool we utilize is fuzzy set QCA (fsQCA). One of the core characteristics of fsQCA is that it allows for the simultaneous consideration of multiple interdependent factors. In line with this attribute of fuzzy set methods, the resource development paths of particular entrepreneurial ventures are theorized to never hinge on a single factor, instead it permits investigation of multiple factors at play.

Such complexity is not due to the number of factors but to how these factors are combined. Thus, investigating the resource management processes for successful outcomes places the focus on interrelationships rather than on distinct individual factors. It is more insightful to go beyond the logic of linear modeling to capture the effect of interrelations, in which any specific outcome is associated with the sum of the effects of the individual predictors. Unlike crisp sets which rely on the use of binary variables, we employ fuzzy sets which take into account the degree of membership in a given set and emphasize counterfactual analysis to investigate complexity (Ragin, 2000; Fiss, 2007).

3.3 Measures and Calibration

Before conducting fsQCA analysis, all variables must be calibrated; this process involves assigning each case a membership score ranging between 0.0 and 1.0 (Ragin, 2008). For variables that are naturally “crisp” (i.e., binary), a value of 0.0 indicates full non-membership in a set (i.e., fully out) whereas a value of 1.0 indicates full membership in a set (i.e., fully in). In our data-set, as the dependent variable, entrepreneurial ventures that reported a positive cash flow were assigned a 1.0 whereas those firms without a positive cash flow received a 0.0. All

other variables included in our analysis have less conclusive conceptual boundaries (i.e., are more “fuzzy” in nature) and thus required additional calibration.

Accordingly, fuzzy variables are assigned membership scores ranging from 0.0 to 1.0, where values of 0.0 represent full non-membership and values of 1.0 represent full membership; values closer to 1.0 indicate greater set membership. Calibrating fuzzy variables also necessitates that the researcher specifies the crossover point at which point the case is neither fully-in nor fully-out of the set. Consistent with Fiss (2007; 2011) we used the standardized adjusted average as the baseline for the calibration of the fuzzy variables included in our analysis. Following the extant literature, we used SIC codes to partition new ventures into high- and low tech (Ballou et al., 2007; Hecker, 2005). For instance, new ventures in computer and consumer electronics industry are categorized into high tech, whereas ventures in agricultural industries considered as low tech.

Consequently, we used the standardized hi-tech adjusted averages as the crossover points for our firms in hi-tech industries and standardized low-tech adjusted averages for the remaining firms. Standardizing across hi-tech and low-tech industries resulted in a comparable z-score for each variable; based on these z-scores, we calibrated the variables utilizing a quartile split. Variables with z-scores falling below the 25th percentile were assigned a membership score of 0.0 (i.e., full non-membership), between the 25th and 50th percentile a score of .33 (i.e., mostly a non-member), between the 50th and 75th percentile a score of .66 (i.e., mostly a member), and higher than the 75th percentile a score of 1 (i.e., full membership; Crilly, 2010).

3.3.1 Entrepreneurial Venture Success. Among the most challenging tasks for ventures in their earliest stage is examining and explaining business outcomes with sufficient validity (Richard et al., 2009). The primary sources of such challenge are equivocal definitions for what

success is and what drives success. In a comprehensive literature review, Davidsson and Gordon (2012) explored different outcomes indicators of startups and categorized them into eight (8) different categories. These outcomes include a number of gestation activities, self-reported status of the venture as continuing and operational, the occurrence of the first sales and the first positive cash flow (profitability). In order to come up with the most appropriate variable, we follow the extant literature to evaluate shortcomings of each outcome variable as an indicator of success.

Number of gestations/completed gestation are better conceptualized as the proxy to measure making progress and persistence. Although this could reflect progress in the process of new venture development, it may alternatively reflect a non-rational escalation of commitment (Davidson & Gordon, 2012). Additionally, in some cases, termination of a venture (rather than completing a new gestation) may reflect success. Self-reported outcomes generally suffer from being unreliable because they are defined by the respondent/entrepreneur. Many individuals tend to report a positive outcome while they are still trying to achieve the desirable outcome (Diochon, Menzies, & Gasse, 2005). Accordingly, the occurrence of the first sales does not reflect success since the first sale may not cover all the new venture's expenditures.

We believe that new ventures' profitability (positive cash flow) is the best proxy for entrepreneurial venture success. In line with the arguments of RBV and resource management, other than creating value for customers, successful firms generate wealth for the owners. Being profitable signals possession of a competitive advantage on the venture side. Although some of these competitive advantages are temporary, creating a series of temporary advantages facilitates creating new value for customers while maintaining the value created in previous periods.

We set the first occurrence of positive cash flow as the primary dependent variable of this study. To capture the first positive cash flow, PSED II asks respondents: “Has monthly revenue been more than monthly expenses for more than six of the past twelve months?” (Hechavarria, Matthews, & Reynolds, 2016; Hechavarria, Renko, & Matthews, 2012). From our sample, for the first year, 291 ventures report a positive cash flow and 299 ventures report a negative cash flow. Similarly, we track the ventures with negative cash flow over the five year period of the survey to check if their revenues exceed their expenses to identify the first occurrence of positive cash flow. To make our independent variables consistent with the definition of our dependent variable, we track resource structuring, resource bundling, and resource leverage up to the point that ventures report the first occurrence of positive cash flow. We coded firms with reported positive cash flow as 1, indicating that they are profitable within the study period (i.e., full membership) and 0 otherwise (i.e., full non-membership).

3.3.2 Resource Structuring. Following Newbert (2005), to explore resource structuring, we focus on the gestation activities the entrepreneur completed. Increase in the completion of gestation activities results in the decrease in the probability of new venture failure (Reynolds & Miller, 1992). Gestation activities are preorganization events focused on the acquisition or reconfiguration of a valuable, rare, inimitable, and nonsubstitutable physical, human or organizational resource (Barney, 1991). All the gestation activities included in the analysis are operationalized as dummy variables (value=1 if the entrepreneur completed the activity, 0 otherwise). Table 2.1 indicates the nature of these gestation activities. We categorized gestation activities into accumulated (i.e., developed internally; e.g., patents) and acquired (i.e., purchased from the factor markets; e.g., machinery; Newbert, 2005). Accordingly, we sum up the number of gestation activities that entrepreneur completed by acquiring resources (resource acquisition)

and the number of gestations that the entrepreneur completed by developing resources internally (resource accumulation). For resource acquiring we employed the standardized industry adjusted average resource acquiring/accumulating scores for high- and low-tech firms. As such, for high tech companies, firms with resource acquiring z-scores greater than .92 were fully-in (1.08 for low-tech firms), scores between .92 and .22 were mostly in (between 1.08 and .08), scores between -.22 and -.88 were mostly out (between .08 and -.92 for low tech firms), and scores below -.88 were fully out (below -.92 for low tech firms). Similarly, for resource accumulating, high tech companies with resource accumulating z-scores greater than .84 were fully-in (.74 for low-tech firms), scores between .84 and .06 were mostly in (between .74 and .00 for low-tech firms), scores between .06 and -.71 were mostly out (between .00 and -.84 for low tech firms), and scores below -.71 were fully out (below -.84 for low tech firms).

