

# Do You See What I See? Growth Intentions as a Function of Personal Resources and Opportunity Perceptions

**Abdul Ali**

*Babson College, USA*

**Donna J. Kelley**

*Babson College, USA*

**Chaewon Lee**

*Seoul National University of Science and Technology, Republic of Korea*

## **Abstract**

This research adopts a cognition perspective to examine entrepreneurial growth intentions. Analyses of data from the Global Entrepreneurship Monitor (GEM) survey in the United States reveal that income-based and independence-based opportunity motivations, and self-efficacy, are associated with higher growth intentions. Additionally, entrepreneurs who believe they have products or services exhibiting market newness, competitive uniqueness, and international intensity are more likely to have high growth intentions. The implications for theory and literature on entrepreneurial growth lies with our finding that cognitive processes, particular motivations and perceptions about oneself, as well as perceptions about the opportunity, matter in understanding entrepreneurial growth intentions.

**Keywords:** *Global Entrepreneurship Monitor, growth intentions, cognition theory, entrepreneurial motivations, entrepreneurial perceptions*

## **INTRODUCTION**

A cognitive theory of entrepreneurship brings the individual to the forefront of entrepreneurship research, emphasizing the role of people in this process (Baron, 2004; Gregoire et al., 2011). In recognizing that people differ in their motivations and perceptions, it is possible to study, not only why some people start businesses, but how these differences factor in the path they set out for their ventures. As such, this theoretical perspective recognizes that entrepreneurial decisions and goals may

lie, not just in objective factors, but in cognitive elements such as personal motivations and the manner in which entrepreneurs perceive themselves and the environment around them.

A quite interesting question that arises with regard to this perspective is why certain entrepreneurs, and not others, have growth intentions for their ventures. While not all growth intentions will materialize as expected, it can be reasoned that entrepreneurs that don't intend to grow their businesses are unlikely to do so. In fact, several studies have found an association between these projec-

tions and actual venture growth (Baum et al., 2001; Wiklund and Shepherd, 2003; Stam and Wennberg, 2009). In this respect, entrepreneurial growth intentions can serve as an important precursor to the pursuit of growth.

The study of growth has garnered the attention of academics, but also the policy and practitioner community. While there is broad-based recognition that entrepreneurship is a key contributor to a nation's overall economic development (Kirchhoff, 1994; Davidsson et al., 2002; Audretsch and Keilbach, 2004; van Praag and Versloot, 2007), it is increasingly evident that promoting entrepreneurship spans beyond simply encouraging more people to be entrepreneurs (Shane, 2009). It is the growth-oriented entrepreneurs, more specifically, that can account for differences in economic growth rates across economies (Wong et al., 2005; Valliere and Peterson, 2009).

A cognition perspective emphasizes that motivations and perceptions can weigh heavily on the actions of entrepreneurs (Shane et al., 2003; Arenius and Minniti, 2005; Tominc and Rebernik, 2007). Research has examined the role of cognitive factors in entrepreneurial growth intentions, producing mixed results relative to the types of motivations (Davidsson, 1989; Cassar, 2007; Hessels et al., 2008a, 2008b) and whether self-efficacy (Baum and Locke, 2004; Tominc and Rebernik, 2007) is associated with these intentions.

Prior research has also explored the link between perceptions about opportunities and the incidence of new business starts (Edelman and Yli-Renko, 2010). However, less attention has been paid to empirical research on the relationship between how entrepreneurs perceive their opportunities and their growth intentions. This research seeks to reconcile the mixed results observed in the study of personal cognitive resources (motivations and self-efficacy) and additionally study the role of opportunity perceptions in entrepreneurial growth intentions. It adopts a cognition perspective to examine the following question: what is the relationship between growth intentions and cognitive processes relating to personal resources, particularly motivations and self-efficacy, and the perceptions entrepreneurs hold about their opportunities?

We build and test hypotheses based on data

from entrepreneurs participating in the 2011-2012 Global Entrepreneurship Monitor (GEM) survey in the United States. The findings indicate that growth intentions can arise from motivated, confident entrepreneurs or by those perceiving a good opportunity in their environment. This suggests that cognitive factors can influence the path entrepreneurs chart for their ventures, particularly with regard to their motivations and self-perceptions as well as the manner in which they see the environment around their opportunities.

The paper is structured as follows. We begin with the development of an overall research framework and hypotheses about the link to growth intentions for personal resources and opportunity perceptions. We then describe our research sample and method, followed by the analysis and discussion of results. Our conclusions reveal implications for academics, policy and practice, and offer ideas for future studies that can extend these insights.

## THE ENTREPRENEURSHIP COGNITION PERSPECTIVE

A cognition perspective recognizes the role of mental representations and processes in human behavior (Gregoire et al., 2011). According to this theory, the manner in which people perceive themselves and their surroundings, and how they interpret the information they seek or receive, can influence their decisions and actions (Baron, 2004). With regard to entrepreneurship, a cognition perspective addresses the following question: "How do entrepreneurs think, reason, and behave such that they create value and wealth through the identification and implementation of market opportunities?" (Mitchell et al., 2007, pp. 5).

Gregoire et al. (2011) identify two sets of cognitive factors that can influence behavior: those relating to perceptions and interpretations of particular circumstances and those relating to the people in these circumstances. This acknowledges that, while people play a central role in cognition theory, their perceptions are also dependent on the context in which they find themselves (Mitchell et al., 2007). The entrepreneurship context, in particular, introduces a high level of uncertainty and complexity into studies of human cognition. Entrepreneurs

make decisions and take action amid insufficient information, which hinders their ability to reliably predict future outcomes (Shane et al., 2003; McMullen and Shepherd, 2006; Edelman and Yli-Renko, 2010). In addition, they make judgments and tradeoffs based on a complicated mix of factors, each of which can vary in the quality and stability of information offered (Wood and Bandura, 1989).

