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WHAT CAN DRIVE SUCCESSFUL ENTREPRENEURIAL FIRMS? AN ANALYSIS OF *INC. 500* COMPANIES

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ABSTRACT

Entrepreneurship scholars tend to discuss the merits of using innovation over imitation for the creation of new ventures. We take a step forward to focus our attention on the drivers of successful entrepreneurial firms and use Inc. 500 companies to test our framework. Findings indicate that the extent of innovation positively influences long-term sales growth and the relationship is positively moderated by prior experience and negatively moderated by family involvement. Research and practical implications are discussed.

Keywords: Innovation, Entrepreneurial Success, Imitation, Firm Growth

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INTRODUCTION

Shane and Venkataraman (2000) describe entrepreneurship as a field that focuses on the discovery of opportunities for new goods and services. Although scholars have debated "who is" and "who is not" an entrepreneur (Carland, Hoy, & Carland, 1988; Low & MacMillan, 1988; Sharma & Chrisman, 1999), Gartner (1988:26) places more importance to the notion of "what the entrepreneur does" rather than "who the entrepreneur is." In that regard, entrepreneurship scholars have discussed aspects related to what can be considered entrepreneurial and what are the merits of those individuals and organizations who actively pursue their entrepreneurial dreams (Dew, Velamuri, & Venkataraman, 2004; Drucker, 1985; Gartner, 1990; Kim & Mauborgne, 2005; Minniti, 2004; Sharma & Chrisman, 1999; Stopford & Baden-Fuller, 1994). As a result, entrepreneurial activity can exist during the process of organizational creation or as part of innovative or renewal activities that occur within or outside an existing organization (Sharma & Chrisman, 1999). However, it remains unclear what can be considered as a successful entrepreneurial activity after an opportunity is discovered and exploited.

On one side, there are society expectations that place a higher valuation on those entrepreneurs who challenge "the circular flow" that lead to "the gale of creative destruction" by bringing their innovations to the market (Schumpeter, 1934, 1950). These innovators are motivated to out-compete existing offerings in the environment (Alvarez & Busenitz, 2001; Barney, 1991), or even create new markets where competitors become irrelevant (Kim & Mauborgne, 2005). On the other side, the presence of imitators, or even those who are alerted to profitable opportunities (Kirzner, 1973), may not allow the creative entrepreneurs to instantly profit and/or destroy existing industries in the short term (Nelson & Winter, 1982), as they may find opportunities to operate in the current market conditions by overcoming entry barriers or challenging the industry incumbents (Porter, 1980). Thus, it is not possible to determine if a successful entrepreneurial event is achieved solely by offering new products or services and/or creating new industries because new ventures offering similar products or services will also have the potential to reap benefits in the market.

Our study aims to explore what can drive the success of entrepreneurial firms. Particularly, we focus our attention on the extent of innovation, family involvement, and the entrepreneurial experience needed for starting the firm. The firm's entrepreneurial success is operationalized as long-term sales growth because a new entrepreneurial effort requires time to generate acceptance in the market to overcome the liability of newness (Stinchcombe, 1965). First, we analyze the long-term sales growth of entrepreneurial firms based on their extent of innovation. Second, we analyze the moderating effects of entrepreneurial experience and family involvement in the relationship between innovation and sales growth. To test our framework, we used the companies listed in the 2003 *Inc. 500* magazine, as researchers have used them to study new venture performance, survival, growth, and profitability (Allred & Adams, 2007; Allred, Adams, & Chakraborty, 2007; Ensley, Pearce, & Hmielesky, 2006; Gartner, Star, & Bhat, 1999; Markman & Gartner, 2002). Because we rely on companies with extremely high levels of growth, our results provide an opportunity to investigate the nature of entrepreneurial firms in America.

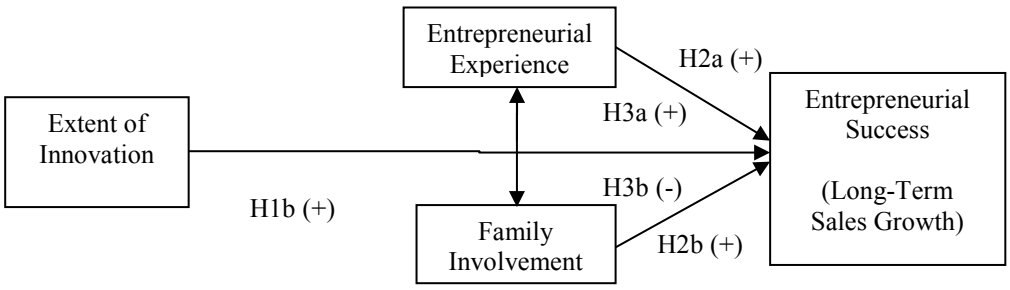
In the remainder of the paper, the theoretical framework and hypotheses are developed, and the methods and results are presented. The paper concludes with implications for theory and practice.