 Insert Table 2.1 about here

3.3.3 Resource Bundling. Resource bundling pertains to entrepreneurs' capabilities in putting resources together. PSED II addresses this capability by asking nascent entrepreneurs whether they have modified their resource bundle or not. To investigate resource modifications, we track the entrepreneurs' gestations before the occurrence of the first positive cash flow. Therefore, to capture the change in the resource base, value 1 is assigned to any of modified/added resources and 0 otherwise. We then sum up all gestations that entrepreneur has kept unchanged couple with resources that have been changed or modified (Carnes & Ireland, 2013).

For the calibration purposes of resource stabilization, high tech firms with standardized industry adjusted average resource stabilizing greater than 1.01 were fully in (i.e., highly focused on resource maintenance), scores between 1.01 and -.39 were mostly in (i.e., moderate resources

maintenance), scores between -.39 and -.80 were mostly out (i.e., low resource maintenance), and scores below -.80 were fully out (i.e., very low resource maintenance). For the low tech firms, the anchor points are .77, 0.18, and -.99 (e.g., scores between .77 and .18 were mostly in).

As far as resource enrichment calibration, high tech firms with standardized industry adjusted average resource enriching greater than .53 were fully-in (i.e., highly focused on resource enriching), scores between .53 and -.17 were mostly in (i.e., moderate resources enriching), scores between -.17 and -.88 were mostly out (i.e., low resource enriching), and scores below -.88 were fully out (i.e., very low resource enriching). For the low tech firms, the anchor points are .48, -.19, and -.87 (e.g., scores between -.19 and -.87 were mostly out).

3.3.4 Resource leveraging. We focus on the processes used by entrepreneurial ventures to leverage capabilities to create value. As such, we explore how new ventures leverage capabilities across products and industries. Therefore, the leveraging strategies of new ventures is assessed based on the degree to which the nascent entrepreneurs' activities are focused on the creation of new technologies/applying technologies to create new products and services and reaching out for new markets (Chirico, Sirmon, Sciascia, & Mazzola, 2011).

PSED II asks respondents about degree to which they incorporate products and process innovation (degree to which products or technology is similar to the existing ones, 1(2; 3): many (few; no other) firms offer the same product/ 1(2) the technology for this product/service was (not) available 1 year/ 5 years ago). We used the sum of entrepreneur's answers to these 3 questions and calibrated data based on the standardized industry average scores for new product/process innovation. As such, high-tech firms with new product/process innovation scores higher than 1.31 were fully in (i.e., highly innovative), product/process innovation scores between 1.31 and .06 were mostly in (i.e., partially innovative), product/process innovation

scores between .06 and -.68 were mostly out (i.e., a low focus on innovation), and product/process innovation scores below -.68 were fully out (i.e., very low innovation). For low tech firm, anchor points are .65, .08, and -1.04.

Another set of questions address the degree to which entrepreneurs seek new potential customers for the products in new markets (percent of current customers that are local, located more than 20 but less than 100 miles away, located more than 100 miles away but inside the U.S., and located outside the U.S). To calibrate market expansion, we add this variable to our model as a crisp set variable. As such, entrepreneur ventures with evidence of market expansion were fully in and assigned score 1 (i.e., leveraging capability across new markets), and 0 otherwise. In line with three different leveraging strategies, we categorize entrepreneurs based on their relative score on offering new products, using new technologies, and reaching for new markets.

3.3.5 Environmental Dynamism. To measure environmental dynamism, we followed Baron and Tang (2011) and Boyd (1990). We calculated environmental dynamism by regressing time against industry revenue for the five year period of 2006- 2011. This time frame is consistent with our data on resource management and other characteristics of new entrepreneurial ventures. Data for industry sales were obtained from Bloomberg terminal using the code ICS. To obtain industry information, we used company's North American Industry Classification (NAICS). To conduct the regression, we entered the time (2006-2011) as the independent variable and annual sales as the dependent variable for each industry. We then divided the standard errors of the regression coefficients by the mean sales values of the 5 years. The result is used as the proxy for industry dynamism.

Although this approach is consistent with several previous research (Hmieleski & Baron, 2009) as a validity check, we correlated our dynamism scores with the dynamism measures of another established approach, reported by Audretsch and Acs (1991). The new approach emphasizes the R&D intensity and the number of knowledge workers in each industry. We used America's Advanced Industries report to create dynamism scores (Rothwell & Kulkarni, 2015). We found that two dynamism scores are correlated at 0.78.

3.4 Analyses

Following calibration of our data, the fsQCA 3.0 software (Ragin, 2010) was used to create a "truth table." A truth table is a data matrix summarizing all the possible resource configurations resulting from the combination of seven independent variables examined in this study. As such, we have two to the seventh power (2^7) or 128 possible combinations of resources and capabilities (Greckhamer et al., 2008). Each row in the truth table is associated with a specific combination of different resource management strategies. The number of rows is then reduced based on two main factors: 1) the minimum number of cases required for a combination to be considered among the acceptable solutions and 2) the minimum consistency level — the degree to which cases with a shared combinations produce the same key outcome (Fiss, 2011).

Concerning the former, following Fiss (2011), we set the minimum acceptable solution frequency to 2; in other words, to retain resource management, there had to be at least 2 instances where a specific combination of resource management components appeared in the data and predicted our outcome of interest. We established frequency thresholds to retain 80% of the cases (Berg-Schlosser, De Meur, Rihous, & Ragin, 2009). About the minimum consistency level, in keeping with Ragin (2006), we set the consistency threshold to .80 or higher. In other

words, solutions (i.e., resource management strategies) were retained if they led to the outcome of interest at least 80% of the time.

