

Entrepreneurial Orientation, Social Capital and Firm Creation

for Nascent Entrepreneurs

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Abstract: Prior research on entrepreneurship has identified social, demographic and economic variables that contribute to an individual propensity to engage in entrepreneurial activities (Fairlie, 2005). In this paper, we propose to study the relationship between Entrepreneurial Orientation (EO) and Entrepreneurial Firm Creation (FC) of the Nascent Entrepreneurs. We argue that Entrepreneurial Orientation in and of itself will not lead to Firm Creation. We posit that the Nascent Entrepreneur (NE) takes calculated risks, as clearly indicated in the literature. This paper goes beyond the extant literature and examines the individuals who enter business as an independent agent. We also assess the role of social capital (SC) in the relationship between Entrepreneurial Orientation by itself is not sufficient to lead to Firm Creation. Market Intelligence Gathering (MIG) continues to be a critical variable. Our results clearly indicate that the Nascent Entrepreneur takes a calculated risk. We also find moderating or potentially mediating effects of other variables on the process of firm creation.

Key words: firm creation, entrepreneurship, nascent entrepreneur, entrepreneurial orientation, social capital, relational capital, market intelligence gathering, cognitive capital

JEL codes: M130, L26

1. Introduction

Prior research on entrepreneurship has identified social, demographic and economic variables that contribute to an individual propensity to engage in entrepreneurial activities (Fairlie, 2005). The results of these efforts led to the need for a comprehensive understanding of the firm creation process. Gartner (1998) has encouraged additional research beyond socio-economic and demographic variables. Consistent with this recommendation, there are several variables including, Marketing Intelligence, Entrepreneurial Orientation and Social Capital that have been identified as key correlates of Firm Creation. A critical factor, though, is the inclination of an individual to take the fateful step of initiating the creation of a firm.

1.1 Entrepreneurial Orientation and Firm Creation

In this paper, we propose to study the relationship between Entrepreneurial Orientation (EO) and

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Entrepreneurial Firm Creation (FC) of the Nascent Entrepreneurs. Specifically, we will investigate the extent to which EO in and of itself will lead to Firm Creation. We argue that Entrepreneurial Orientation in and of itself will not lead to Firm Creation. We posit that the Nascent Entrepreneur (NE) takes calculated risks, as clearly indicated in the literature. Like a rational investor, the objective of the Nascent Entrepreneur (NE) is to maximize profits while minimizing risk.

Extant research studies on Entrepreneurial Orientation (EO) and other correlates and their relationship with Firm Creation (FC) have been focused largely on managers in existing firms. In effect, the literature has been predominantly, if not entirely, focused on individuals who are employees of other businesses. This paper goes beyond this point, and examines the individual who enters business as an independent agent. The focus is not on the successful enterprise, rather, we focus on the individual who takes that fateful step to create a firm. Specifically, the study seeks to: (a) determine whether individuals who exhibit the attributes of Entrepreneurial Orientation are more likely to complete the firm creation process by starting a business; (b) assess the role of social capital (SC) in the relationship between Entrepreneurial Orientation (EO) and Firm Creation (FC); and (c) assess the interaction between Market Intelligence Gathering (MIG) on Firm Creation (FC). We conclude that MIG is the critical factor in Firm Creation and compliments EO in the process of Firm Creation. Accordingly, our hypothesis is as stated below.



Figure 1 EO an MIG Relationship Model (H1)

H1: the nascent entrepreneur's market intelligence generation (MIG), has a complementary relationship with his/her entrepreneurial orientation (EO).

While the primary aim of this study is to broaden the discussion of new firm creation, to include Entrepreneurial Orientation, it will add to the understanding of the overarching research question of "why some nascent entrepreneurs succeed at creating new firms and others do not?" The study is limited to nascent entrepreneurs involved in the creation of independent and autonomous firms, not branches or subsidiaries of existing or established firms.

