

Human and social capital as drivers of entrepreneurship

Capital humano y social como motores del emprendimiento

Carolina Madriz

Postgraduate student. Business School. Instituto Tecnológico de Costa Rica. Cartago, Costa Rica. E-mail: krito.m.20@gmail.com

Juan Carlos Leiva

PhD Business Management at University of Valencia, Spain. Professor at Business School, Instituto Tecnológico de Costa Rica. Cartago, Costa Rica

E-mail: jleiva@itcr.ac.cr

<http://orcid.org/0000-0001-9653-4629>

Ralph Henn

Research Associate and PhD Candidate at Institute for Entrepreneurship, Technology-Management and Innovation (EnTechnon) at the Karlsruhe Institute of Technology, Germany

E-mail: ralph.henn@kit.edu

Abstract

The objective of this study is to determine whether human and social capital are drivers of entrepreneurship. The methodology involves the estimation of descriptive and inferential statistical techniques such as logistic regressions and correlations of variables. It is focused on information from the Global Entrepreneurship Monitor database for 2012 from Germany and Costa Rica. The results demonstrate that human and social capital, factors related to knowledge, have a positive statistical relationship with the propensity to become an entrepreneur. Little difference exists among knowledge-related factors across countries. They are mainly related to the cultural contexts, which affect the propensity to become an entrepreneur.

Keywords: knowledge; self-efficacy; entrepreneurship; human capital; social capital

Resumen

El objetivo de este estudio determinar si el capital humano y social son impulsores del emprendimiento. La metodología involucra la estimación de técnicas estadísticas descriptivas e inferenciales como regresiones logísticas y correlaciones de variables. El trabajo utilizó información de la base de datos del Global Entrepreneurship Monitor (GEM) para 2012 en Alemania y Costa Rica. Los resultados muestran que los factores de capital humano y social, los cuales son relacionados con el conocimiento, tienen un impacto estadístico positivo en la propensión de convertirse en emprendedor. Se hallaron pequeñas diferencias entre ambos países bajo estudio. Estas se relacionan principalmente con los contextos culturales que afectan la propensión de convertirse en emprendedor.

Palabras clave: conocimiento, auto eficacia, emprendimiento, capital humano, capital social.

1. Introduction

With the prior literature, it is easier to identify as a relevant issue whether human and social capital (being in contact with people with entrepreneurial knowledge) are drivers of entrepreneurship. To identify the role of knowledge in business start-up activities and in giving support to different sectors, such as the government and public sector, business sector and academic sector, the previous research has focused on factors that influence the formation of building independent businesses (Davidsson & Honig, 2003; Arenius & Minniti, 2005; Shane, 2012; Hsiao, Lee, & Chen, 2016).

Previous studies have established determinants that influence the propensity of people to become entrepreneurs, such as alertness to opportunities, demographic characteristics, the fear of failure, confidence in personal skills (Arenius & Minniti, 2005), opportunities in the entrepreneurial process (Eckhardt & Shane, 2003), education level (Arenius & De Clercq, 2005), or unemployment and the state of the economy (Sternberg & Wennekers, 2005; Ritsilä & Tervo, 2002; Arenius & Minniti, 2005). Prior research reveals that factors related to knowledge affect whether and how people engage in entrepreneurship activities (Van Praag & Cramer, 2001; Autio & Wennberg, 2010; Liedholm, 2002; Brüderl & Preisendörfer, 1998; Macpherson & Holt 2007). However, the shortage of studies that could show the causes of knowledge spillovers in the entrepreneurial process (De Clercq & Arenius, 2006; Dencker, Gruber & Shah, 2009; Ghio, Guerini, Lehmann, & Rossi-Lamastra, 2015) display the need to determine how factors based on knowledge affect a person's propensity to become an entrepreneur.

This paper looks for advancing the literature on the determinants that are based on the knowledge to engage in a business start-up activity.

Thus, transmitted knowledge (social capital) and acquired knowledge (human capital) are variables of strong impact for people who make the decision to become entrepreneurs

(Davidsson & Honig, 2003). Similarly, entrepreneurs discover opportunities related to knowledge from the information they already possess (Shane, 2000; Bayon, Lafuente, & Vaillant, 2016).