Finally, issues of limited diversity arise when conducting fsQCA analyses. Limited diversity refers to a fuzzy-set configuration with no real-world empirical instances (Fiss, 2011; Ragin, 2000; 2008). To deal with this issue, we utilized counterfactual analysis which entails adding (i.e., easy counterfactuals) and or removing (i.e., difficult counterfactuals) causal conditions from truth table configurations (Ragin, 2008). For easy counterfactuals, a redundant casual condition is added to a set of causal conditions, whereas for difficult counterfactuals, a condition is removed from causal conditions (Ragin, 2008; Fiss 2011). In this vein, the parsimonious solution is the one that includes all assumption regardless of whether they are based on easy or difficult counterfactuals, whereas the intermediate solution only includes assumption based on easy counterfactuals (Fiss, 2011). Accordingly, this analysis is used to determine core and peripheral solutions within a fuzzy-set analysis. Core conditions are those that belong to both parsimonious and intermediate solutions, whereas peripheral conditions are eliminated in the parsimonious solution.

4. RESULTS

Table 2.2 displays descriptive statistics of the variables (before calibration). Table 2.3 provides a summary chart of the configurations identified with the fuzzy-set technique. Consistent with the notation used in prior research (Fiss, 2007; 2011), central conditions are represented by (●). The absence of a central condition is represented by (∅). Contributing or peripheral conditions are depicted by (•), whereas the absence of peripheral conditions is depicted by (∅). A blank space indicates that a condition is neither present nor absent and is not

related to the dependent variable (commonly referred to as a “do not care” situation; e.g., Ragin, 2008).

Insert Tables 2.2 & 2.3 about here

The first fsQCA test involves determining which, if any, components of resource management, are necessary for profitability. The results of the necessity tests indicate that no single component of resource management is necessary for new venture’s profitability (for a necessary causal condition, the consistency score should be .90 or higher: Fiss, 2007). Further, none of the resource management components, are alone sufficient for new ventures’ profitability, yet our results suggest five distinct configurations of different components predicting venture success, with the fifth configuration showing up in two forms (Table 2.3).

The five configurations of venture success exhibited high levels of overall solution consistency (.80) and solution coverage (.47). In other words, our five solutions account for 80% of the instances of profitability (i.e., solution consistency) and a combined 47% of the variance in profitability is explained by the resulting six configurations (i.e., solution coverage). Moreover, all of our resource management strategies reflect an acceptable level of unique coverage. Unique coverage scores indicate the percentage of cases that each configuration covers out of all the cases; for example, configuration 2, Table 2.3 accounts for approximately 11% of the cases that lead to high performance. The results also show satisfactory levels of unique consistency (configuration 4, Table 2.3 unique consistency is fairly close to .80 threshold, and all other configurations are higher than .80: Fiss, 2011), where unique consistency scores reflect the degree to which cases consistently produce the desired outcome (Ragin, 2008).

Table 2.3 presents the configurations of resources and capabilities found to be sufficient for new ventures profitability. To interpret our findings, we endeavor to understand the qualitatively different configurations as well as the various ways that resources combine as substitutes or complements in constituting configurations. Our results provide several interesting findings. Configuration 1 suggests that resource acquiring combined with bundling resources through stabilizing, and leveraging resources across new markets will lead to profitability for new ventures operating in industries with low dynamism. Notably, this solution also shows the absence of resource enriching as a peripheral factor.

Our second configuration indicates that for entrepreneurial ventures in a stable industry, acquiring resources, bundling resources through enriching, and leveraging capabilities across new products/services can lead to profitability, with the resource bundling and resource structuring alternatives being central to such change.

Configurations 3-5b shed light on configurations that lead to profitability for entrepreneurial ventures operating in a dynamic industry (i.e., environmental dynamism is a core factor for configurations 3-5b). Specifically, Configuration 3 depicts that profitable new ventures accumulate resources internally and do not focus on acquiring resources from the external environment, indicated by the absence of resource acquiring as a core condition. Such new ventures are successful as long as they leverage their accumulated resources across new products and services along with new markets and revise their resource bundle.

Configuration 4 depicts another combination of resources for profitable entrepreneurial ventures in a dynamic environment. Similar to configuration 3 results, these new firms also accumulate resources internally. However, unlike configuration 3, they not only stabilize their

resource bundle but also mainly focus on market expansion as a leveraging strategy (market expansion is a core condition for this configuration).

Configurations 5a and 5b indicate that a resource stabilizing strategy combining new product development as well as the absence of resource accumulation is sufficient for achieving profitability in dynamic environments. These solutions furthermore suggest that there are trade-offs between a resource acquiring and market expansion. Specifically, configuration 5a of Table 2.3 indicates that acquiring resources from the external market allows for new venture profitability regardless of whether leverage the capabilities across new markets or not, as indicated by the blank space for market expansion. In contrast, configuration 5b shows the opposite pattern: in the absence of market expansion, resource acquiring may be either high or low. Comparing configurations 5a and 5b thus indicates that resource acquiring and the absence of market expansion can be treated as substitutes. Additionally, both configurations show that not accumulating resources is also a part of these causal configurations.

We observe that environmental dynamism is a core factor (represented by a solid big black circle) in all 5 combinations of effective resource management process. In 2 out of these 5 combinations the environmental dynamism is absent (i.e., a stable environment), whereas in the remaining 3 configurations this condition is present (i.e., a dynamic environment).

Consistent with our arguments, all of the configurations have at least one element from each of resource management components. For instance, Configuration 1 indicates that successful ventures in stable environments (absence of environmental dynamism) acquire resources (resource structuring) from the external environment, improve them incrementally (resource bundling), and leverage them across new markets. Configuration 3, as another example, depicts

that successful ventures in dynamic industries form an effective resource management while resource accumulating, enriching and market expansion complement each other.

4.1 Robustness Tests

We conducted several robustness tests to ensure the validity of our results. First, following Skaaning (2011), we tested the robustness of our results with respect to adjusting the case selection criteria. To do so, we examined different scenarios to see if the new solutions resulted in more relevant configurations in terms of higher coverage or consistency, or whether they led to fewer parsimonious configurations. Besides, we varied the minimum acceptable solution frequency, allowing solutions that appeared three times (as opposed to two times) and well as those that appeared a minimum of four times. The new scenario resulted in solutions with lower consistency and coverage scores. Second, we altered our minimum consistency threshold from 80% to 90% and 75% (Skaaning, 2011). Again, new solutions resulted in lower consistency and coverage scores. Finally, to evaluate the robustness of our results, we adjusted the calibration of our variables. As such, we calibrated the fuzzy variables in our data using pentiles as opposed to quartiles. The results did not reflect any improvement concerning increased coverage and consistency. Additionally, the new method of calibration did not result in more parsimonious solutions when we altered the operationalization of different assets.