THEORY AND HYPOTHESES

Once the entrepreneur has been influenced by different environmental and/or individual factors, scholars have argued that the first milestone of success for the entrepreneur is the actual start-up of the business (Blanchflower & Oswald, 1998; Brazeal & Herbert, 1999; Bygrave & Minniti, 2000; Carter, Gartner, Shaver, & Gatewood, 2003; Chang, Kellermanns, & Chrisman, 2007; Chrisman, 1999; Gartner, 1985, 1988, 1990; Katz & Gartner, 1988; Krueger, 1993; Low & MacMillan, 1988; Minniti, 2004, 2005; Minniti & Bygrave, 1999; Shapero & Sokol, 1982). However, entrepreneurial success can also occur after the exploited opportunity overcomes the liability of newness (Gartner, et al. 1999; Stinchcombe, 1965), grows (Markman & Gartner, 2002), or receives external recognition at the regional level, such as economic development and growth (Barringer & Greening, 1998; Chang, 2008; Chrisman, Bauerschmidt, & Hofer, 1998; Minniti & Levesque, 2008). As a result, these two interpretations of entrepreneurial success imply that there is a complex process where external and internal factors may interact with particular actions by establishing a set of conditions (e.g. strategy, structure, resources) while exerting high levels of entrepreneurial behavior (Chrisman et al., 1998; Covin & Slevin, 1991; Lumpkin & Dess, 1996).

We present in Figure 1 a theoretical framework that takes a step forward from prior conceptualization to determine drivers of success for entrepreneurial firms (Chang et al., 2007; Chang, et al., 2009; Katz & Gartner, 1988; Minniti, 2005; Minniti & Bygrave, 1999; Shapero & Sokol, 1982). Our framework provides three key aspects. First, success is driven by the entrepreneur(s') level of experience, the level of family involvement, and the extent of innovation used to start the business. Second, extent of innovation exerts a moderating effect between (a) family involvement and entrepreneurial experience and (b) entrepreneurial success. Third, we consider that the entrepreneurial firm has become legitimate in the market (Katz & Gartner, 1988; Stinchcombe, 1965) so the next stage for the entrepreneurial firm is to generate growth in terms of revenues and employees before engaging in future strategic and structural changes (Galbraith & Kazanjian, 1986). Consequently, the long-term sales growth represents an appropriate operationalization for measuring the success of entrepreneurial firms. The following sub-sections develop our hypothesized relationships.

Figure 1 Theoretical Framework



Extent of Innovation

New products, services, or technological processes are the results of firms engaging and committing to support new ideas, novelty, experimentation, and creative processes (Lumpkin & Dess, 1996). Sharma and Chrisman (1999) explain that the extent of innovation is related to the degree of newness in the entrepreneurial activity. It can range from exploiting an opportunity that merely imitates current offerings in the marketplace to discovering unexplored opportunities that disrupt the market (Christensen, 1997; Drucker, 1985; Henderson & Clark, 1990; Kirzner, 1973; Schumpeter, 1934; Stopford & Baden-Fuller, 1994). From a Schumpeterian perspective, innovators can range from incremental (those offering refinements or extensions) to radical (those offering new combinations that disrupt existing practices) (Aldrich & Martinez, 2001; Drucker, 1985; Henderson & Clark, 1990). Hence, the newness of the entrepreneurial activity provides benefits in the market as the process of creative destruction replaces the old industry routines and forces competitors to adapt or perish (Cheah, 1990; Johannessen et al., 2001; Lumpkin & Dess, 1996; Schumpeter, 1934, 1950). Empirical studies conducted at the industry level have supported Schumpeter's claim (Anderson & Tushman, 1990; Christensen, 1997; Henderson & Clark, 1990; Sexton & Bowman-Upton, 1991). Further support to Schumpeter was obtained via simulations that have modeled the effects of R&D investments to alter industry and regional conditions (Minniti & Levesque, 2008; Nelson & Winter, 1982).

However, we also need to consider Kirzner's (1973) suggestions that entrepreneurs may be alerted to profitable opportunities as they encounter market inefficiencies of the pioneers. Furthermore, profitable opportunities also exist in the market even in the absence of innovation (Aldrich & Martinez, 2001; Cheah, 1990; Drucker, 1985; Kirzner, 1973; Minniti, 2004; Sharma & Chrisman, 1999). As late entrants in the creative destruction process, imitators replicate, or even enhance, the prior experiences (failures and successes) of market pioneers (e.g. those who can be considered as the Schumpeterian entrepreneurs). In that respect, Kirzner differs from Schumpeter in terms of the alertness expressed by the entrepreneur to discover opportunities, regardless of the nature of the business or industry. Consequently, we can see that the market will offer opportunities to imitators who can profit and compete in order to reestablish the market disruptions caused by the Schumpeterian entrepreneurs (Cheah, 1990).