Lumpkin and Dess (1996) suggest that entrepreneurial orientation refers to the processes, practices, and decision-making activities that lead to new entry or firm creation. Risk taking can lead the entrepreneur to move boldly into a new venture without consideration of resources or possibility of failure (Lumpkin et al., 1996b), in the creation of new firm. A proactive mindset leads to developing a vision for a new idea to capitalize on a business opportunity (Schumpeter, 1942) as well as taking the initiative, anticipating and carrying out new opportunities and creating or participating in emerging markets. Thus, entrepreneurial orientation enhances the probability that a prospective entrepreneur will undertake the requisite tasks leading to the creation of a firm.

1.2 Entrepreneurial Orientation at the Individual Level

The attitudes, behaviors and values as well as vision of the founder shape the firm's entrepreneurial orientation (Kropp, 2005). A firm's EO is based on that of the individuals within the firm (Kropp et al., 2007). The individual entrepreneur provides the right signals, values and beliefs that drives the organization, especially when he or she is the founder, employer and representative of senior management.

1.3 Entrepreneurial Orientation and Firm Creation

Entrepreneurs generally accept that entrepreneurship involves risk-taking and are willing to take risk in return for potential rewards (Kropp, Noel, & Aviv, 2006). Risk taking and proactiveness is central to FC (Kropp, 2005). EO is also an innovative construct and it is argued that many entrepreneurs think outside the box and identify innovative business opportunities (Timmons & Spinelli, 2004). A strong EO leads to the pursuit of a new opportunity (Baker & Sinkula, 2009). In a recent study of entrepreneurs, Kropp et al. (2007) found that the start-up decision is positively related to a nascent individual's EO. Thus,

H2: the greater the nascent entrepreneur's EO, the more likely that FC will occur.



EO and FC Relationship Model Isolated

1.4 Social Capital, Entrepreneurial Orientation and Firm Creation

Social Capital (SC) is an asset embedded in the relationships of individuals, communities, or societies (Granovetter, 2001). It has become a part of the entrepreneurship research landscape with a focus on the significance of network relationships as a resource for social action (Bourdieu, 2001). Social Capital is especially important for firm creation and economic outcomes (Aldrich et al., 2003), since it is capable of influencing an entrepreneur's ability to recognize opportunities and mobilize resources. It consists of three clusters of attributes: the structural (STC), the relational (RLC), and the cognitive (CGC) dimensions (Nahapiet et al., 1998a). While separated, they possess features which are highly inter-related. The structural dimension essentially defines the potential or possibilities of a nascent entrepreneur's capacity to access information as well as other resources and support that are critical to venture creation. The relational dimension comprises of long-term relationships between individuals (Granovetter, 2001). Given the level of trust that is developed in long-term relationships, very sensitive, confidential or normally guarded information will flow easier between the parties to the relationship (Larson et al., 1993). Thus, the relational dimension of social capital provides the nascent entrepreneur with information that can lead to venture or firm creation. The greater the interactions between the partners, the greater the accessibility is to information. Greater levels of trust will provide members of a network more access to information and other forms of resources to support entrepreneurial efforts (Hansen, Chesbrough, Nohria, & Sull, 2000). The cognitive dimension provides shared representations, interpretations and meaning to those in the network. This dimension is undergirded by norms, which are socially defined. It is the belief that one's action is controlled not by themselves, but by others (Granovetter, 2001).

It has been suggested that the structural dimension is the most basic form of SC capital and the origin for the

emergence of the relational and cognitive dimensions (Burt, 1995; Granovetter, 2001). The physical centrality of the entrepreneur provides for the development of trustful relationships, which in turn provide the relational dimension, and subsequently the establishment of shared norms and values associated with the cognitive dimension (Liao & Welsch, 2003, 2005a).