5. DISCUSSION

This research seeks to explore which configurations of resource management (structuring, bundling, and leveraging) would lead to creating a competitive advantage for new entrepreneurial ventures. To address this research challenge, we extend the existing resource management perspective by considering equifinality resourcing issues as well as environmental contingencies. Specifically, we employ fsQCA to provide a novel analysis of more than 500

early-stage entrepreneurs in the US. As such, utilizing a set-theoretic approach enables us to specify the necessary and sufficient conditions of profitable configurations for entrepreneurial ventures.

5.1 Theoretical Implications

We endeavor to make several contributions to the literature on entrepreneurship and the resources required to be successful. One of the main findings of this study is that we help open up the black box of the processes and capabilities that manifest ventures' profitability from attracting resources to creating a competitive advantage. Prior research has specified the critical influence of resources on new ventures performance (e.g., Brush et al., 2008; Newbert, 2005), but our understanding is quite limited. We show that this impact is not merely due to the possession of resources. Instead, entrepreneurs need to structure the resource base and bundle resources into capabilities conjointly, and leverage resulted capabilities to craft a competitive advantage. Further, unlike the static view of RBV regarding the external contingencies (Priem & Butler, 2001), we show that to fully comprehend the linkage between entrepreneurial venture's resources and capabilities and performance, new venture's external environment needs to be examined. These theoretical insights are important because to our knowledge, this is the first study that delves into the interdependencies of resources and capabilities to take a more holistic approach regarding how resource management components work together to afford new venture's profitability. To do so, in this study, we integrate the extant resource management literature to stipulate the main configurations and combinations and then adopt a configurational approach to examine their effectiveness.

Second, our results highlight that new ventures' success is an equifinal process that differs significantly across stable and dynamic environments. That is, given the environmental

contingencies, new ventures may employ multiple resource management strategies (e.g., multiple gestations, different bundling ways, and dissimilar leveraging techniques) to realize a competitive advantage. Although past research acknowledges that the emphasis on the development of various capabilities may vary between different entrepreneurs (e.g., Floyd & Lane, 2000), we conclude that this variance is in line with the notion of equifinality.

Given the equifinality of resource management pathways across different environments, our results indicate less diversity in the paths leading to profitability for stable industries (two solutions) compared to dynamic industries (three configurations). Therefore, in a dynamic industry/market, creating a competitive advantage is more complicated than a stable context, where generating profit is more straightforward. Similarly, for dynamic industries, resource management solutions are more complicated (e.g., are consisted of more diverse conditions). For instance, in our dataset, there is a young entrepreneurial firm with an intelligent founder (e.g., high level of education) in the information technology industry which is known as a dynamic market. The entrepreneur initiated the venture with a good patent, but no money, management know-how or the required connections. As such, in the beginning, acquiring resources, as a structuring capability, is not a feasible tactic. However, due to the promising potential of their patent, they formed a strategic alliance with an affluent company (i.e., enriching capability). Further, they leverage their patent not only by developing new products but also they may enter new markets. In comparison, Configuration 2 indicates that by acquiring resources, in a stable industry, new ventures are profitable as long as they enrich their valuable resources and leverage them across new markets creating value for new customers. Exploring our data, we recognize a less complex resource management pathway for an agricultural family business which is initiated by three brothers, in Idaho. As a new venture in the stable agricultural industry, they acquired

machinery from factor markets and stabilized their resources by educating their employees to utilize the new machinery. They also expressed they have expanded their market to the East Coast to grow the number of their customers (i.e., leveraging across new markets).

These findings are significant because we highlight the fact that regression-based techniques used in the previous research might obscure the potential contingent relationships that configurations exhibit in the presence/absence of environmental dynamism. Employing the unique properties of fsQCA, we demonstrate that the role of environmental contingencies is far more critical than a simple moderation. Instead, under different environmental contingencies (e.g., dynamism) resources are structured differently, bundled into diverse capabilities, and leveraged across different products or markets. Additionally, given the level of environmental dynamism, entrepreneurs manage the resulted resources and capabilities in various ways. Thus, we argue that the different performance of new ventures is not only resulted from the difference in the level of environmental dynamism (quantitative) but also from the differences in the kind of environment and the resource management (qualitative).

As our third contribution, we argue that none of the entrepreneurial resource management elements produce profitability independently. Instead, resource management elements and subprocesses are interdependent and combine to foster developing a competitive advantage. Thus, although each component of resource management is individually critical, to maximize value creation, they need to be synchronized (Sirmon et al., 2008). Of note, resource management components act as complements rather than substitutes. Our results indicate that resource management elements work together (i.e., one *and* the other need to be present). All five of the different configurations leading to profit found here include at least one subprocesses of resource structuring (i.e. acquiring or accumulating), at least one component of resource

bundling (i.e. stabilizing or enriching), and at least one component of resource leveraging (i.e. developing new products/services or extending the market).

Interestingly, we found that different subprocesses of resource structuring and resource bundling substitute for one another (i.e., only one *or* the other) rather than complement each other. Past research considers using in hand resources and acquiring resources either substitutes *or* complements (Desa & Basu, 2013). Our findings suggest that in new ventures, they are substitutes instead of compliments. For instance, Configurations 3 and 5a indicate the presence of either acquiring *or* structuring for resource structuring and the presence of either stabilizing *or* enriching for resource bundling.

Notably, our analysis strongly supports the central role of the influence of the environmental dynamism in shaping competitive advantages among new ventures. That is, all the five solutions include environmental dynamism as a core factor (either absence or presence). This finding emphasizes the importance of contingency frameworks regarding RBV and developing more rigorous knowledge on the contextual factors affecting the environmental dynamism for new ventures (McKelvie & Davidsson, 2009). With respect to how contextual factors and resource management elements combine, we found an interesting relationship between our environmental dynamism and resource leveraging. Our analyses reveal that effective resource management for stable environments (i.e., the absence of environmental dynamism) requires market expansion as a core condition, whereas ventures in dynamic markets tend to create value for their customers through leveraging their capabilities across new products/services.

For dynamic industry ventures, we found that leveraging capabilities across new product/process (i.e., innovation) is a core condition in two out of three successful configurations and central to all of the configurations that predicted profitability. As such, we label

Configurations 3 and 5, *explorers*, whereas solution 4 pertains to *exploiter* new ventures. On the whole, this supports prior conceptualizations of the importance of innovation for ventures operating in a dynamic environment (Sarooghi, Libaers, & Burkemper, 2015).