Autio and Wennberg (2010) suggested in a study that patterns of social groups could have three times more influence on the probability to become an entrepreneur, compared to the personal attitudes that everyone has (human capital).

However, De Clercq and Arenius (2006) determined that there are two factors based on knowledge, and those have a great impact on the decision of people to become involved in starting a new business, which are human and social capital (being in contact with people with entrepreneurial knowledge).

The Global Entrepreneurship Monitor establishes that some people decide to become entrepreneurs out of necessity while others are motivated by opportunities, mostly depending on the country in which they live (Xavier et al., 2012; Singer, Amorós, and Moska, 2015).

According to this finding, being aware of the existence of factors that influence and encourage people to conduct their own business, the objective of this study is to determine whether factors related to knowledge specifically human and social capital (being in contact with people with entrepreneurial knowledge) are drivers of entrepreneurship. That's why this research aims to use estimation of descriptive and inferential statistical techniques with information from the Global Entrepreneurship Monitor database for 2012 from Germany and Costa Rica.

Comparing countries like Costa Rica and Germany is useful because both have a national strategy for competing in the knowledge base sector (i.e. information and communication technologies, biotechnology, medical device cluster, among others.) (Schwab, 2016). The analysis is worked with a representative sample of the adult population from Germany (N = 4300) and Costa Rica (N = 2041).

This article is composed of the following sections: introduction, theory and hypotheses,

methodology, results, discussion and conclusions, finally the section of limitations, future research and implications.

2. Theory and Hypotheses

As stated previously, the notion of self-efficacy is characterized as the pillar in the development of this study, which permits a relationship among self-knowledge (human capital), acquired (capital) knowledge and the decision of individuals to engage in a new business. Self-efficacy can be defined as self-confidence in one's own ability and skills to face a diversity of circumstances and to perform a specific action (Bandura, 1994, 2006). Investigations with a focus on small businesses are increasing, and they establish the importance of knowledge for entrepreneurship and innovation (Zeng, Xie & Tam, 2010; Gast, Werner, & Kraus, 2017). Self-efficacy, knowledge, skills and abilities affect the workload, the interest and level of difficulty of the targets that are established for performance; they also influence persistence (Kay & Moncarz, 2004). Studies have identified two important characteristics that are positively related to influencing one's starting one's own business and to the business performance, which are self-confidence in one's knowledge and skills and relationships with other people who will transmit knowledge (knowledge-based resources) (De Clercq & Arenius, 2006; Wiklund & Shepherd, 2003; Lee, Lee & Pennings, 2001; Arenius & Minniti, 2005; Autio & Wennberg, 2010).

2.1 Human Capital and Entrepreneurship

It has been revealed by previous research that the knowledge and skills of people are characterized as delimiting factors of their behavior (De Clercq & Arenius, 2006), and also that there is a positive relationship between the ability to perceive entrepreneurial opportunities and educational level (Arenius & Minniti, 2005; Brixy & Hessels, 2010). There are components of human capital that have a representative positive effect on the likelihood of a move into entrepreneurship, such as education and work experience (Davidsson & Honig, 2003).

In general, the literature of networks and capital mentioned before demonstrates that there is a positive correlation between entrepreneurship and human capital. However, studies have analyzed the intensity ratio between these two factors, but the results have demonstrated that the relationship is not strong enough (Davidsson & Honig, 2003). Likewise, recent empirical studies have shown results from a completely different approach. They exhibit a nonlinear relationship or insignificant impact between education and entrepreneurship (Van der Sluis, Van Praag & Vijverberg, 2008; Oosterbeek, Van Praag & Ijsselstein, 2010; Brixy & Hessels, 2010), and the results even reveal that human capital accumulation is not associated with the initiative of business aspirations (Karaagac, 2014).

Moreover, the literature of psychology establishes the importance of trust in personal skills and the ability to behave in a business fashion (Arenius & Minniti, 2005). The prediction of the study regarding entrepreneurship is influenced by factors such as the locus of control and intentionality (Baron, 2000).