1.5 Structural Capital (STC) and Entrepreneurial Orientation (EO)

A nascent entrepreneur's STC, as it relates to family members, close friends and colleagues that are self-employed, can provide a proven road map to starting a business; thus, helping to reduce the risk of failure and improving their willingness to be innovative (Westlund et al., 2003) as well as take proactive measures in starting a firm. It further facilitates the flow of information, stimulates innovation (Cooke & Willis, 1999) and increases the rate of new firm formation (Myint et al., 2005). Accordingly, **it is posited that the nascent entrepreneur's structural capital (STC) moderates the relationship between EO and FC**.

H3: the nascent entrepreneur's structural capital (STC) moderates the relationship between EO and FC.



STC/EO Moderation Model Isolated

1.6 Cognitive Capital (CGC) and Entrepreneurial Orientation (EO)

Additionally, CGC as it relates to the community norms is argued to facilitate the kinds of innovative, risk-taking that are related to entrepreneurship (Westlund & Bolton, 2003). Westlund and Bolton (2003) argue that when a community embraces a culture that is supportive of entrepreneurship, it insures against loss of reputation due to failure, increasing the probability that the nascent entrepreneur will engage in more daring behaviors including greater risk taking, innovativeness and proactiveness. It is further argued that the community will also continue to provide access to information and capital (Liao & Welsch, 2005) to those who try and fail. Thus,

H4: the nascent entrepreneur's cognitive capital (CGC) moderates the relationship between EO and FC.



CGC/EO Moderation Model Isolated

1.7 Relational Capital (RLC) and Firm Creation (FC)

RLC is associated with the concept of relational embeddedness (Granovetter, 1992), which refers to the assets that are rooted in the social relations, such as trust and trustworthiness. The more one interacts with network

partners the stronger the ties become, building trust, which allows for the establishment of reciprocity, mutual obligations and greater collaborative activities (Thornton, 1999) and resource acquisitions (e.g., funds, equipment, supplies) necessary for FC (Liao & Welsch, 2008). Because of the increase in trust and collaboration, RLC can reduce transactional costs and provide for legitimacy or reputation, improving the nascent entrepreneur's chances of creating a firm (Westlund & Bolton, 2003).



RTL/EO Moderated Model Isolated

H5: the nascent entrepreneur's capital (RLC) moderates the relationship between EO and FC.

2. Methodology

This study is empirical, and uses a sample of nascent entrepreneurs drawn from the Panel Study of Entrepreneurial Dynamics (PSED) II dataset, a national study conducted in the United States. The PSED research project began in 1996, and has been administered twice over two consecutive four-year periods. The first administration of the project — PSED I — took place in 1998, and the second administration — PSED II — began in 2005 (Reynolds, 2000, 2007). The project is the first and only full-scale study of its kind. The PSED projects have allowed researchers to take a closer look at the new FC process, from conception through firm birth and growth. The project focuses specifically on nascent entrepreneurs in the early stages of the FC process, and their actions and behaviors during the gestation or exploitation phases of the process.

The PSED II data set screened 31,845 individuals, and located 1,214 nascent entrepreneurs between the ages of 18 and 74. The identified study sample of 1,214 nascent entrepreneurs met the same selection criteria used in PSED I, i.e., (1) they considered themselves as involved in the FC process, (2) they have engaged in some startup activity in the past 12 months, (3) they expected to own all or part of the new firm, and (4) the initiative had not progressed to the point it may be considered an operating business.

The PSED II includes a range of question items measured at the individual level, which allowed for the assessment of the independent, dependent, variables of this study, i.e., MIG, EO, SC, and FC. All the variables and their relevant measures are discussed later in this article.

Three hundred and sixty-eight (368) of the respondents, who had actually started their new businesses, were dropped. Further, thirty-seven (37) also were dropped due to missing data, leaving a final study sample of 809 nascent entrepreneurs trying to start a business for themselves.