We also found dynamic environment ventures that pursue a market expansion leveraging strategy need to deploy the internally developed resources. Of note, Configuration 3 indicates that resources that are acquired from the external environment (e.g., equipment and machinery) are *not* the significant drivers of competitive advantage (Configuration 3). Structuring resources internally reflects *bricolage*, "Making do by applying the combination of resources already at hand" (Baker & Nelson, 2005: 33). Past research has theorized that new ventures address opportunities with existing resources out of necessity because they cannot afford the cost of more valuable resources (Duymedjian & Ruling, 2004).

Although accumulating is focused on acceptable, rather than optimum goals, according to our results, bricolage results in developing a competitive advantage within dynamic environments through the positive consequences of idiosyncratic combinations of internal capabilities (Di Domenico, Haugh, & Tracy, 2010). Further, different ventures may differently identify the potential of undervalued resources and combine them in novel ways to create value (Mair & Marti, 2006). Since bricolage (resource structuring thorough accumulating) is core condition for solutions 3 and 4, we label them *bricoleur*. As such, solution 3 pertains to *bricoleur-explorer* new ventures and solution 4 identifies another group which is *bricoleur-exploiters*.

For ventures in dynamic industries, we find that resource enriching is present in only one configuration (Configuration 3). Interestingly, this pertains to the fact that although adoption to the external market is crucial in a dynamic industry, during the early stages of new venture creation, extending the existing capacities is not relevant. However, if entrepreneurs are actively

accumulating new resources to maintain their innovation-oriented competitive advantage and seek to enhance their presence in new markets, they need to consider expansion of their capabilities (Configuration 3).

Further, we realized the relationship between resource leveraging subprocesses is a function of resource accumulating when profitability is obtained: new ventures following accumulating resources tend to effectively create a competitive advantage by leveraging capabilities across both new markets *and* new products, yet resource leveraging elements tend to substitute for one another (i.e., leveraging capabilities across new products *or* new markets) in the absence of resource accumulation. This pertains to new ventures managing resources following our solution number 5 that we label *stabilizer-explorer*. Interestingly, although these ventures are innovation oriented (i.e., innovation is a core condition), they prefer to manage their resources more strictly and does not expand their market without the required capabilities. This is in line with prior literature that entrepreneurial orientation may result in mixed effects if resources are not utilized effectively (e.g., Stam & Elfring, 2008; Messersmith & Wales, 2013).

For stable environments, in contrast to dynamic environments, profitability is less dependent on innovation. This is indicated by the presence of new product/process development as a peripheral condition in Configuration 2. Instead, in stable contexts, acquiring resources appears to be more critical, as resource acquisition is a core condition in two related solutions (Configurations 2 and 3). Structuring the venture's resource bundle by acquiring resources that have proven capabilities for a specific application reflects the notion of *optimization* (Garud & Karnoe, 2003). As such we label new ventures following solutions 1 and 2 *optimizer*. Optimization pertains to the importance of efficiency for ventures in less dynamic environments. That is, as the means-end relationships are disentangled, standard, high-quality resources (i.e.,

standard machinery, quality material, and hire salaried employees) provide new ventures with the required competitive edge (Shane & Venkataraman, 2000).

With respect to resource bundling, a set of significant implications come from our findings. First, in stable industries, resource bundling components substitute for one another. Profitable ventures tend to either maintain their resource bundle and incrementally fine-tune them *or* extend their existing capabilities. Further, we found that for stable environment combinations, profitable ventures make minor improvements in their resources when they tend to leverage such resource across new markets. On the other hand, effective resource management for new ventures seeking to create value through new product developments requires extending existing resources and capabilities (i.e., learning new skills, adding a complementary resource). Considering the core conditions, we label solution 1 resource management path *optimizer-expander* and new ventures following solution 2 *optimizer-enricher*.

Given the third contribution, our findings can help enrich the theoretical insights around entrepreneurial resource management and new venture success through introducing five relevant combinations of conditions, three for the dynamic environment and two for the static environment. Such pathways emerge from different environmental contexts and require specific logic of resource management. This categorization enables a deeper understanding of the complexity and diversity of new venture success; specifically of how new ventures manage resources to become profitable. Additionally, the current study shows that factors that are normally considered as piecemeal importance are interwoven and not sufficient by themselves in explaining new ventures outcomes.

5.2 Practical Implications

Entrepreneurs can use the results of this research as a guideline for managing resources and creating a competitive advantage within a wide variety of environmental conditions. At the very least, by delineating the effective resource management pathways that lead to new ventures' success, we provide entrepreneurs with insights regarding necessary resource management components and subprocesses to take into account. Given the importance of a synchronized resource management process, entrepreneurs need to consider their venture as a system of resources and capabilities. Each component of resource management and related subprocesses are essential and they all need to be efficient. As such, they need to bundle resources into capabilities in a way that matches their leveraging strategy and environmental context. Further, they should make the appropriate adjustments in their resource management components and selected subprocesses to achieve and maintain synchronization.

For dynamic environments, entrepreneurs should scan the external environment consistently to identify the salient causes of differentiation. If they are struggling to create value, adjustments are necessary. They may need to enrich their current capabilities or to seek new resources to pioneer new capabilities. Entrepreneurs should be cautious regarding developing resources internally or acquire them from the factor markets. According to our findings, within dynamic markets, resource accumulation may be more promising.

Entrepreneurs in stable environments are advised to invest in only one subprocess of resource structuring, acquiring resources from the factor markets, and perhaps not both. Given the liability of smallness/newness of new ventures, it takes a great deal of time and resources for entrepreneurs in stable environments to accumulate resources internally and this may delay their value creation. Further, as far as the bundling of resources into capabilities, entrepreneurs could

seek either stabilizing or enriching and the assumption that more is better may endanger their success.

5.3 Limitations

Although we offer several unique findings within this research, our research, like all research, suffers from certain limitations. Nonetheless, these limitations, provide unique opportunities for future research. First, while fuzzy-set analysis allows for a unique configurational approach that corrects for multiple shortcomings within traditional linear-based techniques, there are still certain notable limitations specific to this methodology. For example, with fsQCA, there is a tradeoff between including additional variables (e.g., controls) in the analysis and parsimony. Each additional variable results in an exponentially greater (2^x) number of configurations and thus makes the analysis unwieldy. Thus, future research could aid our present analysis through testing additional nuanced gestations.

Second, our conceptual specification of essential resource management components and related subprocesses are based on the extant literature. Nonetheless, future research may investigate the related elements more profoundly and develop new configurations. For instance, other environmental contingencies (i.e., munificence, uncertainty) would be attractive candidates to be explored. A final limitation of our study has to do with the issues of generalizability. Our study examined a sample of new ventures in the US. Such ventures are operating in a setting with highly developed regulatory institutions. Thus to enhance the generalizability of our findings, we encourage scholars to examine whether the results discussed herein regarding resource management components translate to other settings.