According to the prior findings, self-efficacy is utilized on the assumption of a positive effect of the probability between starting a business and knowledge of people. Self-efficacy significantly influences corporate behavior (Zhao, Seibert & Hills, 2005; Townsend, Busenitz, & Arthurs, 2010); therefore, to achieve an increase in entrepreneurship initiative, it is essential that people believe in their personal abilities and capabilities and thus discover courses of action (Krueger, Reilly & Carsrud, 2000).

Entrepreneurial self-efficacy is defined as the belief level of an individual in his personal ability to perform successfully the duties and responsibilities required of an employer (Townsend, Busenitz, & Arthurs, 2010; Chen, Greene, & Crick, 1998; Krueger & Brazeal, 1994). From the theory of self-efficacy, it is derived that people with higher human capital are better at recognizing profitable opportunities, and thus, they see entrepreneurship as an attractive career choice because they believe they have the required skills for success (Autio

& Wennberg, 2010; Davidsson & Honig, 2003). As a result, human capital plays a significant role in economic activities. Previous studies have shown the role of human capital to be an engine for entrepreneurship (Morales & Roig, 2005; De Clercq & Arenius, 2006; Davidsson & Honig, 2003, Autio & Wennberg, 2010).

The human capital approach in this study is the knowledge that is directly related to a new venture. The writings have paid more attention to the business literature of knowledge focused on performance results, growth and success (Gruber, Kim, & Brinckmann, 2015; Macpherson & Holt, 2007; Tsai, 2001; Lee, Lee & Pennings, 2001) and not in the monitoring of behavior decisions, such as starting a business. (De Clercq & Arenius, 2006). Therefore, the following hypothesis is established:

Hypothesis 1: The level of human capital is positively related to the propensity to become an entrepreneur.

2.2 Social Capital and Entrepreneurship

Knowledge in business activities has a focus on human capital but also on that transmitted by other individuals. For this reason, the importance of a type of knowledge about other knowledge has been discussed (De Clercq & Arenius, 2006; Morales & Roig, 2005). Through the statistics of an empirical study, there were found significant differences in social networks between entrepreneurs and non-entrepreneurs (Klyver & Hindle, 2007; Lamine 2017).

Knowledge focused on entrepreneurship spirit should increase in areas with greater knowledge (Audretsch, Bönte, & Keilbach, 2008), by geographic proximity to knowledge sources generating more entrepreneurial opportunities through a network approach to the entrepreneurship spirit (Acs, Audretsch & Lehmann, 2013). Indeed, empirical studies support this statement. It was determined that the aspect of social capital to be employed to conduct models has a statistically positive result for engaging in entrepreneurial activities (Davidsson & Honig, 2003; De Clercq & Arenius, 2006; Klyver, Hindle & Meyer, 2008).

Persons who are in the same environment with business people make that uncertainty decrease, and they gain more confidence to undertake entrepreneurial activities successfully (Bandura, 1978; Indrawati et al., 2015), decreasing the ambiguity in the entrepreneurial process (Johannisson, 1996).

Social capital and networks literature have shown the importance of external knowledge to form individual knowledge, and thus, that could provide input to those who aspire to be entrepreneurs (Davidsson & Honig, 2003). According to previous results, this study is based on the importance of self-efficacy models and the positive relationship between external exposure to knowledge and entrepreneurship. For this study, social capital will be the profit obtained by accessing the knowledge of others (De Clercq & Arenius, 2006). Despite claims that the formation of families with their own businesses has a positive effect on the recognition of opportunities and the decision to undertake entrepreneurial activities (Aldrich & Cliff, 2003), there are studies with results suggesting both direct and indirect effects to this assertion (Carr & Sequeira, 2007).

A recent study demonstrates that the norms of behavior of social groups can achieve a greater impact of more than three times on the likelihood of engaging in entrepreneurship compared to individual attitudes (Autio & Wennberg, 2010). Therefore, the following hypothesis is established:

Hypothesis 2: The level of social capital is positively related to the propensity of a person to become an entrepreneur.

3. Methodology

3.1 Sample and Data Collection

This study focused on the Global Entrepreneurship Monitor database from Costa Rica and Germany for 2012. The analysis is worked with a representative sample of the adult population from Germany (N = 4300) and Costa Rica (N = 2041). However, as a part of this study there were used 3 filter questions to determine whether the respondents were nascent entrepreneurs, and after applying

the questions to the first sample, there were determined that the final samples that participated in this study were N= 277 from Costa Rica and N= 170 from Germany (nascent entrepreneurs of the GEM databases).