The Dependent Variable (FC) is based on Newbert (2005). Specifically, FC is "the process that takes place between the intention to start and making the first sales". Sales have been considered as the "optimum choice" for the birth of a new firm (Diochon et al., 2007). Thus, the study considered the achievement of sales or revenue as an initial indicator of FC. Based on the responses of the study sample of 809 nascent entrepreneurs to the above questions in the dataset, a total of 522 (65%) were identified as having created a firm during the four years of the study.

2.1 Measurement of EO Attributes

A review of the EO literature including the measurement scales developed by Covin and Slevin (1989) and Lindsay at al. (2008) which was an "Individual Level Entrepreneurial Orientation" (IEO) Scale, guided the selection of appropriate measurement items from the PSED scale. Using the PSED II questionnaire, a list of 33 questions was initially identified. Of these, 6 items such as "Being first to market a new product or service (is important for this new business to be an effective competitor" and "I enjoy the uncertainty of going into a new situation without knowing what might happen", were selected and reverse-coded where appropriate, to measure proactiveness, risk-taking and innovativeness.

A review of the literature isolated only two (2) studies that specifically addressed SC and the associated dimensions of structural, relational, and cognitive capital (CGC) in the FC process (Liao et al., 2008; Liao, Welsch, & Tan, 2005b). Guided by the scales developed in the aforementioned two studies, a review of the PSED II questionnaire led to the identification of an 11-item scale, which was subjected to confirmatory factor analysis. The items selected included questions such as: "Many of my family and kin have started new firms?"; and "The social norms and culture of the community where you live are highly supportive of success achieved through one's own personal efforts?" to measure STC and CGC, respectively.

3. Scale Validity and Reliability

Using Churchill's (1979) measure development process, the proposed scales were assessed for reliability and validity with the data collected from the participants in the PSED II sample population. With consideration to the literature and the opinions of practitioners and academics, items located within the PSED II questionnaire were identified, and are believed to measure each of the constructs and their associated components. Factor analysis and scale reliability analysis were undertaken to validate each of the three proposed scales. Cronbach's Alphas were computed to check the reliability of the scales and associated sub-scales. While the complete scales for MIG, EO, and SC provided sufficient reliability scores for use in the study, one sub-scale of social capital was below acceptable reliability levels.

3.1 Entrepreneurial Orientation

Reliability tests were conducted on the full scale to determine the internal stability and consistency of the measures. The Cronbach's alpha for the complete 6 items scale was .637, again which is considered acceptable under exploratory conditions of early stage research (Hair, Black et al., 2006). While the Cronbach's alpha for the overall scale can be slightly improved by removing the items related to risk taking, it is not advisable in that risk taking is a key consideration in an entrepreneurial orientation as well as the behavior of an entrepreneur. The results are shown in Table 1.

Reliability Statistics						
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items				
0.637	0.560	6				

Table 1 Renability Statistics for Entrepreneurial Orientation	Table 1	Reliability	Statistics for	Entrepreneurial	Orientation
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3.2 Social Capital (SC)

Given the multidimensionality of the proposed social capital scale, a factor analysis was conducted to identify potential components and loadings of proposed items. The factor analysis yielded three extracted components and the varimax rotation loaded items on the specific components. A review of the result showed that the 6 items of the cognitive capital subscale loaded high on the first extracted component; the 3 items of the relational capital subscale load high on the second extracted component; and the 2 items of the structural capital subscale loaded high on the third extracted components.