The challenges inherent in the entrepreneurship context are compounded by the nature of human behavior. As Baron (1998) describes, people have limits with respect to their ability to process new information, and this is magnified in the entrepreneurship context. As a result, they cannot rely on existing mental models. People in these situations tend to develop short-cuts in their thinking, and this can introduce considerable bias and error. Consequently, their thinking is far from rational. An entrepreneur, for example, may perceive more favorable outcomes than is justified (Baron, 2004).

Thought processes are therefore not entirely reliant on the objective representation of a particular circumstance. They are heavily influenced by the motivations and perceptions one brings to the situation, which have been shaped by one's unique orientation and prior experience. These motivations and perceptions are thus instrumental in representing how people make sense of their situation, and not all components are seen equally by everyone in different contexts (Arora et al., 2013). We next examine these aspects relative to entrepreneurial growth intentions.

#### GROWTH INTENTIONS IN ENTREPRENEURSHIP

The judgments of individuals are important to the study of entrepreneurship (Shook et al., 2003). Entrepreneurs make predictions about their businesses and this includes the level of growth they anticipate in the future. These intentions are important because they serve as a target for their actions (Locke and Latham, 2002), providing guidance in a way that is most likely to produce positive outcomes (Bandura, 2001). In expressing intentions, people are therefore not simply predicting that something will happen; it reflects their commitment to make

an effort that increases the likelihood of this future outcome (Bandura, 2001). Intentions toward an action can therefore serve as good predictors that this action will actually materialize (Carsrud and Brannback, 2011).

By studying the sources of entrepreneurs' intentions, we can better understand the path they will take under uncertainty (Kor et al., 2007). A number of authors recognize that entrepreneurial behavior is impacted by internal motivations and one's interpretations of the environment and beliefs about what is possible (Shane et al., 2003; McMullen and Shepherd, 2006; Khalil, 2011). Intentions, according to Locke (1991) are influenced by one's personal motives and self-efficacy. These, for the purposes of this research, relate to personal resources. Entrepreneurs also make decisions based on perceptions about the environment and one's positions as well as that of others in this environment (Gregoire and Shepherd, 2012). This research refers to these as opportunity perceptions. The next two sections develop hypotheses about the relationship of these two sources to growth intentions.

#### PERSONAL RESOURCES AND GROWTH INTENTIONS

##### *Motivation*

Human motivation can exert strong influence on the decision to become an entrepreneur (Baron, 2002; Shane et al., 2003). However, entrepreneurs can have different motivations for starting businesses (Reynolds et al., 2005; Dunkelberg et al., 2013). They may be driven by a particular need or by the pursuit of a goal (Carsrud and Brannback, 2011). Some are necessity motivated, involved because they cannot find other suitable income sources—in other words, creating a new business is their best available job option. Others are opportunity-motivated entrepreneurs: attempting to take advantage of new business opportunities. This research examines these opportunity-driven entrepreneurs, making a further distinction with those seeking to improve their lives through either increased independence or income (Xavier et al., 2013).

While entrepreneurial motivations may explain

why people start businesses, they can also explain how entrepreneurs think and behave relative to their ventures. Necessity entrepreneurs, focused on supporting oneself and family, do not typically have the luxury of thinking about bigger goals for their businesses (Carsrud and Brannback, 2011). Yet those who are opportunity motivated start with a choice to become an entrepreneur, even if they have other income-generating options available to them, such as work as an employee. Given the associated risk, entrepreneurs that choose to enter this activity typically require additional rewards than would normally be offered by other alternatives (Douglas and Shepherd, 1999; Carsrud and Brannback, 2011).

While growth-oriented entrepreneurs are recognized for their high level of motivation (Baum et al., 2001), these motivations can take different forms. For example, Kolvereid (1992) found, in his study of 250 Norwegian entrepreneurs, that entrepreneurs with growth intentions were more likely to have started their business to achieve something and to contribute to the welfare of people and family, suggesting aspects relating to personal achievement and providing for others. Other authors have made a distinction between nonfinancial and financial rewards (Casson and Wadeson, 2007; Dunkelberg et al., 2013). In this respect, entrepreneurs may pursue growth because it can help them achieve greater independence and income (Gatewood, 1993).

Independence can be defined as assuming greater responsibility for one's own life and decisions (Shane et al., 2003). This motive recognizes that entrepreneurship often arises out of a desire for autonomy, which can be defined as freeing oneself from the authority of others (Rindova et al., 2009). This can stem from a preference to pursue one's own objectives and to have control over the choices one makes (Douglas and Shepherd, 1999). In so doing, entrepreneurs create the jobs and environments they want to work in (Carsrud and Brannback, 2011).

Some studies suggest that independence, along with other nonfinancial motivators like workload, control, and challenge, were the most important determinants in one's decision to become an entrepreneur generally (Cliff, 1998; Amit et al.,

2000; Cassar, 2007). Amit et al. (2000), for example, conducted in-depth interviews with 51 entrepreneurs and a control group of 28 nonentrepreneurs. They found that wealth attainment was significantly less important in entrepreneurs' decisions to start ventures, compared with other decision dimensions, such as challenge and independence. But these entrepreneurs did believe they had a greater chance to attain their wealth goals through their ventures, compared with alternative career paths.

However, as Douglas and Shepherd (1999) point out, independence may not be enough for some entrepreneurs. While some may simply enjoy the benefits of independence, others may require additional remuneration (Douglas and Shepherd, 1999). In explaining entrepreneurial growth intentions in particular, higher income has been found to be a stronger predictor than independence (Cassar, 2007; Hessels et al., 2008a, 2008b). Cassar (2007) found in his analysis of survey data from the Panel Study of Entrepreneurial Dynamics (PSED) that the importance an entrepreneur places on financial success was a key determinant in explaining both growth intentions and achieved growth; independence motives, on the other hand, were negatively associated with intended and actual growth.