Moreover, the level of success of the innovators may be reduced by the time it will take the market to adopt and use the innovations. Meanwhile, imitators will develop their own learning processes to compete against the innovators, but their level of success will depend on how creative they become to erode the competition of the pioneers (Kirzner, 1973; Nelson & Winter, 1982). In this regard, the views of Schumpeter and Kirzner are similar because success includes being creative to remain in the market, making a profit, and reducing the competitive threats of substitutes or new/imitative products. Nelson and Winter (1982) explain that in the long run, those firms that continue to search and adapt to technological changes may end up outcompeting those lacking innovative and creative capabilities (e.g., imitators). To succeed, those innovators must possess a level of competitive advantage that allows them to reduce threats by the imitators (Barney, 1991; Porter,

1985). Kim and Mauborgne (2005) take a further step to imply that highly entrepreneurial firms must seek to stand out in the market so competitors become irrelevant. As a result, the level of entrepreneurial success is driven by those firms that continuously innovate and the followers (the imitators) may fall behind or even disappear (Kirzner, 1973; Nelson & Winter, 1982; Schumpeter, 1934). Particularly, studies show that exploring future opportunities may also help firms avoid stagnation and guide operations toward organizational growth, profitability, and sustainability (Barrett & Weinstein, 1998; Hoy, 2006; Zahra, 1996; Zahra, Hayton, & Salvato, 2004). In addition, the need for offering innovative products can improve the financial performance of the entrepreneurial firm under hostile environment (Wright, Palmer, & Perkins, 2005) or during the early stages of their organizational life cycle (Lester, Parnell, & Menefee, 2009). Henceforth, the arguments developed above indicate that the extent of innovation has a direct influence to drive the success of entrepreneurial firms. In addition, entrepreneurial firms offering imitations in the market will not attain the same level of long-term sales growth of those that innovate in the market. Thus,

H1a: Innovating firms will have higher long-term sales growth than imitators.

H1b: Extent of innovation is positively related to long-term sales growth.

Entrepreneurial Experience and Family Involvement

The entrepreneurship literature is rich in theories backed by empirical evidence concerning the positive effects of prior entrepreneurship exposure and family involvement in the development of new ventures (e.g. Chang et al., 2009; Minniti & Bygrave, 1999, Shapero & Sokol, 1982). For driving the success of entrepreneurial firms, entrepreneurial experience and family involvement represent positive influences on the strategic direction of the business, as well as serve as a source of knowledge and support in the business operation.

On one side, individuals with a prior entrepreneurial experience (e.g., worked with an entrepreneur or started a business in the past) have developed a knowledge base that is critical and specialized in the decision making process (Alvarez & Busenitz, 2001). Particularly, those who can be identified as serial entrepreneurs (Davidson & Wiklund, 2001) have developed a learning curve that allows them to correct prior failures while gaining valuable experience for future entrepreneurial actions (Birch, 1987). In addition, having entrepreneurial experience implies a sense of knowledge pertaining to the understanding of where the sources of resources are in order to successfully operate the business (Granovetter, 1985; Greve & Salaff, 2003) and who can provide support (Chrisman & McMullan, 2000). Consequently, the success of entrepreneurial firms is driven by how experienced the entrepreneur is in developing and operating the business. Thus,

H2a: Entrepreneurial experience is positively related to long-term sales growth.

On the other side, new businesses may be endowed with family involvement by active ownership, management, and transgenerational succession expectations from the entrepreneurs' family (Chrisman, Chua & Sharma, 2005). Family

involvement provides additional support elements in terms of resources, norms, and social capital to develop a strong link between family objectives and business goals that can create distinctive effects on organizational outcomes (Aronoff & Ward, 1995; Chang et al., 2009; Habbershon & Williams, 1999; Hoffman, Hoelscher, & Sorenson, 2006; Pearson, Carr, & Shaw, 2008; Sundaramurthy & Kreiner, 2008). Accordingly, the family business literature has outlined the positive influence of family members in the strategic management process (Chrisman et al., 2005). Family members tend to develop altruistic behaviors (such as advising and cooperation) (Arregle, Hitt, Sirmon, & Very, 2007) that can positively contribute to achieve entrepreneurial success. Moreover, family involvement generates a sense of value and intent for transgenerational succession that seeks to create wealth, jobs, and achieve economic goals (Chrisman, Chua, & Zahra, 2003b; Sirmon & Hitt, 2003). Indeed, entrepreneurial activities play an important role in providing a future for the next generations (Memili, Eddleston, Zellweger, Kellermanns, & Barnett, 2009). Furthermore, firms with family involvement can be more responsive to changes in the environment by rapid decision making via heuristics and intuition that can consequently facilitate growth (Carney, 2005). Thus,

H2b: Family involvement is positively related to long-term sales growth.

Moderating Effects

Figure 1 also explores two moderating effects that analyze how entrepreneurial experience and family involvement exerts an influence in the relationship between extent of innovation and the long-term sales growth of entrepreneurial firms. First, entrepreneurial experience represents a source of knowledge that can identify and value the types of profitable opportunities available in the market. In that regard, entrepreneurs can use their knowledge built on prior successes and failures to engage in future entrepreneurial activities. Particularly, entrepreneurs will find innovation attractive enough to fully exploit their future entrepreneurial aspirations. This search process can be linked to establish innovative routines that may increase the prospects of achieving entrepreneurial success (Nelson & Winter, 1982). As a result, the arguments developed above suggest that combining prior entrepreneurial exposure with innovation will increase entrepreneurial success as those ventures will be guided by founders who have experience and an aspiration for success. Thus,

H3a: Entrepreneurial experience positively moderates the relationship between the extent of innovation and long-term sales growth.