Reliability tests were conducted on each of the subscales to determine the stability and internal consistency of the items used to measure the constructs. The 2 items identified to measure the *structural capital* produced an unacceptable Chronbach's alpha of 0.481. A Cronbach alpha of 0.659 for the *relational capital* subscale meets acceptable levels based on the exploratory nature of the study (Hair, Black et al., 2006). The Chronbach's alpha of 0.853 for the *cognitive capital* is well above acceptable levels. The results of the reliability tests for structural capital, relational capital and cognitive capital are provided in Tables 2, 3 and 4 respectively.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.481	0.482	2
	Table 3 Reliability Statistics for RLC	
Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.659	0.660	3
	Table 4 Reliability Statistics for CGC	
Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items

3.3 Combined Items from the MIG, Individual EO and SC Scales

0.854

A factor analysis was conducted on the combined total of 24 items use to measure the MIG, Individual EO and SC constructs and to ensure that the items actually loaded on the appropriate components used to measure the intended constructs. Seven components were extracted using a varimax rotation with one item loading at .547, just below the minimum of .55 suggested by Hair et al. (2006).

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4. Modeling and Estimation

0.853

Consistent with previous nascent entrepreneurship studies (Delmar & Davidsson, 2000; Rotefoss & Kolvereid, 2005; Liao & Gartner, 2006; van Gelderen, Thurik et al., 2006; Lichtenstein, Carter et al., 2007), this study used logistic regression models to assess the effects of marketing intelligence generation (MIG), entrepreneurial orientation (EO), structural capital (STC), relational capital (RLC), and cognitive capital (CGC) at the individual level, on firm creation (FC).

Binary logistic regression predicts the "1" value of the dependent, using "0" as the reference. For this study, the simple logit model (Pampel, 2000) of the form: Log $(P/(1 - P) = b_0 + \Sigma b_i X_i + u_i)$ is used. This model reduces to Log $(P/(1 - P)) = b_0 + b_1 X_1 + b_2 X_2 + ... + B_k X_k + u_i)$, where b_0 , $b_1..., b_k$ are parameters associated with the exogenous explanatory variables that affect the probability of the outcome variable. A positive parameter outcome indicates that the associated variable increases the probability of the dependent variable. A negative parameter indicates a decrease in the probability of the outcome variable. For this study, the key independent variables are

MIG, EO, STC, RLC, and CGC. Other contributing controlled variables include: (1) Race, (2) Gender, (3) Age, (4) Education, (5) Prior Managerial Experience, (6) Industry Experience, (7) Self-Employed Family Member, (8) Prior Ownership, and (9) Experience Helping to Start a Business. The hypotheses were tested using a logistic regression model of the type: $F_c = F_c (X_1, X_2 ... X_k) + u$

 F_c is Firm Creation measured as a binary outcome, where $F_c = 1$ if a nascent entrepreneur creates a business; and $F_c = 0$ if the nascent entrepreneur does not start a business during the four longitudinal periods of the study. X_1 , $X_2 \dots X_k$ are a set of K exogenous explanatory variables, e.g., MIG, EO, STC, RLC, CGC, which account for firm creation. *u* is a logistically distributed error outcome. In turn, this model is applied to each hypothesis.

5. Summary of Results

5.1 Bivariate Analysis

We begin with a series of bivariate analyses, conducted on each of the proposed Independent and Control Variables in relationship with the Dependent Variable — firm creation (FC). This process provides an appreciation of any significant direct relationships between the independent variables, covariate control variables and the dependent variable — (FC). The results of those tests are summarized in Table 5 and discussed in the following sections. The table includes the parameter estimates (b coefficients); the standard error of b; the Wald statistic (chi-square) and its statistical significance; the odds ratio, labeled Exp(b); the Hosmer-Lemeshow (HL) goodness-of-fit statistic, which is a Pearson chi-square statistic; the Cox and Snell R2; and Nagelkerke's R2. When HL is insignificant it suggests that the model fits well to the data — rejecting the null hypothesis. The odds ratio or Exp(b) is the probability of the event (Y = 1) or FC occurring for the specific parameter.