Yet there is also evidence to support both motives. Davidsson (1989) found that entrepreneurs with growth intentions were more likely motivated by the pursuit of opportunities and the prospects of greater personal financial rewards or independence. From a cognition perspective, it can be argued that entrepreneurs who are motivated to improve their lives will have more ambitious intentions for their ventures. High growth ventures can provide greater income, but also reduce the attractiveness or need for other job alternatives, such as work as an employee, enabling the entrepreneur to maintain the independence desired. This leads to the first set of hypotheses:

*H1a: Income-driven opportunity motivations will be positively associated with growth intentions.*

*H1b: Independence-driven opportunity motivations will be positively associated with growth intentions.*

### *Self-Efficacy*

While motivation can indicate the extent entrepreneurs are inspired to pursue growth, another personal resource that can influence these intentions relates to whether they perceive they have the capabilities for this activity. As Bandura (2012) emphasizes, self-efficacy does not simply equate to objective abilities, but to how people perceive themselves. It reflects their beliefs that particular actions they take can produce the intended effects (Bandura, 2001). For example, potential entrepreneurs that believe they are capable of starting a business are likely to do this, regardless of whether they objectively have the capabilities required (Arora et al., 2013).

Self-efficacy can influence the choices people make when faced with a slate of available options (Bandura, 2012). It is also context-specific, varying across different situations (Bandura, 2012). People will choose activities and situations in which they feel they can effectively function (Wood and Bandura, 1989). On the other hand, if they have self-doubts about their abilities relative to a particular context, they have little incentive to act or to persist amidst difficulties (Bandura, 2001). They will reduce or abandon their efforts or settle for less ambitious solutions (Wood and Bandura, 1989).

While self-efficacy can serve as a determinant of the challenges people will undertake, it can also influence the effort and persistence they apply to these challenges (Bandura, 2001; Bandura, 2012). In this respect, entrepreneurs have made the decision to start a business, but they can further decide how much effort to apply to this venture. Higher self-efficacy can lead people to set higher goals (Locke and Latham, 2002). This suggests that self-efficacy will be positively related to growth intentions.

However, empirical studies report mixed results with regard to the relationship between self-efficacy and entrepreneurial growth. Tominc and Rebernik (2007) did not find a connection between self-efficacy and growth intentions, but Baum and Locke (2004) found a positive relationship between self-efficacy and actual growth. In a somewhat related vein, Wood and Bandura (1989) found that perceived self-efficacy in managers influenced their organizational achievements. Although the empiri-

cal results are mixed, a cognition perspective supports the prediction that greater self-efficacy will result in higher growth intentions, leading to the next hypothesis.

*H1c: Self-efficacy will be positively associated with growth intentions.*

### ***Opportunity Perceptions and Entrepreneurial Growth Intentions***

People will act based on certain beliefs about whether an effort is feasible and can be accomplished with relative ease (Carsrud and Brannback, 2011). Beliefs about an opportunity, in particular, may be influenced by its characteristics (Gregoire and Shepherd, 2012), suggesting there are underlying objective factors that may impact perceptions. A cognitive perspective, however, sees these perceptions as the key to understanding human behavior. As Edelman and Yli-Renko (2010) found, new business starts were influenced by an entrepreneur's perceptions and interpretations of factors in the environment, rather than objective representations of these factors.

People bring their own points of view to a given situation and this has a strong influence on their behavior (Khalil, 2011). These perspectives reflect one's particular orientation and past experiences (Arrow, 1974; Pfeffer and Salancik, 1978). Entrepreneurs therefore view opportunities through their own unique lens, which serve as information signals through which they make sense of their circumstances (Gregoire and Shepherd, 2012). As a result, unique mental processes are involved in the perceptions and interpretations of information, and the conclusions reached relative to an opportunity (Mitchell et al., 2007).

We next explore three perceptions entrepreneurs may have about the opportunity: the extent it offers something new to customers, is competitively unique, and exhibits international market reach.

#### Innovation: market newness and competitive uniqueness

Entrepreneurship has long been regarded as involving the creation of something new, and therefore different, from existing businesses (Drucker, 1985; Rumelt, 1987). Entrepreneurs, according to Drucker (1985) search for, respond to, and exploit change.



They use innovation to do this, resulting in opportunities for different businesses or services. A number of studies have examined the impact of various measures of innovativeness on actual sales growth (Kelley and Nakosteen, 2005; Filatotchev and Piesse, 2009; Eckhardt and Shane, 2011) and actual employment growth (Goedhuys and Sleuwaegen, 2010).

There is little empirical evidence drawing on cognitive perceptions about aspects of innovation, and the link to growth intentions. However, this perspective suggests that entrepreneurs will assess whether an opportunity has sufficient novelty and uniqueness that does not currently exist, by comparing it with what currently represents “newness” in their minds (Baron, 2004). Additionally, the literature indicates that entrepreneurs will have higher expectations of success for innovations, given the greater level of challenge this represents (Locke and Latham, 1990). In the next two sections, we look further into two key elements that have been associated with innovation—market newness and competitive uniqueness—and their relationships with the growth intentions of entrepreneurs.

#### Market newness

With regard to the market, Schumpeter (1961) conceptualizes entrepreneurs as carrying out new combinations, creating new needs in customers, compared to what they are accustomed to using. As such, innovation imposes change in a market; the level and nature of this change is unpredictable in terms of its positive or negative benefits for a society (Dew and Sarasvarthy, 2007). But while new-to-the market opportunities carry greater risk and cost, they also offer the prospects of greater returns. As Kim and Mauborgne (2005) report, only 14% of the business launches they studied in 108 companies were aimed at creating new markets, but they were responsible for 38% of total revenues and 61% of the total profits.