Second, the positive influence of family involvement may not remain when the question of innovation emerges in the new venture process. Particularly, family members may not be as supportive, or lack enough social capital, (Arregle et al., 2007; Pearson et al., 2008) to provide guidance toward what type of innovation activity or profitable opportunity may exist in the market. Carney suggests that family control over assets of the firm may limit the positive effects of high levels of innovation on organizational outcomes. Furthermore, family involvement can create conflicts when important decisions such as extent of innovation, are introduced into the strategic direction of the business (Eddleston & Kellermanns, 2007). Moreover, the corporate governance of firms with a

substantial level of family involvement may force the business to focus on simple technologies and industries where the level of competition is not as intense as the one that characterizes those firms exerting higher levels of innovation (Carney, 2005). In other words, the entrepreneurial success of firms with a certain level of family involvement lies in stable environments where they can exploit their competitive advantages over longer periods of time (Chang, Chrisman, Chua, & Kellermanns, 2008b). Thus

H3b: Entrepreneurial experience positively moderates the relationship between the extent of innovation and long-term sales growth.

METHODS

Research Design and Sample

In order to test our hypotheses, we needed a dataset of entrepreneurial firms that can be identified as successful new ventures. For this reason, we used the entire 500 firms listed in 2003 by the *Inc.* magazine. According to Markman and Gartner (2002), the *Inc. 500* data is verified by independent sources and provides a 5-year process to analyze firm growth.[2] Furthermore, the *Inc. 500* companies are an appropriate dataset because these firms tend to be smaller and younger and/or have used an entrepreneurial strategy to exploit available opportunities in the environment. Particularly, these types of firms have been labeled as *gazelles* as they have been able to exploit market opportunities to attain levels of growth that are beyond market standards due to the offering of radical innovations (Birch, 1987).

[2] Please refer to Markman and Gartner (2002: 67-69) who provides a comprehensive description of the Inc. 500 dataset.

We used the 2003 list because it was the first time that *Inc.* magazine incorporated additional firm-specific information to construct our set of independent variables. In 2004, *Inc.* magazine started an online version (subscription base) of the 500 list that restricted the public access to firm level information in comparison with prior years.

Measures

Dependent Variable

As explained in our theoretical developments, sales growth represents an important success measure for an entrepreneurial firm. Therefore, we used the percentage of sales growth from 1998 to 2002 as our dependent variable. Because the companies listed in the *Inc. 500* present high levels of sales growth, the variable follows a non-normal distribution and we were unsuccessful in transforming the variable (Tabachnick, 1996).

Independent Variables

Extent of Innovation. The measure was created via content analysis to assess the level of innovation presented by each of the firms. The magazine provided short descriptions of each of the companies that were analyzed by the first author who followed the guidelines provided by Gartner et al (1999:223). Three categories were used to measure the extent of innovation: (a) values of "1" were given to firms offering similar products of services; (b) values of "3" were given to firms offering an incremental innovation; and (c) values of "5" were given to firms offering a major innovation. The outcome of the content analysis classified 17 firms offering a major innovation (3.4%); 61 firms offering an incremental innovation (12.2%); and 422 firms offering similar products/services (84.4%). The results of the content analysis conducted with the firms' descriptions indicated that the majority of the *Inc. 500*

firms did not offer products or services that can be considered as innovative as it was previously suggested (Birch, 1987). We provide the following examples: *Advanced Vision Research* was coded as a "5" (major innovation) because Dr. Jeffrey Gilbard, a Harvard researcher, patented the electrolyte balance of the human tear to market TheraTears, an over-the-counter eye drop; *eCopy* was coded as "3" (incremental innovation) because: "Edward Schmid wondered why people weren't using scanners and PCs to replace fax machines, so he founded eCopy to develop the technology… When Canon introduced the first digital copier, marrying a digital scanner and a laser printer, Schmid began designing applications for it;" and *The Scooter Store* was coded as "1" (similar offering) because: "the company sells power wheelchairs and electric scooters to the elderly and disabled."

Family Involvement. Prior research suggests the important role of the family to support and operate new businesses (Chang et al., 2009; Chrisman, Chua, & Litz, 2003a; Chrisman et al., 2003b). The *Inc. 500* list of 2003 identified 205 firms (41%) that possess some level of family involvement in the creation and operation of the business. In that manner, we used a binary variable where values of "1" were given to those firms identified as operating with the influence of the entrepreneur's family and values of "0" if the firms lack family involvement.

Entrepreneurial Experience. Researchers have found that prior exposure and experience are a determinant in developing new ventures (Davidson & Wiklund, 2001; Krueger, 1993). The *Inc. 500* list of 2003 included 183 firms (37%) that are run and/or started by serial entrepreneurs. Thus, we used a binary variable where values of "1" were given to those firms that were created and operated by serial entrepreneurs as a proxy for entrepreneurial experience and values of "0" if the firms were created and operated by nascent entrepreneurs.