5.2 Bi-Variate Analysis

5.2.1 Firm Creation (Year 1)

Table 5 Bi-Variate Analysis of STC. RLC, CGC, MIG, EO Variables and FC YR 1

Hypothesis	N = 809	BIVARIATE	В	SIG (WALD)	ODDS RATIOExp(B)	HL	COX R2	NAGEL R2
H2	EO	FCYR1	-0.026	0.029*	0.975	0.531	0.006	0.008
H3	STC	FCYR1	-0.047	0.221	0.954	0.445	0.002	0.003
H4	CGC	FCYR1	-0.016	0.311	0.985	0.830	0.001	0.002
Н5	RLC	FCYR1	-0.084	0.006*	0.919	0.070	0.010	0.013

From the table it is clear that three of the key variables-RLC, EO and MIG-have statistically significant, p < 0.05, relationships with FC. Both RLC and EO have a negative relationship with FC. Therefore, when RLC increases one unit, the odds that FC would occur decreases by a factor of 0.919; and when EO increases one unit, the odds that FC would occur decreases factor of 0.975.

5.2.2 Firm Creation (Year 4)

Table 6 BiVariate Analysis of STC. RLC, CGC, MIG, EO Variables and FC YR 4

Hypothesis	N = 809	BIVARIATE	В	SIG (WALD)	ODDS RATIOExp(B)	HL	COX R2	NAGEL R2
H2	EO	FCYR1-4	-0.022	0.081	0.979	0.353	0.004	0.005
Н3	STC	FCYR1-4	0.010	0.808	1.010	0.837	0.000	0.000
H4	CGC	FCYR1-4	0.022	0.171	1.022	0.971	0.002	0.003
Н5	RLC	FCYR1-4	-0.034	0.287	0.967	0.130	0.001	0.002
	MIG	FCYR1-4	0.074	0.002*	1.076	0.007	0.012	0.017

Tables 5 and 6 reveal that neither of the three dimensions of social (STC, RLC, CGC) capital have a direct relationship with FC, based on sales, when considering the combined 4 years of the study. MIG has a positive and significant relationship with FC, suggesting that when MIG increases one unit, the odds that FC will occur increases by a factor of 1.076; however, it does not have a non-significant HL goodness-of-fit statistic, which indicates that the bivariate model does not fit the data well. EO has a negative, yet non-significant relationship.

A bi-variate analysis revealed that EO has a significant, yet negative relationship with FC (Tables 5 and 6). This result is apparently counter intuitive; in that one would think that a high level of EO would lead a nascent entrepreneur aggressively into business. However, the negative relationship to FC could suggest that a nascent entrepreneur (NE) with higher levels of EO is not only interested in getting into business to make a sale, but most comfortable with entry into self-employment when it is clear that they can sustain the business well beyond sales and earn a long-term living as a self-employed owner of a profitable business. Thus, more consideration of information and appropriate resources may slow the pace of FC for the nascent entrepreneur with higher EO.

Risk-taking represents the likelihood that an individual will forego a safe alternative with a known outcome in favor of a more attractive choice with a more uncertain reward (Lumpkin et al., 2001). While many purport that the entrepreneur is a risk taker, it has been found that entrepreneurs are more inclined to take calculated risks (Begley et al., 2005), to reduce the probability of failure. This calculation is based on information. Thus, the finding of the regression did not support:

H2: the greater the nascent entrepreneur's EO, the more likely that FC will occur.

As discussed, earlier, SC can be a moderating factor for the Firm Creation orientation of the Nascent Entrepreneur. Accordingly, we investigated the possible moderating effect of SC and its components on the EO and Firm Creation orientation of the Nascent Entrepreneur. If the components of SC have moderating effects, they will reduce the negative impact of EO on Firm Creation (FC) of the Nascent Entrepreneur.

5.3 Interaction Analysis

An analysis to consider the interaction terms in the proposed model were conducted. Interaction is the statistical term related to the concept of effect modification (Hayes & Matthes, 2009) and occurs when the risk factor on an outcome differs depending on the value of another variable. Table 7 provides the results of the logistic regressions which assess the direct relationship with each two-way interaction terms suggested in the proposed model.