Edelman and Yli-Renko (2010) found that entrepreneurs with more positive perceptions of the market for an opportunity will more actively pursue a venture based on it. This suggests that entrepreneurs are drawn into action by the market newness of an opportunity. Relative to growth, a cognitive perspective would predict that entrepreneurs per-

ceiving they have an opportunity with a high level of market newness would see greater potential but also expect higher outcomes for the risk they undertake. The following hypothesis therefore predicts a positive relationship to growth intentions.

*H2a: An entrepreneur’s perception of the level of market newness of the opportunity will be positively associated with growth intentions.*

#### Competitive uniqueness

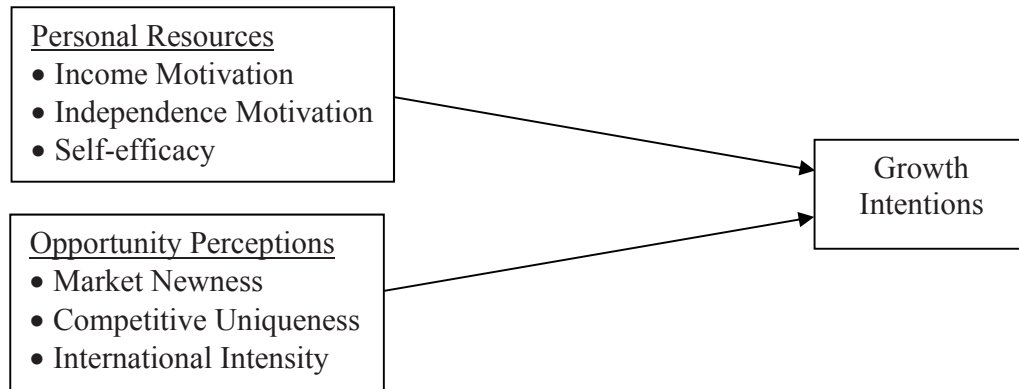
Competitive advantage can be realized, not just through the introduction of novel products or services into a market, but in doing this before rivals (Gregoire and Shepherd, 2012). Perceptions about opportunities can therefore be judged with respect to the extent they are not currently offered by competitors. This may arise from characteristics of the opportunity, but also within the context of the industry it will be introduced. Competitors in different industries, for example, may display particular levels of concentration or dispersion in the environment (Baum et al., 2001). Additionally, when markets are in disequilibrium, there are more opportunities to gain advantage, and individuals alert to opportunities others have not noticed can profit from entrepreneurial activity before a competitive response (Kirzner, 1973).

This suggests a number of sources from which an entrepreneur may perceive the competitive environment for an opportunity. The entrepreneur may perceive that the opportunity differs from what is currently being offered, or sees a gap in the competitive environment leading to a high potential opportunity. The emphasis from a cognition perspective, however, is on these perceptions. The next hypothesis predicts that entrepreneurs perceiving that their opportunities are unique among competing alternatives will have higher growth intentions.

*H2b: An entrepreneur’s perception of competitive uniqueness for the opportunity will be positively associated with growth intentions.*

#### International Intensity

Internationalization can help entrepreneurs extend beyond the limits of domestic markets, enhancing their ventures’ growth and likelihood of survival (Coviello and Munro, 1997). It can enable entrepreneurs to capitalize on market imperfections in other



**Figure 1: Research Framework**

geographic regions, as well as achieve greater production volume (Lu and Beamish, 2001). Their efforts may be facilitated by such contextual factors as advances in technology, communication, and transportation, as well as reductions in government-imposed barriers (Oviatt and McDougall, 1994; McDougall and Oviatt, 2000; Lu and Beamish, 2001).

Several studies have found a link between internationalization in ventures and measures of performance such as sales growth (Autio et al., 2000; Zahra et al., 2000; Filatotchev and Piesse (2009) and survival (Lee et al., 2012). From a cognition perspective, early stage entrepreneurs that are or are planning to pursue international markets are revealing particular perceptions about their opportunities: for example, the limited size of the domestic market, or the attractiveness of foreign markets (Fletcher, 2004; Evangelista, 2005). They may also be exhibiting confidence in themselves and their opportunities, believing they have a source of competitive advantage that enables them to reach outside their national borders (Lu and Beamish, 2001; McDougall et al., 2003; Evangelista, 2005). This indicates a more expansive perceptual orientation, which, as the next hypothesis predicts, has a higher association with growth intentions.

*H2c: An entrepreneur's perception about the international intensity for an opportunity will be positively associated with growth intentions.*

Figure 1 displays the conceptual model of the relationship to growth intentions for both entrepreneurs' personal resources and their opportunity perceptions.

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## RESEARCH METHOD AND RESULTS

### Data

To test our study's hypotheses, we used data from the 2011 and 2012 Global Entrepreneurship Monitor (GEM) survey of the adult population in the United States of America (USA). The GEM survey was developed to estimate national entrepreneurial activity. Since its first survey in 1999, GEM has conducted adult population surveys in over 100 economies. Academic teams in each participating economy manage the data collection process administered by qualified survey vendors, with strict procedures and oversight by the GEM central data team. At least 2,000 adults (18–64 years of age) are surveyed in each participating economy annually.

Over 200 peer-reviewed academic journal articles have used GEM data in empirical investigations and policy makers around the world routinely refer to GEM findings. According to Levie and Autio (2011, p. 1402), "the careful data collection design produces high-quality data, as shown by numerous reliability checks." They cite Reynolds et al. (2005), which also provides more detailed background on GEM.