Control Variables

Because *Inc.* magazine reports the main place of operations and the industry sector of each of the firms listed, we were able to use a set of state-level variables and firm-specific variables as controls. The state-level variables were region, economic development, state knowledge base, and an index of nativity (Blau, 1977) to capture the level of population heterogeneity in the state. The firm-specific variables were industry sector, age, size, and prior performance.

State-level Variables. The entrepreneurship literature considers that a favorable socio-economic environment provides location advantages to not only start and operate new ventures, but also to achieve a certain degree of entrepreneurial success (Bygrave & Minniti, 2000; Chang, Chrisman, & Kellermanns, 2011; Jacobs, 1969; Minniti, 2005; Minniti & Levesque, 2008). Empirical results conducted at different units of analysis have also provided several indicators that establish these environmental conditions (Audretsch & Lehman, 2006; Birch, 1987; Bull & Winter, 1991; Carree, Van Stel, Thurik, & Wennekers, 2002; Chang, 2008; Chang, Chrisman, Chua, & Kellermanns, 2008a; Chang et al., 2008b).

Following prior research (Chang, 2008; Chang et al., 2011), three binary variables were used to identify firms operating in the *East, South, and North* regions of the United States. *Economic Development* was measured as the natural logarithm of the nominal change of the Gross State Product from 1998 to 2002. The data come from the

U.S. Bureau of Economic Analysis. *State Knowledge Base* was measured by the number of universities and 4-year colleges in the state. Universities serve as sources of knowledge to foster innovation and entrepreneurial activity in a region (Anselin, Varga, & Acs, 2000; Audretsch & Feldman, 1996). The data were collected from the National Center for Education. *Index of Nativity* was constructed from the Blau (1977) index of heterogeneity. Theoretically, the index ranges from 0 to 0.80 whereas values over 0.25 would reflect relatively high heterogeneity (Richard, Barnett, Dwyer, & Chadwick, 2004). We used the diversity of the population as prior research indicated that it facilitates the exchange of information when starting new companies in a particular region (Jacobs, 1969). We collected data from the 2000 U.S. Census for three categories: the proportions of individuals born in the state, born in other states, and born outside the U.S.

Firm-Specific Variables. The *Inc.* magazine separated the firms into 26 different industrial sectors. To control for industry effects, we created two binary variables: (1) *consumers* to identify firms that offer business-to-consumers goods and services, and (2) *suppliers* to identify firms that offer business-to-business goods and services. In addition, we collected data from the magazine to create three additional controls. *Prior performance* is a binary variable that gave a value of 1 to identify the 187 firms listed in the 2002 *Inc. 500*. *Firm size* captures the natural logarithm of the 2002 revenues and *firm age* is the natural logarithm of firm age as of 2003.

Data Analysis

The hypotheses were tested using ANOVA and moderated Ordinary Least Squares (OLS) regression. It is important to address that the non-normality of our independent variable caused us to take caution in analyzing our results. Thus, we considered them as exploratory in nature.

RESULTS

The entrepreneurial firms listed in the 2003 Inc. 500 magazine had an average 5-year sales growth of 1,300%, 7 years of operations, and 252 employees. In addition, the magazine only identified 66 firms (13.2%) as being profitable without disclosing additional information.

ANOVA was used to test H1a. The results are presented in Table 1. The average long-term sales growth of firms coded as major innovators, incremental innovators, and offering similar products or services were 3,050%, 1,359%, and 1,235% respectively. The results support H1a as the F-value was significant ($p<0.001$). To attain further support to the hypotheses, we combined the two innovator categories into one. The average long-term sales growth rate of the innovators (major and incremental) was 1,727%. When compared against the growth rate of the firms offering similar products or services, the F-value was significant ($p<0.05$). Thus, firms offering similar products/services to those in the market presented lower sales growth rates than those offering incremental and major innovations.

Table 2 presents the descriptives and correlations of the variables and Table 3 presents the results of three OLS regression models. Model 1 is the base model where the control variables are regressed against the dependent variable. The model is significant ($p<0.001$) and the adjusted R2 was 0.12. From the state-level variables, the index of nativity is positively related ($p<0.05$) and the state knowledge base is

negatively related to firm growth ($p<0.10$). From the firm-specific variables, consumer and firm size are positively related at the 0.05 level or better, while prior performance ($p<0.10$) and firm age ($p<0.01$) are negatively related to firm growth. In the model, firm size exerted the highest relative influence ($\beta=0.34$) and was the only significant indicator ($p<0.05$).