6. CONCLUSION

To recap, given the different resources and capabilities at play to facilitate entrepreneurial ventures' success, resource management of new ventures requires further investigation. Despite the importance, there appears to be lack of investigation into *how* different bundles of resources affect creating a competitive advantage in entrepreneurial ventures. We take a step toward investigating the unexplored aspects of RBV and unfold resource management strategies that most likely lead to profitability in new ventures. Further, our results pertain to the notion of equifinality. Successful ventures in our sample manage their resource bundles with different structuring, bundling, and leveraging approaches. From a practical perspective, entrepreneurs should allocate their scarce resources strategically into the resource management pathways that generate the most promising outcomes.

7. REFERENCES: ESSAY 2

- Acs, Z. J., & Audretsch, D. B. 1991. R&D, firm size and innovative activity. *Innovation and Technological Change: An International Comparison*, 98(2), 451-456.
- Amit, R., & Schoemaker, P. J. 1993. Strategic assets and organizational rent. *Strategic Management Journal*, 14(1), 33-46.
- Aragón-Correa, J. A., & Sharma, S. 2003. A contingent resource-based view of proactive corporate environmental strategy. *Academy of Management Review*, 28(1), 71-88.
- Baker T, Nelson R. 2005. Creating something from nothing: resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, 50(3), 329-366.
- Ballou, J., Barton, T., DesRoches, D., Potter, F., Zhao, Z., Santos, B., & Sebastian, J. 2007. Kauffman Firm Survey (KFS) baseline methodology report.
- Barney, J. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Barney, J. B., & Arikan, A. M. 2001. The resource-based view: Origins and implications. In M. A. Hitt, R. E. Freeman, & J. S. Harrison (Eds.), *Handbook of strategic management*: 124-188. Oxford: Blackwell.
- Baron, R. A., & Tang, J. 2011. The role of entrepreneurs in firm-level innovation: Joint effects of positive affect, creativity, and environmental dynamism. *Journal of Business Venturing*, 26(1), 49-60.
- Berg-Schlosser, D., De Meur, G., Rihoux, B., & Ragin, C. C. 2009. Qualitative comparative analysis (QCA) as an approach. In B. Rihoux, & C. C. Ragin (Eds.), *Configurational comparative methods: Qualitative comparative analysis (QCA) and related techniques (applied social research methods)*: 1-18. Thousand Oaks and London: Sage.

- Bettis, R. A., & Hitt, M. A. (1995). The new competitive landscape. *Strategic Management Journal*, 16(1), 7-19.
- Boyd, B., 1990. Corporate linkages and organizational environments: a test of the resource dependence model. *Strategic Management Journal*, 11(4), 419-430.
- Bowen, H. P., & De Clercq, D. 2008. Institutional context and the allocation of entrepreneurial effort. *Journal of International Business Studies*, 39(4), 747-767.
- Branzei, O., & Vertinsky, I. 2006. Strategic pathways to product innovation capabilities in SMEs. *Journal of Business Venturing*, 21(1), 75-105.
- Brush, C. G., Greene, P. G., & Hart, M. M. 2001. From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. *The Academy of Management Executive*, 15(1), 64-78.
- Brush, C. G., Edelman, L. F., & Manolova, T. S. 2008. The effects of initial location, aspirations, and resources on likelihood of first sale in nascent firms. *Journal of Small Business Management*, 46(2), 159-182.
- Brush, C. G., Manolova, T. S., & Edelman, L. F. 2008. Properties of emerging organizations: An empirical test. *Journal of Business Venturing*, 23(5), 547-566.
- Campbell, J. T., Sirmon, D. G., & Schijven, M. 2016. Fuzzy logic and the market: A configurational approach to investor perceptions of acquisition announcements. *Academy of Management Journal*, 59(1), 163-187.
- Carnes, C. M., & Ireland, R. D. 2013. Familiness and innovation: Resource bundling as the missing link. *Entrepreneurship Theory and Practice*, 37(6), 1399-1419.
- Chandra Balodi, K., & Prabhu, J. (2014). Causal recipes for high performance. *International Journal of Entrepreneurial Behaviour & Research*, 20(6), 542-561.

- Chirico F., Sirmon D., Sciascia S. and Mazzola P. 2011. Resource orchestration in family firms: Investigating how entrepreneurial orientation, generational involvement, and participative strategy affect performance. *Strategic Entrepreneurship Journal*, 5(4), 307-326.
- Clarysse, B., Wright, M., Bruneel, J., & Mahajan, A. 2014. Creating value in ecosystems: Crossing the chasm between knowledge and business ecosystems. *Research Policy*, 43(7), 1164-1176.
- Conner, K. R. 1991. A historical comparison of resource-based theory and five schools of thought within industrial organization economics: do we have a new theory of the firm?. *Journal of Management*, 17(1), 121-154.
- Crilly, D. 2011. Predicting stakeholder orientation in the multinational enterprise: A mid-range theory. *Journal of International Business Studies*, 42(5), 694-717.
- Davidsson, P. 2015. Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, 30(5), 674-695.
- Davidsson, P., & Gordon, S. R. 2012. Panel studies of new venture creation: a methods-focused review and suggestions for future research. *Small Business Economics*, 39(4), 853-876.
- Desa, G., & Basu, S. 2013. Optimization or bricolage? Overcoming resource constraints in global social entrepreneurship. *Strategic Entrepreneurship Journal*, 7(1), 26-49.
- Di Domenico ML, Haugh H, Tracey P. 2010. Social bricolage: theorizing social value creation in social enterprises. *Entrepreneurship Theory and Practice*, 34(4): 681-703.
- Dimov, D. 2010. Nascent entrepreneurs and venture emergence: Opportunity confidence, human capital, and early planning. *Journal of Management Studies*, 47(6), 1123-1153.