Our paper focuses on early stage entrepreneurs. Early stage entrepreneurs, according to GEM, are those either in the nascent or new phase of business creation. Nascent entrepreneurs are those who have

taken material action toward creating a new business but have not paid wages for more than three months. New entrepreneurs are owners/managers of new businesses which have paid wages or salaries for more than three months, but less than 42 months. These two groups compose the Total Entrepreneurial Activity (TEA) measure for an economy.

Using this criterion, 1,242 early stage entrepreneurs from 11,405 randomly sampled adults in the U.S.A. were identified in 2011 and 2012. We pooled the data for two years to increase the power of our statistical test. We included a binary variable in our model to control for potential differences between the two years' data.

#### DEPENDENT VARIABLE

**Growth Intentions.** This variable measures growth intentions among the sample of early stage entrepreneurs. It represents expected growth in employees. Survey items were used to determine the increase in the number of employees the entrepreneur expects in five years from the period when the survey was conducted. An exploratory analysis of this variable showed a significant skewness in the data. Some entrepreneurs reported expectations of 2,000 or more jobs in the next five years while a majority (83%) of them would add 10 or fewer jobs in the next five years. Consequently, we have dropped some extreme outliers from the data set and used a log transformation of the job growth variable as our dependent variable. We, further, conducted the Cook's D test to measure the overall influence of observations that have both large residual outliers and large leverages, and did not find any observation that has a statistically significant influence of on our analysis.

#### INDEPENDENT VARIABLES

**Personal Resources.** To measure independence and income-based opportunity motivations, GEM asked respondents whether they started their businesses to take advantage of a business opportunity or because they had no better choices for work. For those indicating the first reason, a follow up question asked whether they sought to maintain or in-

crease their income, or to increase their independence. Those indicating a desire to increase their income represented income-based opportunity entrepreneurs. Those with independence motives were identified as independence-based opportunity entrepreneurs.

We created two binary variables to measure each type of improvement-driven opportunity motivation. Responses were coded "1" if respondents indicated their motivation was to take advantage of a business opportunity and increase personal income, zero otherwise. The second binary variable took the value of "1" if respondents indicated their motivation was to take advantage of a business opportunity and to increase greater independence, zero otherwise. The base category contained responses indicating necessity motives or opportunity-based motivation that sought to maintain income.

To measure self-efficacy, GEM asked respondents whether they believed they had the knowledge, skill and experience required to start a new business. We created one binary variable to measure self-efficacy. Responses were coded "1" if respondents indicated they had the capabilities to start a business, zero otherwise.

**Opportunity Perceptions.** This measure assessed the entrepreneurs' perceptions about the market newness, competitive uniqueness, and international market intensity of their opportunities. To measure market newness, we asked respondents whether potential customers would consider the product or service new and unfamiliar. Responses were coded with a "1" if respondents indicated that all of their customers considered the product or service new and unfamiliar, zero otherwise.

Competitive uniqueness was indicated by asking respondents whether many businesses were offering the same products or services. Responses were coded "1" if no businesses offered similar competing products, zero otherwise.

International market intensity was measured in terms of sales to foreign customers. To measure this construct, we asked respondents what proportion of their customers will live outside the U.S. Responses were coded with a "1" if respondents indicated that 26% or more of their customers



would come from outside the U.S, zero otherwise.

#### STATISTICAL CONTROL VARIABLES

Five variables were included as statistical controls in our analysis because of their potential impact on growth intentions: business sector participation, nascent or new stage of entrepreneurship, year of the survey (2011 or 2012) and the respondent's age, and gender.

For business sector participation, respondents were asked to provide a short description of the type of business they operated. The responses were coded into four business sector categories: extractive, transforming, consumer-oriented, and business services, following the World Economic Forum classification<sup>1)</sup>. For stage of entrepreneurship, responses were coded with a "1" if respondents indicated they were in the new phase of business creation.

#### FUNCTION FORM

This research proposes that entrepreneurial growth intentions are a function of personal motivations to pursue opportunities and achieve higher income and greater independence, self-efficacy as well as perceptions about the innovativeness (market newness and competitive uniqueness) and international intensity of the opportunity. In addition, to reduce specification error, we included control variables for business sector, business stage, survey year, and the respondent's age, and gender. The hypotheses are tested through regression analysis (see equation below).

$$\text{Growth}_i = \beta_0 + \beta_{1i} \text{INCMotiv}_i + \beta_{2i} \text{INDMotiv}_i + \beta_{3i} \text{EFCY}_i + \beta_{4i} \text{MKT}_i + \beta_{5i} \text{COMPT}_i + \beta_{6i} \text{INTRNL}_i + \sum \beta_{ji} X_{ji}$$

Where,  $\text{Growth}_i$  = the number of employees the  $i^{\text{th}}$  respondent expects to add in the next 5 years (in log transformation)

$\text{INCMotiv}_i$  = 1 if the  $i^{\text{th}}$  respondent's motivation was to pursue an opportunity and increase personal income, 0 otherwise,

$\text{INDMotiv}_i$  = 1 if the  $i^{\text{th}}$  respondent's motivation was to pursue an opportunity and increase

greater independence, 0 otherwise,

$\text{EFC}_i$  = 1 if the  $i^{\text{th}}$  respondent believes (s)he has the knowledge, skill and experience required to start a new business, 0 otherwise,

$\text{MKT}_i$  = 1 if the  $i^{\text{th}}$  respondent believes all customers consider the product or service new and unfamiliar, 0 otherwise,

$\text{COMPT}_i$  = 1 if the  $i^{\text{th}}$  respondent believes no other businesses offer similar products or services, 0 otherwise,

$\text{INTRNL}_i$  = 1 if 26% or more customers live outside the domestic country of operation for the  $i^{\text{th}}$  respondent, 0 otherwise,

$X_i$  = control variables (e.g., business sector, stage, year, age, and gender) for the  $i^{\text{th}}$  case.