Table 1: ANOVA Results

	Full Sample	Entrepreneurial Experience	Family Involvement	Long-Term Sales Growth
Similar Offering	422	149	176	1,235%
Incremental	61			1,359%
Innovation		25	21	
Major Innovation	17	9	8	3,050%
Total	500	183	205	F-value=6.65***

*** $p<0.001$

Model 2 adds the set of independent variables to test the direct relationship hypotheses. The regression is significant ($p<0.01$) and the adjusted R^2 increases to 0.13. Firm size continues to show the highest relative influence. H1b is supported as extent of innovation is positively related to long-term sales growth ($p<0.01$). In contrast, H2a and H2b were not supported because both entrepreneurial experience and family involvement were not significantly related to long-term sales growth.

Model 3 adds the two interactions to test the moderating effects. The regression is significant ($p<0.001$), the adjusted R^2 increases to 0.15, and the change in R^2 is significant ($p<0.01$). H3a and H3b are supported as the interactions are significant at the 0.05 level or better.

In sum, our analysis of the 2003 *Inc. 500* firms provides evidence to support H1a, H1b, H3a, and H3b.

Robustness Tests

We decided to increase validity to our results because (1) the majority of the firms were coded as offering similar products or services (e.g. imitators), and (2) the first author conducted the content analysis of the entire set of firms to measure extent of innovation. First, we re-ran the OLS regression models using a categorical variable where values of 1 were given to those coded as offering similar products or services and values of 0 were given to those coded as offering incremental or major innovations. The models results were consistent to the ones reported in Table 3.

Second, we sought an external opinion to code a random sample of 50 firms using the same procedure conducted with the entire sample. The external coder did not know the original codes assigned to the random sample. The second code resulted in 31 firms offering similar products or services, 17 firms offering incremental innovation, and 2 firms offering major innovations. Once the original and second code were examined, the correlation of the two measures was significant at the 0.01 level. In addition, we compared the sales growth rate of the random sample and the F-value was significant ($p<0.001$) to provide further support to H1a.

Table 2: Descriptives and Correlations

	Mean	SD	1	2	3	4	5	6
1. Sales Growth 98-02	1311.60	2038.75						
2. East	0.31	0.46	0.00					
3. South	0.25	0.43	-0.01	-0.39***				
4. North	0.15	0.36	-0.04	-0.28***	-0.25***			
5. State Knowledge Base	99.00	67.15	-0.09*	0.04	-0.10*	-0.13**		
6. Index of Nativity	0.52	0.08	0.12**	-0.03	0.02	-0.39***	0.20***	
7. Economic Development	-1.64	0.28	0.09*	-0.09*	0.05	-0.26***	-0.23***	0.49***
8. Consumer	0.41	0.49	0.07+	-0.11**	0.03	0.02	-0.06+	0.01
9. Suppliers	0.28	0.45	0.03	0.06+	0.06+	-0.03	0.03	-0.04
10. Firm age	2.11	0.40	-0.08*	0.00	-0.02	0.06+	0.03	-0.08*
11. Firm size	16.33	1.20	0.29***	-0.01	0.02	-0.02	-0.06+	0.06+
12. Prior performance	0.38	0.48	-0.03	-0.02	0.02	0.02	-0.01	-0.03
13. Entrepreneurial Experience	0.37	0.48	0.03	0.04	-0.06+	-0.01	-0.03	0.01
14. Family Involvement	0.41	0.49	-0.04	-0.01	-0.02	0.06+	0.00	0.02
15. Extent of Innovation	1.38	0.94	0.13**	-0.04	-0.04	0.05	0.00	0.00

	7	8	9	10	11	12	13	14
8. Consumer	0.05							
9. Suppliers	0.02	-0.52***						
10. Firm age	-0.13**	0.03	-0.02					
11. Firm size	0.07+	-0.03	0.08*	0.24***				
12. Prior performance	-0.01	0.02	-0.04	0.23***	0.25***			
13. Entrepreneurial Experience	0.02	0.09*	-0.09*	-0.04	0.03	-0.05		
14. Family Involvement	0.04	-0.01	0.06+	0.07+	-0.04	-0.06+	0.06+	
15. Extent of Innovation	0.00	0.13**	-0.15***	0.03	0.01	0.07+	0.07+	-0.02

N = 500 + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table 4 presents the results using the random sample as we also included the firms that the magazine reported with entrepreneurial experience and family involvement. Finally, we ran OLS regression models with the random sample where we only incorporated the firm-level controls and the average of the two codes for the extent of innovation variable to attain further support to H2a. However, the results were not consistent for the moderating effects.

Table 3: Results of OLS Regression Models with Long-Term Sales Growth as the Dependent Variable

	Model 1		**Model 2**		**Model 3**	
State-level Controls						
East	0.01		0.01		0.01	
South	-0.03		-0.03		-0.02	
North	0.00		0.00		0.00	
State Knowledge Base	-0.09	+	-0.09	+	-0.10	*
Index of Nativity	0.12	*	0.12	*	0.13	*
Economic Development	-0.04		-0.03		-0.04	
Firm-level Controls						
Consumer	0.11	*	0.10	*	0.08	
Suppliers	0.05		0.07		0.06	
Firm age	-0.14	**	-0.13	**	-0.13	**
Firm size	0.34	***	0.33	***	0.34	***
Prior performance	-0.08	+	-0.09	+	-0.08	+
Independent Variables						
Extent of Innovation			0.13	**	0.10	
Entrepreneurial Experience			0.00		-0.18	*
Family Involvement			-0.03		0.11	
Moderating Effects						
Experience * Innovation					0.24	**
Family * Innovation					-0.18	*
F-value	7.16	***	6.43	***	6.69	***
R^2	0.14		0.16		0.18	
Change in R^2			0.02	*	0.02	**
Adjusted R^2	0.12		0.13		0.15	