Data were collected as part of the Global Entrepreneurship Monitor (GEM) in 2012. Private market survey firms conducted telephone interviews with a standardized questionnaire during 2012 with respondents between 18-64 years old.

The GEM database is the most important entrepreneurship research project in the world; it is the result of academic efforts and interagency coordination by almost 70 countries, according to the GEM national report 2012.

The Global Entrepreneurship Monitor (GEM) is an assessment of the entrepreneurial activity, attitudes and aspirations of individuals in a wide range of countries. It is a unique project because it measures the behavior of individuals related to the creation and management of a company (Karaagac, 2014).

3.2 Measures

3.2.1 Dependent and Independent Variables

Nascent entrepreneurs. As part of the analysis people who were in the process of creating their own business (nascent entrepreneurs¹) at the time of data collection have been identified to determine the likelihood of engaging in business start-up activities. To identify individuals involved in the entrepreneurial process, the GEM asked the following question: Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?

1. A nascent entrepreneur was one who had taken an action to be involved in an entrepreneurial process. Established entrepreneurs were not considered (those who had paid wages for more than three months, according to the GEM) to avoid the bias of studying people who have already been involved in the entrepreneurial process.

The database also asked two extra questions to respondents who answered yes to this question to identify people who had in mind being involved in activities of self-employment and those who were already involved in these activities, which are as follows: "Over the past twelve months, have you done anything to help start a new business, such as looking for equipment or a location, organizing a start-up team, working on a business plan, beginning to save money, or any other activity that would help launch a business?" and "Will you personally own all, part, or none of this business?". In the study, only respondents who answered "yes" to the first question and to the second question "all" or "part" were considered nascent entrepreneurs.

This dependent variable is a binary variable that is classified in the following way: "1 = Yes", "0 = No", attempting to identify whether the individual was a nascent entrepreneur when the survey was conducted.

Human Capital. Human capital was valued as an independent variable and was divided into two variables, which were "academic level" and "personal skills" (Autio & Wennberg, 2010; Arenius & De Clercq, 2005). Academic level was divided into four categories: no university degree, incomplete university degree, university degree completed and higher than university degree. The education variable was based on two binary variables: 'higher than university degree' and 'university degree' either complete or incomplete (1 = Yes, 0 = No).

Moreover, to measure personal skills, the concept of self-efficacy was applied, employing the question of the GEM about whether "the respondents had the necessary knowledge, skill and experience to start a new venture" (Autio & Wennberg, 2010). This question was measured as a variable of dichotomous state, with "1" indicating whether the individual had the knowledge, skill and experience and "0" indicating the absence of those features.

Social Capital. It has been confirmed that knowledge of an employer has a positive relationship that is statistically significant to influence on the likelihood to engage in entrepreneurial activities (Klyver, Hindle & Meyer, 2008; Arenius & Kovalainen, 2006;

Morales & Roig, 2005). Accordingly, social capital is considered an independent variable. Therefore, to assess the exposure of individuals to external knowledge, the study was based on the variable of “knowing an entrepreneur,” which is a binary variable with the answers “Yes” or “No” to the next question of the GEM: “Do you know someone personally who started a business in the past 2 years?”

3.2.2. Control variables. According to the study of previous literature, the importance of including some control variables in the research was determined. Demographic variables influence entrepreneurial activity (Runyan, Huddleston & Swinney, 2006), so gender (Wilson, Kickul & Marlino, 2007) and age (Klyver & Hindle, 2007) were included. The GEM measured gender in a binary way (“1” = female, “0” = male) and age in a way indicating the number of years.

Moreover, “perspective of opportunities” in the environment is related to the propensity to create one’s own business (Klyver & Hindle, 2007; Klyver, Hindle, & Meyer, 2008). To measure this factor, the following question established by GEM was utilized: “In the next six months, will there be good opportunities for starting a business in the area in which you live?” with “1” indicating “Yes” and “0” indicating “No”.