*Method variance:* Use of self-report data in a cross-sectional survey, like the one used in this study, is very prevalent in social science research. Such use of a single source or instrument like a survey questionnaire, however, may lead to a "common method variance" (CMV) problem (Podsakoff, MacKenzie, and Podsakoff 2003). As Ganesan, Malter, and Rindfleisch (2005) observed, it is difficult to locate multiple respondents in small organizations in which an owner/entrepreneur is in charge of most decisions. This study conducted the Harman's single factor test, a widely used statistical technique, to address the common method variance problem. If the CMV problem exists in the dataset, all 13 variables studied here are hypothesized to load on a single factor. The results of the un-rotated factor solution of the 13 items resulted in the first factor accounting for only 13.3% of the variances and a clear indication of multiple factors, which suggests a relative lack of common method variance (Podsakoff and Organ 1986). However, as Podsakoff, MacKenzie, and Podsakoff (2003) noted, Harman's test is a diagnostic technique for assessing the extent to which common method variance may be a problem and does nothing to statistically control for method effects. Hence, this paper suggests, based on the result of Harman's test, that the common method variance problem may not be a significant issue in the current study.

#### Model Estimation

The ordinary least squares (OLS) procedure was

**Table 1: Descriptive Statistics and Correlation Matrix (N = 663)**

	Frequency	Mean	Std. Deviation	1	2	3	4	5	6	7	8	9	10	11	12	13
1. log (Job Growth)		1.72	1.22													
2. IncomeMotive	36.4%	0.36	0.48	.094**												
3. IndepMotive	25.5%	0.26	0.44	0.047	-.453**											
4. Self Efficacy	55.8%	0.90	0.30	0.055	.017	.009										
5. Market Newness	16.0%	0.16	0.36	.107**	.05	-.056	-.11**									
6. Competitive Uniqueness	15.2%	0.16	0.37	.128**	.065	-.033	-.004	.168**								
7. International Market Reach	12.8%	0.14	0.34	.181**	-.009	-.038	-.021	.076*	.04							
8. Business Sector - Transformative	22.2%	0.23	0.42	-0.05	-.058	.013	.048	-.049	-.063	-.039						
9. Business Sector - Business Services	32.3%	0.32	0.47	0.035	.028	-.008	-.061	.069	-.066	-.035	-.382**					
10. Business Sector - Consumer	41.7%	0.40	0.49	0.052	.004	.014	.011	.005	.141**	.067	-.451**	-.566**				
11. NewBusiness	31.1%	0.23	0.42	-0.145**	-.03	.028	.074	-.053	-.129**	-.08*	.038	.101**	-.089*			
12. Age		40.11	12.04	-0.124**	.017	-.022	.059	.058	.01	-.089*	-.007	.024	-.015	.026		
13. Gender	49.7%; Male	1.37	0.48	-0.075*	-.058	.087*	-.095*	.037	.153**	-.053	-.116**	-.034	.145**	-.078*	.133**	
14. Year	52.4%; 2012	0.46	0.50	0.002	.035	-.043	.033	.005	-.001	-.031	-.036	-.012	.048	.013	.048	-.089*

\*\* significant at 0.01 level; \*significant at 0.05 level

**Table 2: Regression Results for 2011-2012 pooled U.S. GEM Data**

Dependent Variable: Log (Job Growth)				
Coefficients				
	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Beta		
(Constant)	1.234		3.787	0
IncomeMotive	0.346	0.137	3.303	0.001
IndepMotive	0.35	0.127	3.056	0.002
Self Efficacy	0.31	0.077	2.053	0.04
Market Newness	0.262	0.078	2.07	0.039
Competitive Uniqueness	0.311	0.094	2.443	0.015
International Intensity	0.542	0.153	4.112	0
Business Sector - Transformative	0.557	0.194	2.33	0.02
Business Sector - Business Services	0.736	0.283	3.135	0.002
Business Sector - Consumer	0.672	0.271	2.897	0.004
NewBusiness	-0.396	-0.137	-3.619	0
Age	-0.011	-0.107	-2.854	0.004
Gender	-0.212	-0.084	-2.175	0.03
Year	0.002	0.001	0.024	0.981
R <sup>2</sup> = 0.125				
N = 663				

used to estimate regression coefficients and the statistical significance of these coefficients was used to test our hypotheses. No evidence of heteroskedasticity was found in the analyses. Our focus on only the entrepreneurs in the GEM adult population sample may have alleviated the heteroskedasticity problem.

Table 1 presents the means, standard deviations, and intercorrelations among the study's variables. Most of the variables showed a strong correlation ( $p < .01$ ) with growth intentions. Correlations among the independent variables, while significant in some cases, were low or moderate.

## ANALYSIS AND RESULTS

As mentioned earlier, we ran ordinary least squares (OLS) regression analysis for our continuous, ratio-scaled, dependent variable. Table 2 displays the overall performance of the regression model. The model's F statistic is significant, showing that the overall model fits the data. The model explains 12.5% of the variability in the dependent variable

(growth ambition).

The tolerances of more than 0.20 and/or variance inflation factors (VIFs) of less than 10 were observed for the independent variables. These results thus indicate that there was no multicollinearity problem in the regression analysis.