N= 500 $^{+}$ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table 4: Post-hoc Analysis with Random Sample

	Random Sample	Entrepreneurial Experience	Family Involvement	Long-Term Sales Growth
Similar Offering	31	11	11	1,533%
Incremental Innovation	17	7	6	1,851%
Major Innovation	2	1	0	6,713%
Total	50	19	17	F-value=6.60***

*** p<0.001

CONCLUSIONS

By using the long-term sales growth rate of the 2003 *Inc. 500* firms, our findings provide an initial step for understanding what have driven the success of these entrepreneurial firms. First, we found significant differences as firms offering major innovations in their products or services experienced higher long-term growth rates than those offering similar products or services. Second, our findings suggest two moderating effects as long-term sales growth is positively influenced by the interaction between entrepreneurial experience and innovation and negatively influenced by the interaction between family involvement and innovation.

Our study provides important contributions to the entrepreneurship literature. First, this is one of the few studies conducted with *Inc. 500* firms that have found significant differences within the group of firms in terms of growth drivers. Particularly, the sales growth period considered (1998-2002) was characterized by the emergence of new technologies, such as e-commerce, and the development of new products and services that have significantly revolutionized the market. Although prior performance was a control and categorical variable, the marginally significant and negative relationship to long-term sales growth advances prior studies that found no relationship between growth and performance (Markman & Gartner, 2002). Also, the results suggest that as the *Inc. 500* firms become older, their growth prospects decrease to remain in the list. Thus, these firms may have enjoyed a level of growth that it is very difficult to sustain beyond the five-year period.

Second, innovation does matter to generate substantial firm growth. Consistent with prior studies (Anderson & Tushman, 1990; Birch, 1987; Christensen, 1997; Henderson & Clark, 1990), the 78 firms offering incremental and major innovations enjoyed relatively higher levels of long-term sales growth than the 422 firms offering similar products or services. However, it is important to note the firms coded as offering similar products or services can be considered successful as they were able to capture market and acceptance from the public by the goods and services offered. In fact, seven of the top 10 firms in the list did not offer innovative products or services;

earlier claims that *Gazelles* are the only ones offering radical innovation cannot hold for the firms analyzed in this dataset (e.g. Birch, 1987). Thus, the results comply with both Schumpeter and Kirzner's views of entrepreneurship as these entrepreneurial firms were able to exploit opportunities and brought new products and services to the market.

Third, the moderating effects suggest that firms may achieve growth rates in different ways. On one hand, the positive interaction between entrepreneurial experience and extent of innovation suggests that the serial entrepreneurs bring value to the entrepreneurial firm by using their prior expertise and knowledge to operate. This result complements prior findings where *Inc. 500* CEOs tend to be highly involved on the functional aspects of the business (Allred et al., 2007). On the other hand, the negative interaction between family involvement and extent of innovation suggests a different behavior over the nature of the *Inc. 500* firm as the influence of the family may involve the achievement of non-economic goals (e.g. Chrisman et al., 2003b). In that regard, our findings support a potential preference of family firms to focus on offering similar products or services to increase their long-term orientation and achieve their entrepreneurial success. This is consistent with Carney's (2005) arguments about the preference of family firms to operate in benign environments with low levels of technology and even compete more on a cost-leadership basis rather than by a differentiation basis (Porter, 1985).

Limitations

We acknowledge some theoretical and methodological limitations that can guide the future investigation of entrepreneurial firms. First, the companies' descriptions in the magazine were too brief to properly expand the extent of innovation categories. In that regard, further research is needed in order to collect more information about the firm's products, resources, and market transactions. Also, there is a need to rely on the several typologies and classifications of innovations that have been proposed and analyzed in the literature to create additional distinctions within the firms (Dess & Lumpkin, 2005; Henderson & Clark, 1990; Johannessen et al., 2001; Roberts, 2002). The categorical expansion could have brought further data analysis, such as the formation of clusters or the emergence of discriminant functions. Even though the first author did the content analysis for the entire sample, the coding of the random sample by an external coder increased the validity of the extent of innovation measure. We concluded that this alternate validation process reduces the potential author bias. However, it is necessary that future research use more than one coder when conducting content analysis of this nature.

Second, despite the five-year growth period, the study can be considered cross-sectional so longer horizons. or even longitudinal studies, can properly assess the sustainability of the entrepreneurial success of these *Inc. 500* companies. Particularly, further investigation is needed to confirm how the firm's offerings contributed to the adoption of new technologies at the industry level or even to the creation of new industries.