5.3.1 Firm Creation (Year 1)

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Hypothesis	N = 809	В	SIG (WALD)	ODDS RATIO	HL (FIT)	COX R2	NAGEL R2
H1	MIG*EO	0.001	0.517	1.001	0.191	0.001	0.001
H4	CGC*EO	-0.001	0.039*	0.999	0.072	0.005	0.007
Н3	STC*EO	-0.004	0.011*	0.996	0.202	0.008	0.011
Н5	RLC*EO	-0.003	0.001*	0.997	0.333	0.014	0.018

Table 7 Two-way Interaction Analysis of STC, RLC, CGC, EO, MIG and FC YR 1

As noted in Table 7 there is a significant, p < 0.05, and negative interaction between EO and each of the three dimensions of social capital (e.g., STC, RLC and CGC) when considering the generation of sales within the first year of the study. While each of these interaction have a negative impact on firm creation, they each appear to reduce the negative effect that EO has on FC, increasing the chances that someone with higher EO would actually start a firm. One very interesting observation of this reduction effect is the interaction between RLC and EO,

which both had significant, p < 0.05, yet negative direct relationships with FC. The interaction of the two variables has a reduction effect on the regression coefficients for both EO (-0.026) and RLC (-0.084) as their joint parameter estimate is considerably reduced to a -0.003. Though still negative, the diminution of the negative effect indicates a greater chance of creating a firm given their interaction.

When considering the moderation effects of social capital constructs on EO's relationship with FC a rather interesting point was noted. When assessing two-way indirect interactions with each of the other independent key variables, EO interacted significantly with STC and RLC, but not CGC. The logistic coefficient for the interactions remained negative. However, both RLC and STC interaction with EO reduced the negative coefficient considerably. EO had a -0.026 coefficient in its bivariate analysis with FC (Table 5). When it interacted with STC, the coefficient was reduced to -0.003; and when it interacted with RLC, the coefficient was further reduced to -0.002. While the coefficients remain negative, it lessened the negative effects; thus improving the positive effects of its impact on FC (Table 7). Nevertheless, the results of the interaction and moderation probe analyses do indicate:

H3: the nascent entrepreneur's STC moderates the relationship between EO and FC.

- H4: the nascent entrepreneur's CGC moderates the relationship between EO and FC.
- H5: the nascent entrepreneur's RLC moderates the relationship between EO and FC.
- 5.3.2 Firm Creation (Year 4)

Hypothesis	N=809	В	SIG (WALD)	ODDS RATIO	HL (FIT)	COX R2	NAGEL R2
H1	MIG*EO	0.001	0.231	1.001	0.299	0.002	0.003
Н3	STC*EO	-0.003	0.080**	997	0.398	0.004	0.005
H4	CGC*EO	0.000	0.568	1.000	0.666	0.000	0.001
Н5	RLC*EO	-0.002	0.034*	0.998	0.557	0.006	0.008

Table 8 Summary Table of 2-way Interaction Analysis of STC, RLC, CGC, EO, MIG and FC YR 4

Note: ** Significant at p < .10; * Significant at p < .05

During the fourth year, as in year 1 of the study, the table shows that RLC negative, yet significantly (p < 0.05) interacts with EO. As previously stated, while negative, the interaction between the two improves the chances of FC than each acting separately. The table also shows that EO positively and significantly, interacts with MIG (p < 0.05). While the interaction of these two variables is positive, the HL goodness-of-fit is not non-significant indicating that the model is not well fitted to the data. None of the other interactions were statistically significant. These results reinforce the hypothesis that MIG is a critical variable in Firm Creation (FC).

6. Correlations

In an effort to determine the degree of the relationship between the primary five variables included in the study, correlations values were computed and significance test were conducted (Cohen & Cohen, 1983). The Pearson Product Moment Correlation (r) and significant test results for the key independent variables (e.g., STC, RLC, CGC, EO and MIG), along with descriptive statistics, are provided for in Table 9.