Table 2 displays the coefficient estimates for the predictor variables, their t statistics, and significance level. Given these coefficients, the regression equation for job growth intentions can be written as:

$$\text{Growth}_i = 0.137_i \text{INCMotiv}_i + 0.127_i \text{INDMotiv}_i + 0.077_i \text{EFCY}_i + 0.078_i \text{MKT}_i + 0.094_i \text{COMPT}_i + 0.153_i \text{INTRNL}_i + \sum \beta_{ji} X_{ji}$$

Table 2 shows that all our hypothesized relationships between predictor variables and growth intentions were positive and statistically significant. As hypothesized, entrepreneurs with income-based opportunity motivations ( $\beta = 0.137^{**}$ ) or independence-based opportunity motivations ( $\beta = 0.127^{**}$ ) as well as those who express self-efficacy ( $\beta = 0.077^{*}$ ) are more likely to have high job growth in-

**Table 3: Total Early-State Entrepreneurial Activity Rate and Percentage of Improvement-Driven Opportunity Motivations in the United States, 2008-2012, Global Entrepreneurship Monitor**

	Early-stage entrepreneurial activity (TEA)	Improvement-driven opportunity (% of TEA)
2008	10.8	62.7
2009	8.0	55.0
2010	7.6	51.5
2011	12.3	58.9
2012	12.8	59.5

**Table 4: Regression Results for 2009-2010 pooled U.S. GEM Data**

Dependent Variable: Log (Job Growth)				
Coefficients				
	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Beta		
(Constant)	0.896		1.364	0.174
IncomeMotive	0.576	0.201	2.847	0.005
IndepMotive	0.076	0.026	0.361	0.718
Self Efficacy	0.142	0.028	0.436	0.663
Market Newness	0.809	0.212	3.153	0.002
Competitive Uniqueness	-0.568	-0.138	-2.071	0.04
International Intensity	0.813	0.213	3.255	0.001
Business Sector - Transformative	0.253	0.082	0.53	0.597
Business Sector - Business Services	0.488	0.17	1.031	0.304
Business Sector - Consumer	0.36	0.138	0.771	0.442
NewBusiness	0.418	0.147	2.181	0.03
Age	-0.009	-0.084	-1.264	0.208
Gender	0.37	0.14	2.09	0.038
Year	-0.065	-0.024	-0.37	0.712
R <sup>2</sup> = 0.179				
N = 218				

tentions. Similarly, entrepreneurs who perceived they had products or services displaying market newness ( $\beta = 0.078^*$ ) and/or competitive uniqueness ( $\beta = 0.094^{**}$ ), and those perceiving their opportunities have international intensity ( $\beta = 0.153^{**}$ ) are more likely to have high growth intentions.

In order to test the robustness of our results, we also ran the regression analysis for the pooled 2009-2010 U.S. data. The U.S. economy experienced a severe economic recession, the major effects of which were felt after the time of the 2008 GEM survey. This downturn was reflected in total entre-

preneurial activity (TEA) rates and the proportion of improvement-driven opportunity entrepreneurs. Both indicators showed declines in 2009 and 2010, and then increases in 2011 and 2012, as Table 3 shows. By testing our hypotheses in 2009 and 2010, we could examine whether the predicted relationships would hold up under very different economic conditions.

Table 4 displays results from the 2009-2010 pooled regression analysis. For these two years, most of our hypothesized results were positive and statistically significant, with the exception of independence motive and self-efficacy. This is an inter-

esting result. Perhaps, experiencing the effects of the recession, entrepreneurs projecting growth for their businesses were no more confident than were other entrepreneurs. In addition, while entrepreneurs with income motives were associated with growth intentions, independence motives may not have been a sufficient rationale for taking on more effort and risk when the economy was in a downturn. This suggests that independence-based opportunity motives and self-efficacy may be a less stable indicator, at least over periods containing fluctuations in the economy.

With regard to opportunity perceptions, the results in Table 4 confirm our findings that entrepreneurs who perceive they have products and services that are new to customers and with international market intensity are more likely to have higher growth intentions. Competitive Intensity was also found to be significant but exhibiting a negative relationship with growth.

There are several possible explanations for this result. Growth-oriented entrepreneurs may simply be more perceptive (or pessimistic) about the presence of competing options for their offerings under conditions such as major economic shocks. Additionally, when they see intense competition, they may more compelled to grow in order to stand out in a down economy. Finally, under unstable economic circumstances, entrepreneurs may feel more confident about their growth intentions if they see more competitors doing the same, which may serve as a validation of their intentions.

## DISCUSSION AND CONCLUSIONS

This research, with its cognitive viewpoint, recognizes the importance of individual motives and perceptions in the entrepreneurship process. Entrepreneurs have a strong influence on the direction of their ventures, and the findings suggest that those endeavoring to achieve higher growth have particular motives and perceptions of themselves and their opportunities. This reveals the value of looking beyond more objective measures such as human or social capital to recognize that people think differently, and that this matters in the paths entrepreneurs chart for their businesses.

Overall, the results support the view that cogni-

tive processes, particularly motivations and perceptions, are associated with entrepreneurial behavior (Shane et al., 2003; McMullen and Shepherd, 2006). These findings contribute to prior research seeking to understand the link to growth for motivations (Davidsson, 1989; Cassar, 2007; Hessels et al., 2008a, 2008b) and self-efficacy (Baum and Locke, 2004; Tominc and Rebernik, 2007). It also adds insights about the opportunity perceptions of entrepreneurs, a relationship that has begun to be addressed relative to new business starts (Edelman and Yli-Renko, 2010), but has yet received little empirical attention regarding growth intentions.

Much of the empirical research seems to suggest that independence motives are the most important determinant in one's decision to become an entrepreneur (Cliff, 1998; Amit et al., 2000; Cassar, 2007), while income motives are stronger predictors of growth intentions (Cassar, 2007; Hessels et al., 2008a, 2008b). In this research, both types of improvement-driven opportunity motives were significantly associated with growth, which is consistent with Davidsson (1989). This suggests that entrepreneurs pursuing growth are motivated to pursue an opportunity, but are also looking to improve their lives in some way, whether it is through greater independence or higher income.