In addition, studies with entrepreneurial approaches demonstrate that people with

more “fear of failure” are less likely to engage in entrepreneurial activities (De Clercq & Arenius, 2006). Therefore, the “fear of failure” is considered a control variable. The question of the GEM was as follows: “Would fear of failure prevent you from starting a business?” with “1” indicating “Yes” and “0” indicating “No”.

It was also considered that “what people of the country think about entrepreneurship” is a factor that measures entrepreneurial attitudes (Autio & Wennberg, 2010). The GEM implemented the following question of dichotomous nature (1 = Yes, 0 = No): “In your country, do most people consider starting a new business a desirable career choice?”

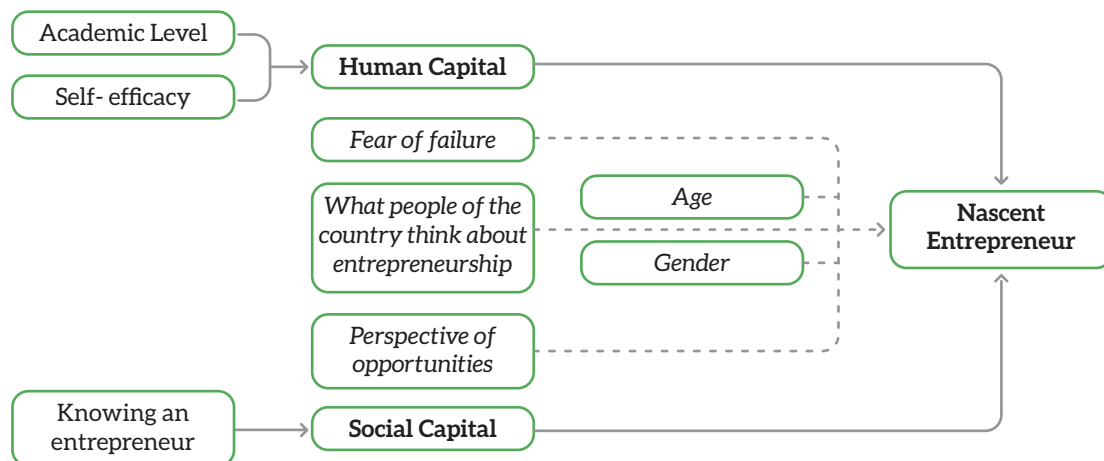
According to the above theoretical considerations, the conceptual model illustrated in Fig. 1 was considered.

4. Results

First of all, it is important to mention that after applying the three filter questions to determine whether the respondents were nascent entrepreneurs, the final samples that participated in this study were N= 277 from Costa Rica and N= 170 from Germany (nascent entrepreneurs of the GEM databases).

Table 1 presents the intercorrelations of the variables in the study utilizing the pooled sample (from Germany and Costa Rica) and their

Figure 1. Human Capital, Social Capital, and Nascent Entrepreneurs



Source: Author’s elaboration.

standard deviations and means. It indicates that human capital (self-efficacy and academic level) is partially positively correlated with the propensity to become an entrepreneur. However, it can be seen that social capital (knowing an entrepreneur) and the propensity to become an entrepreneur are completely positively correlated.

The logistic regression analyses are presented in Table 2, for a new variable called "EMPNAC" was created, measured in a binary way, with "1" indicating "Yes" and "0" indicating "No". The first and second columns present the pooled samples from Costa Rica and Germany. To test the hypotheses of the study, Table 2 exhibits two models: analysis of just the control variables and analysis of all of the variables included in this study. The first model merely reveals the control variables (first column, Table 2), and the second one presents the control and predictor variables, (second column, Table 2). In addition, in Table 2, the same two models for each country are presented to determine whether the results differed for Costa Rica (third and fourth columns) and Germany (fifth and sixth columns).

The statistical study from the pooled sample demonstrates that the majority of the control variables have a predictable result (first column, Table 2). More specifically, when people have more fear of failure, they are less likely to

become entrepreneurs. Additionally, those that expect there will be good market opportunities for a new venture are more likely to become entrepreneurs. Moreover, the results suggest that gender influences the decision to engage in a new business, with males more likely to being involved in a business start-up. Another relevant finding from the control variables is that younger individuals are more likely to engage in new ventures.