- Diochon, M., Menzies, T. V., & Gasse, Y. 2005. Canadian nascent entrepreneurs' start-up efforts: Outcomes and individual influences on sustainability. *Journal of Small Business & Entrepreneurship*, 18(1), 53-74.
- Duymedjian R, Rüling C-C. 2004. Practices of physical and digital special effect practices of physical and digital special effects making: an exploration of similarities. Working paper. Available at: <http://hal.archives-ouvertes.fr/hal-00451639/> (accessed 08 April 2018).
- Edelman, L., & Yli-Renko, H. 2010. The impact of environment and entrepreneurial perceptions on venture-creation efforts: bridging the discovery and creation views of entrepreneurship. *Entrepreneurship Theory and Practice*, 34(5), 833-856.
- Eisenhardt, K. M., & Martin, J. A. 2000. Dynamic capabilities: what are they?. *Strategic Management Journal*, 21(10-11), 1105-1121.
- Fiss, P. C. 2007. A set-theoretic approach to organizational configurations. *Academy of Management Review*, 32: 1180-1198.
- Fiss, P. C. 2011. Building better causal theories: A fuzzy set approach to typologies in organization research. *Academy of Management Journal*, 54(2), 393-420.
- Floyd, S. W., & Lane, P. J. 2000. Strategizing throughout the organization: Managing role conflict in strategic renewal. *Academy of Management Review*, 25(1), 154-177.
- Garud R, Karnoe P. 2003. Bricolage versus breakthrough: distributed and embedded agency in technology entrepreneurship. *Research Policy*, 32, 277-300.
- Greckhamer, T., Misangyi, V. F., Elms, H., & Lacey, R. 2008. Using qualitative comparative analysis in strategic management research: An examination of combinations of industry, corporate, and business-unit effects. *Organizational Research Methods*, 11(4), 695-726.

- Hamel, G., & Valikangas, L. 2003. The quest for resilience. *Harvard Business Review*, 81(9), 52-63.
- Hansen, M. H., Perry, L. T., & Reese, C. S. 2004. A Bayesian operationalization of the resource-based view. *Strategic Management Journal*, 25(13), 1279-1295.
- Hechavarria, D. M., Renko, M., & Matthews, C. H. 2012. The nascent entrepreneurship hub: goals, entrepreneurial self-efficacy and start-up outcomes. *Small Business Economics*, 39(3), 685-701.
- Hechavarría, D. M., Matthews, C. H., & Reynolds, P. D. 2016. Does start-up financing influence start-up speed? Evidence from the panel study of entrepreneurial dynamics. *Small Business Economics*, 46(1), 137-167.
- Hecker, D. E. 2005. High-technology employment: A NAICS-based update. *Monthly Labor Review*, 128(3), 57-72.
- Hitt, M. A., Bierman, L., Shimizu, K., & Kochhar, R. 2001. Direct and moderating effects of human capital on strategy and performance in professional service firms: A resource-based perspective. *Academy of Management Journal*, 44(1), 13-28.
- Hitt, M. A., Beamish, P. W., Jackson, S. E., & Mathieu, J. E. 2007. Building theoretical and empirical bridges across levels: Multilevel research in management. *Academy of Management Journal*, 50(6), 1385-1399.
- Hmieleski, K. M., & Baron, R. A. 2009. Entrepreneurs' optimism and new venture performance: A social cognitive perspective. *Academy of Management Journal*, 52(3), 473-488.
- Holcomb, T. R., Holmes Jr, R. M., & Connelly, B. L. 2009. Making the most of what you have: Managerial ability as a source of resource value creation. *Strategic Management Journal*, 30(5), 457-485.

- Ireland, R. D., & Webb, J. W. 2007. Strategic entrepreneurship: Creating competitive advantage through streams of innovation. *Business Horizons*, 50(1), 49-59.
- Katz, J., & Gartner, W. B. 1988. Properties of emerging organizations. *Academy of Management Review*, 13(3), 429-441.
- Kor, Y. Y., & Leblebici, H. 2005). How do interdependencies among human-capital deployment, development, and diversification strategies affect firms' financial performance?. *Strategic Management Journal*, 26(10), 967-985.
- Kraaijenbrink, J., Spender, J. C., & Groen, A. J. 2010. The resource-based view: a review and assessment of its critiques. *Journal of management*, 36(1), 349-372.
- Kreiser, P. M., Marino, L. D., Kuratko, D. F., & Weaver, K. M. 2013. Disaggregating entrepreneurial orientation: the non-linear impact of innovativeness, proactiveness and risk-taking on SME performance. *Small Business Economics*, 40(2), 273-291.
- Kuratko, D. F. 2009. *Introduction to entrepreneurship*. Australia and UK: South-Western.
- Lichtenstein, B. M. B., & Brush, C. G. 2001. How do “resource bundles” develop and change in new ventures? A dynamic model and longitudinal exploration. *Entrepreneurship Theory and Practice*, 25(3), 37-58.
- Lumpkin, G. T., & Dess, G. G. 2001. Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing*, 16(5), 429-451.
- Mair J, Marti I. 2006. Social entrepreneurship research: a source of explanation, prediction, and delight. *Journal of World Business*, 41(1), 36-44.
- McKelvie, A., & Davidsson, P. 2009. From resource base to dynamic capabilities: an investigation of new firms. *British Journal of Management*, 20, 63-80.

- Messersmith, J. G., & Wales, W. J. 2013. Entrepreneurial orientation and performance in young firms: The role of human resource management. *International Small Business Journal*, 31(2), 115-136.
- Miller, D. 2003. An asymmetry-based view of advantage: Towards an attainable sustainability. *Strategic Management Journal*, 24(5), 961-976.
- Miller, K.D., 2007. Risk and rationality in entrepreneurial processes. *Strategic Entrepreneurship Journal*, 1(1-2), 57-74.
- Ndofor, H. A., Sirmon, D. G., & He, X. 2011. Firm resources, competitive actions and performance: investigating a mediated model with evidence from the in-vitro diagnostics industry. *Strategic Management Journal*, 32(6), 640-657.
- Newbert, S. L. 2005. New firm formation: A dynamic capability perspective. *Journal of Small Business Management*, 43(1), 55-77.
- Ragin, C. C. 2000. *Fuzzy-set social science*. University of Chicago Press.
- Priem, R. L., & Butler, J. E. 2001. Is the resource-based “view” a useful perspective for strategic management research? *Academy of Management Review*, 26(1), 22-40.
- Ragin, C. C. 2008. *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago, IL: University of Chicago Press.
- Ragin, C. C. 2010. *User's guide to fuzzy-set/qualitative comparative analysis 2.0*. Tucson, AZ: Department of Sociology, University of Arizona.
- Ray, G., Barney, J. B., & Muhanna, W. A. 2004. Capabilities, business processes, and competitive advantage: choosing the dependent variable in empirical tests of the resource-based view. *Strategic Management Journal*, 25(1), 23-37.