Third, the study could have benefited from incorporating a different level of agglomeration (counties or cities rather than states) to properly determine community level effects as the success of

entrepreneurial actions tend to be local (Sternberg & Rocha, 2007). Although findings were obtained at the demographic and knowledge-based level (nativity and state knowledge), the lack of support at the economic level may imply further analysis with different lag times or estimators to be consistent with prior research (Chang, 2008; Chang et al., 2008b; Ensley et al., 2006).

Future Research Directions

In addition to improving the study limitations, we provide the following research directions. First, the extent of innovation may be subjected to the perceptions of the entrepreneurs and the market. For example, a new offering in a particular region may be considered as new by certain groups of consumers, but such perception cannot be generalized to the rest of the population. Future research needs to incorporate perceptions outside of the firm's domain to properly assess how innovative a particular firm is, or what strategic elements were incorporated by the firm to generate its entrepreneurial success.

Second, future research is needed to explore further relationships in terms of the governance and strategic direction of the firms. Managerial and family perceptions are needed to establish how the firm dynamics and strategic processes were developed to properly attain these extraordinary levels of growth. Third, longitudinal studies may be required if the firms continue in their innovation processes. In this manner, it is important to determine, which other strategies adaptations are employed to maintain competitive advantage, or which other environmental conditions (competitors, industry, etc.) could prevent firms to generate sustained growth. Particularly, one limitation of the *Inc.500* dataset is the focus on sales growth rather than profit growth as new firms may behave toward achieving extraordinary firm growth without considering costs or value creation to their founders. Thus, founders will solely focus on attaining short-term growth and may not be prepared to face challenges such as emerging competition, technology changes, or changes in consumer/industry behavior.

Finally, additional information to profile the entrepreneur may expand the drivers for attaining success. For example, some of the company's briefs indicated particular reasons (e.g., social connections, prior industry experience, or government programs) that founders used to find and exploit opportunities. Therefore, there may be external sources of knowledge and support that can contribute to enhance and stabilize the level of entrepreneurial success of these firms.

Practical Implications

Our study also provides implications for managers and entrepreneurship educators. First, the results imply that managers and entrepreneurs need to exert a level of creativity when developing and operating new businesses. Even if the offering is similar to those offerings by direct competitors, particular elements and strategic approaches are needed to create value to the consumer and generate repeated business. As the results indicate, firms identified as imitators also enjoyed high levels of sales growth indicating that the opportunities exist in the market to those entrepreneurs who are capable of designing business models that fit with the available opportunities. On the other hand, offering an innovative product or service may not be the sole ingredient of

entrepreneurial success. The positive moderation effect of entrepreneurial experience implies that new firms require a sense of direction, knowledge, and social capital to properly attain success. Those elements are incorporated in the experience brought by the founder. As suggested by firm growth theorists (Churchill & Lewis, 1983; Greiner, 1972), firms will encounter crises and revolutions throughout their life cycle that will require managerial intervention and knowledge to avoid stagnation.

Second, managers and entrepreneurs need to consider the family effect when developing and operating a new business. Although the negative moderation effect may suggest that those firms considered as family owned and controlled are less innovative, or that family involvement is not a determinant of long-term sales growth, the findings need to be taken with caution. On one side, preliminary analysis of the data showed no statistical differences in the average firm growth between firms with family involvement (1.204%) and without it (1.386%). On the other side, the inclusion of family in the development and operations of those firms may have expanded the discussions about the strategic direction of the firm to include non-economic goals such as family employment, savings for future education, wealth creation, etc. (Chrisman et al., 2003b). Hence, there may be additional dimensions beyond sales growth to measure the success for these types of firms. In the short term, economic goals, such as IPO rate and sales growth, may outweigh non-economic goals, such as family concerns. Due to the nature of the database, these firms are looking at a quick return and focusing on growth in the immediate term rather than longer term goals that involve family issues that are less immediate and overarching. This is one explanation as to why these family firms rely less on innovation to drive their sales growth. In that manner, it is possible that these fast growth family firms tend to become more efficient in their operations rather than offering innovative products or services.

Third, entrepreneurship educators may use the findings to expand their new venture planning discussions to include the trade-offs involved with different types of innovation. On one side, educators may advise aspiring entrepreneurs toward the discovery of profitable opportunities that may not require expensive applications of innovation. For example, a radical innovation requires substantial investments that may not create entrepreneurial profit in the long run or even may not generate enough market success to be viable. On the other side, educators need to advise aspiring entrepreneurs toward the good use of their knowledge and social capital in their search processes so their business models and plans can incorporate useful elements to properly manage innovation. As a result, entrepreneurship educators need to compare and contrast the entrepreneur's characteristics and sources of knowledge and support with the entrepreneur's aspirations and goals toward the type of business (imitator vs. innovator) to develop and operate.

In conclusion, our analysis of the 2003 *Inc. 500* companies provides multiple implications and contributions to the study of new firms' growth as a dimension of entrepreneurial success. Future research is encouraged to expand and enhance the framework as new entrepreneurial activity to benefit the welfare of the society in general.

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