It is notable, though, that while income-driven opportunity motives were also significant in 2009 and 2010, independence-driven motives were not. At that time, the U.S. was still feeling the effects of the recession and, for many people, great uncertainty lay ahead. Under these difficult business conditions, it may have been logical to pursue growth if one could generate more income, but not simply to have a more enjoyable career. Barlevy (2007) argues that during recessionary periods, entrepreneurs are short-sighted and less likely to make risky investments than during boom times. He adds that economic shocks make growth more costly. Taking on the additional risk of growth during these times may therefore require higher remuneration (Douglas and Shepherd, 1999).

The lack of significance for independence-driven opportunity motives during the 2009/2010 period may also suggest this is a less stable indicator. This may, in fact, support studies showing that income is a stronger predictor of growth intentions than in-



dependence (Cassar, 2007; Hessels et al., 2008a, 2008b). More specifically, it may reveal conditions under which this is likely the case.

Our findings also indicate that people entering entrepreneurship confident in their abilities are likely to have growth intentions. Although the findings were not in alignment with Tominc and Rebernik (2007) they are consistent with the positive relationship Baum and Locke (2004) found between self-efficacy and actual growth. They also support theoretical notions that people will choose situations in which they feel they can be effective, particularly when these require higher ambitions and effort (Wood and Bandura, 1989) and that higher self-efficacy can lead people to set higher goals (Locke and Latham, 2002).

During the 2009-2010 period, however, self-perceptions about capabilities was not significant, perhaps revealing the effects the recession may have had on the confidence of entrepreneurs. Coupled with the finding about motives, it appears that income motives may accompany growth intentions during recessions more so than one's intrinsic work preferences or confidence.

By examining the relationship between opportunity perceptions and entrepreneurial growth intentions, this research extends Edelman and Yli-Renko's (2010) finding that entrepreneurs' perceptions about the environment for their opportunity were associated with new business starts. This study's results highlight the importance of looking beyond objective measures of an opportunity to recognizing that the manner in which entrepreneurs see their opportunities may have a material impact on their intent to grow. This reveals future promise for examining opportunity perceptions in the study of growth. Entrepreneurs perceiving market newness, competitive uniqueness and international intensity in their opportunities may react to the high potential they envision. On the other hand, they may perceive they are assuming greater risk and therefore have greater expectations for their ventures.

The results for market newness and international intensity were consistent for the 2009/2010 period, but the reverse relationship was found for competitive uniqueness. While this points to the stability of the relationship to growth intentions for

internationalization and novelty in the market, other factors—in this case, perceptions about the competitive environment—may be less stable during times in which the macro-environment is undergoing severe economic shock.

The findings also reveal implications for practice. While scholars and practitioners have attempted to predict entrepreneurial intent or determine whether someone will actually take the steps to start a business, Shane (2009) recommends directing resources toward those with high potential. While this may be difficult to predict at these early stages, this research shows that individual motivations and perceptions matter in the pursuit of growth, suggesting greater attention on these entrepreneurs.

It may therefore be worthwhile to focus on identifying entrepreneurs that believe they have a high potential opportunity and are motivated and confident in pursuing this potential, perhaps providing these entrepreneurs with training, resources or other support elements they need to achieve their goals. Programs could focus on assessing motivations and building confidence in entrepreneurs. With regard to opportunity perceptions, this may, in fact, be a learned ability. To the extent that positive perceptions are influenced by one's prior actions, it might be possible to develop people's ability to assess and shape innovative opportunities with attractive competitive characteristics and a global orientation. Finally, policy makers may benefit from understanding how prevailing economic conditions influence the growth intentions of entrepreneurs, which in turn impacts the supply of jobs on an economy.

There are several limitations that can provide opportunities for follow on research. First, our sample comes from the United States. To generalize beyond this one country, these hypotheses could be tested on data from other economies or regions. The GEM surveys, in fact, have been conducted in one hundred economies for more than 14 years, which provides an opportunity for greater generalizability as well as cross-country comparisons. Second, the static nature of cross-sectional analysis precludes the investigation of the full effect of motivation on growth aspirations that occurs over time. To generalize these findings, one needs to test

the hypotheses across different industries and also over time. Our model, however, does not suggest a dynamic loop because we are studying growth intentions, not actual growth.<sup>2)</sup> Third, the paper used results from a survey that may be subject to the common method bias (CMB) problem which is very prevalent in many survey-based researches. Though the Harman's single factor test did not indicate such a problem, the CMB cannot be eliminated completely. Fourth, entrepreneurs studied in this paper are widely distributed in terms of growth aspirations and consequently the results of our regression analyses may be constrained by the violations of normal distribution assumption of error terms. The paper did, however, use the log transformation of the dependent variable to reduce the skewness and found no significant influence of outliers and leverage. Clearly, there are opportunities for further work in this area to address some of these limitations.

Additionally, while both personal resources and opportunity perceptions were linked to growth intentions in this research, it is not known whether either or both are more likely to lead to actual growth. It would be interesting to study whether the motivations and confidence of entrepreneurs and the extent they have positive views about the prospects for their opportunities lead to actual growth. We hope this research contributes to continued efforts to build academic understanding about the cognitive processes around entrepreneurial growth and to help practitioners and policy makers determine how they can best develop their economies through entrepreneurial activity.

## NOTES

- 1) <http://www.weforum.org/>
- 2) Other models may show that growth can also affect motivation and self-efficacy, but that is not what was studied in this paper.

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Dr. Abdul Ali is associate professor of Babson College, USA. E-mail: alia@babson.edu

Dr. Donna J. Kelley is Professor of Arthur M. Blank Center for Entrepreneurship at Babson College, USA. E-mail: dkelley@babson.edu

Dr. Chaewon Lee is associate professor of the Department of Business Administration at Seoul National University of Science and Technology, Republic of Korea. E-mail: hlee@snut.ac.kr