Correlation	ns Matrix of Key Variables				
		STC	RLC	CGC	EO
	Pearson Correlation	1			
STC	Sig. (2-tailed)				
	N	798		CGC CGC 	
RLC	Pearson Correlation	0.185**	1		
	Sig. (2-tailed)	0.000			
	N	/98 0.185** 0.000 766 774 0.282** 0.439** 1 0.000			
	Pearson Correlation	0.282**	0.439**	1	
CGC	Sig. (2-tailed)	0.000	0.000		
	Ν	782	763	CGC 	
EO	Pearson Correlation	0.086^{*}	-0.016	0.022	1
	Sig. (2-tailed)	0.015	0.661	0.532	
	Ν	794	771	787	804

Table 9 Co	orrelation	Matrix f	or STC.	RLC.	CGC. I	EO
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Table 10 Descriptive Statistics							
Variable	Mean	Std. Deviation	Ν				
STC	5.79	1.861	798				
RLC	9.44	2.391	774				
NCGC	22.20	4.652	791				
EO	16.43	6.035	804				
MIG	8.22	3.156	775				

Note: Example for reporting correlations: Degrees of freedom (N-2) and the significance level = r(N-2) = .XX, p < 0.01

The correlation table reveals there is a positive and significant correlation, at an alpha level of .01, between STC and RLC, r(764) = .185, p < 0.01; CGC and STC, r(780) = 0.282, p < 0.01; and between CGC and RLC, r(761) = 0.493, p < 0.01. Given these three variables are dimensions of the same construct — social capital — the significant relationships were expected. Interestingly, EO and STC also have a positive and statistically significant correlation with an r(792) = 0.086, p < 0.05. This relationship may reflect that entrepreneurs generally tend to know other entrepreneurs; thus, a nascent entrepreneur with a stronger EO is more likely to know other entrepreneurs.

Again, working with bankers, community based services may encourage the nascent entrepreneur to start a firm only after being assured that the potential firm would be successful long-term. On the other hand, funding institutions can be a great source of information for the nascent entrepreneur high in MIG. STC was found not to be significantly related to FC in consideration of EO. There is a possibility that knowing other entrepreneurs could influence one to weigh the greater success of the firm beyond sales and consider the possibility of minimally covering costs and earning a living over time. Also, family and friends can provide a great source of knowledge and encouragement to entrepreneurs high in EO. On the other hand, they may represent the downside or perceived burden of entrepreneurship (e.g., long hours of work, lower return on investment of time) as opposed to employment opportunities. Nevertheless, the implications of social capital are important in FC as it enhances the chances of FC (Tables 7-8).

7. Summary and Conclusions

The study provides very interesting results, indicating a difference between variables when consideration was given to the first year of the study, and the complete four-year period of the study. It also reveals that the strength of relationships between variables also differed based on the time period of the study.

Based on the theoretical arguments and the empirical evidence found in this study, it appears that Entrepreneurial Orientation by itself is not sufficient to lead to Firm Creation. As in our previous study (Knox & Egbe, 2014), Market Intelligence Gathering (MIG) continues to be a critical variable that facilitates Firm Creation. We attempted to investigate the interaction of components of Social Capital (Structural Capital–STC, Cognitive Capital–CGC and Relational Capital–RLC) with Entrepreneurial Orientation in the process of Firm Creation. We observe (Tables 7and 8) that these variables only mitigated the negative coefficient between Firm Creation and EO. These results clearly indicate that the Nascent Entrepreneur makes the decision to create a firm based on calculated risk. In effect, we can support the moderating effect or potentially mediating effects of these variables on the process of firm creation.

The fact that RLC and MIG are evident in both year 1, and year 4, is strong evidence that the constructs offer some unique insights into the behaviors and activities of nascent entrepreneurs that impact their decision to actually start a firm. However, CGC also seems to play an important role when the entire four years of the study was considered.

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