- Reynolds, P. 1994, August. Reducing barriers to understanding new firm gestation: Prevalence and success of nascent entrepreneurs. In Academy of Management Meeting, Dallas, TX.
- Reynolds, P., & Miller, B. 1992. New firm gestation: Conception, birth, and implications for research. *Journal of Business Venturing*, 7(5), 405-417.
- Rothwell, J. & Kulkarni, S. 2015. Data and Methods Appendix for America's Advanced Industries: What They Are, Where They Are, Why They Matter. Available at: <https://www.brookings.edu/author/siddharth-kulkarni/> (accessed 30 May 2018).
- Sarooghi, H., Libaers, D., & Burkemper, A. 2015. Examining the relationship between creativity and innovation: A meta-analysis of organizational, cultural, and environmental factors. *Journal of Business Venturing*, 30(5), 714-731.
- Shane S. 2003. *A general Theory of entrepreneurship: the individual-opportunity nexus*. Edward Elgar: Cheltenham, U.K.
- Shane, S., & Venkataraman, S. 2000. The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217-226.
- Siggelkow, N. 2002. Misperceiving interactions among complements and substitutes: Organizational consequences. *Management Science*, 48(7), 900-916.
- Sirmon, D. G., Hitt, M. A., Arregle, J. L., & Campbell, J. T. 2010. The dynamic interplay of capability strengths and weaknesses: Investigating the bases of temporary competitive advantage. *Strategic Management Journal*, 31(13), 1386-1409.
- Sirmon, D. G., Hitt, M. A., & Ireland, R. D. 2007. Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management Review*, 32(1), 273-292.

- Sirmon, D. G., Hitt, M. A., Ireland, R. D., & Gilbert, B. A. 2011. Resource orchestration to create competitive advantage: Breadth, depth, and life cycle effects. *Journal of Management*, 37(5), 1390-1412.
- Sirmon, D.G., Arregle, J.-L., Hitt, M.A., & Webb, J.W. 2008. The role of family influence in firms' strategic responses to threat of imitation. *Entrepreneurship Theory and Practice*, 32(6), 979-998.
- Skaaning, S. E. 2011. Assessing the robustness of crisp-set and fuzzy-set QCA results. *Sociological Methods & Research*, 40(2), 391-408.
- Slater, S. F., & Narver, J. C. 1999. Market-oriented is more than being customer-led. *Strategic Management Journal*, 20(9), 1165-1168.
- Stam, W., & Elfring, T. 2008. Entrepreneurial orientation and new venture performance: The moderating role of intra-and extraindustry social capital. *Academy of Management Journal*, 51(1), 97-111.
- Teece, D. J., Pisano, G., & Shuen, A. 1997. Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Tzabbar, D., Aharonson, B.S., Amburgey, T.L., & Al-Laham, A. 2008. When is the whole bigger than the sum of its parts? Bundling knowledge stocks for innovative success. *Strategic Organization*, 6(4), 375-406.
- Wiklund, J., Patzelt, H., & Shepherd, D. A. 2009. Building an integrative model of small business growth. *Small Business Economics*, 32(4), 351-374.
- Zott, C. 2003. Dynamic capabilities and the emergence of intra-industry differential firm performance: insights from a simulation study. *Strategic Management Journal*, 24(2), 97-125.

TABLE 2.1
Gestation Activities Included in Resource Structuring of New Ventures

| Gestation Activity | Type of Resource | Acquired or Accumulated |
|---|---|--------------------------------|
| Prepared Business Plan | Established formal planning | Accumulated |
| Developed a model/ prototype | Formalized technology | Accumulated |
| Applied for patent/license, developed a technology | Protected technology | Accumulated |
| Purchased material | Accessed raw material | Acquired |
| Bought/ rented equipment | Procured plant and equipment | Acquired |
| Financial resources | Invested saving money, own money or others money | Acquired/Accumulated |
| Entrepreneur experience | Developed and incorporated individual experience | Accumulated |
| Hired employees | Added experience and knowledge | Acquired |
| Promotional efforts | Executed the formal coordination system | Accumulated |
| Formed legal entity | Signaled legitimacy | Accumulated |
| Joined a trade union | Created formal networks | Acquired |

TABLE 2.2

Descriptive Statistics and Correlations

| Variable | Mean | S.D | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------------------|------|------|-------|-------|-------|--------|-------|-------|-------|
| 1.Profitability | 0.47 | .50 | | | | | | | |
| 2.Acquiring | 1.92 | 1.00 | .28** | | | | | | |
| 3.Accumulating | 3.01 | 1.19 | .26** | .24** | | | | | |
| 4.Stabilization | 3.69 | 1.71 | .16** | .28** | .21** | | | | |
| 5.Enriching | 1.29 | 1.48 | .30** | .27** | .33** | -.02** | | | |
| 6.Innovation | 3.85 | 1.78 | .22* | .16** | .05** | .06** | .22** | | |
| 7.Market Expansion | .55 | .50 | .04** | .13** | .07** | .03** | .10** | .10** | |
| 8.Dynamism (Dummy) | .01 | .01 | .15** | .08** | .16** | .04** | .05** | .06** | .20** |

TABLE 2.3
Fuzzy Set Analysis of New Ventures Profitability

| Causal Condition | Stable Environments | | Dynamic Environments | | | |
|----------------------------------|---------------------|-----|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5a | 5b |
| Structuring Subprocesses: | | | | | | |
| Resource Acquiring | ● | ● | ∅ | | ● | |
| Resource Accumulating | | | ● | ● | ∅ | ∅ |
| Bundling Subprocesses: | | | | | | |
| Resource Stabilizing | ● | ∅ | | ● | ● | ● |
| Resource Enriching | ∅ | ● | ● | | | |
| Leveraging Subprocesses: | | | | | | |
| New Product/Process Development | | ● | ● | | ● | ● |
| Market Expansion | ● | | ● | ● | | ∅ |
| Environmental Dynamism | ∅ | ∅ | ● | ● | ● | ● |
| Unique Coverage | .10 | .11 | .04 | .09 | .09 | .10 |
| Unique Consistency | .82 | .81 | .84 | .79 | .89 | .83 |
| Solution Coverage | | | .47 | | | |
| Solution Consistency | | | .80 | | | |

Solid black circles (●) represent the presence of a condition. Open circles (∅) indicate the absence of a condition. Large circles indicate central/core conditions; small circles indicate contributing/peripheral conditions. Frequency threshold imposed: 2 cases per configuration representing 87% of the sample.

.80 consistency threshold corresponds to a minimum proportional reduction in uncertainty (PRI) consistency value of .59.

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- Zhang, J., **Amini Sedeh, A.**, S.Abootorabi. S.H., (2018). National social capital, Self-efficacy and new venture creation, *Academy of Management Proceedings*.
- Amini Sedeh, A.** (2017). Are entrepreneurs born or made? A multilevel, cross-national perspective, *Academy of Management Proceedings*.