To determine the variables related to knowledge and to prove the hypotheses, the results of the total variables from the two countries (column 2, Table 2) are shown. For Hypothesis 1, it can be shown that the academic level presents a nonlinear relationship or is insignificant to the likelihood of starting a business. The "incomplete university" category was considered the base case. However, self-efficacy (perception of having the knowledge and skills required to start a new business) has a statistically positive relationship with the propensity to become a nascent entrepreneur. Furthermore, giving support to Hypothesis 2, the statistical results prove that the entrepreneurial knowledge transmitted by others (knowing an entrepreneur) is significantly positively related to starting one's own business.

In addition to the pooled sample study (first and second columns, Table 2), a study was

Table 1. Correlations, Means and Standard Deviations

| Variables | Means | S.D. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--|-------|-------|----------|----------|----------|----------|----------|----------|-------|----------|
| 1. Entrepreneurship (start-up activity) | 0.07 | 0.26 | | | | | | | | |
| 2. Academic Level (completed or did not complete university) | 0.40 | 0.49 | .015 | | | | | | | |
| 3. Self-efficacy | 0.48 | 0.50 | .213*** | .038** | | | | | | |
| 4. Knowing an entrepreneur | 0.32 | 0.47 | .196*** | .075*** | .224*** | | | | | |
| 5. Fear of failure | 0.45 | 0.50 | -.129*** | -.060*** | -.196*** | -.084*** | | | | |
| 6. Perspective of opportunities | 0.43 | 0.50 | .129*** | .105*** | .145*** | .149*** | -.125*** | | | |
| 7. Gender (woman) | 0.50 | 0.50 | -.075*** | -.010 | -.147*** | -.079*** | .101*** | -.063*** | | |
| 8. Age | 40.63 | 13.05 | -.068*** | -.051*** | .049*** | -.101*** | .020 | -.056*** | .017 | |
| 9. What people of the country think about entrepreneurship | 0.58 | 0.49 | .033 | -.181*** | .016 | .020 | -.055*** | .044** | -.012 | -.065*** |

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

Fuente: elaboración propia con base en resultados de SPSS.

Table 2. Logistic Regression Analysis of the Likelihood of Being Engaged in a Business Start-up Activity

| | Costa Rica | | Germany | |
|---|------------------|-------------------------|------------------|-------------------------|
| | | | | |
| Two Countries | | | | |
| Human Capital | | | | |
| Academic Level (completed or did not complete university) | | .113 (1.120) | | .172 (1.188) |
| Self-efficacy | -0.33 (.967) | 1.418 (4.129)*** | | 1.323 (3.775)*** |
| Social Capital | | | | |
| Knowing an entrepreneur | .946 (2.575)** | .669 (1.953)*** | | 1.296 (3.656)*** |
| Fear of failure | -1.001 (.368)*** | -1.017 (.362)*** | -0.952 (.386)*** | -0.642 (.526)** |
| Perspective of opportunities | .785 (2.192)*** | .702 (2.018)*** | .947 (2.579)*** | .683 (1.980)*** |
| Gender | -0.523 (.593)*** | -0.616 (.540)*** | -0.509 (.601)** | -0.251 (.778) |
| Age | -0.016 (.984)*** | .001 (1.001) | -0.025 (.976)*** | -0.032 (.969)*** |
| What people of the country think about entrepreneurship | .095 (1.099) | -0.112 (.894) | -0.168 (.845) | -0.093 (.912) |
| Constant | -1.022 (.360)*** | -0.927 (.396)** | -1.084 (.338)** | -2.762 (.063)*** |
| Nagelkerke R ² (°) | .095 | .092 | .101 | .220 |
| -2 Log likelihood | 2508.622 | 1401.423 | 1043.497 | 922.326 |
| | 2257.455 | 1286.749 | | |

*** p < .001; ** p < .01; * p < .05

2. Adjustment capacity (R² = 0.092 - 0.220) means that there may be other variables that were not considered in the study and they may be important to the propensity to become an entrepreneur.

Source: Author's elaboration.

conducted for each country to determine whether the results from the pooled sample differed in each country in term of the hypotheses. Furthermore, to compare whether there are differences between the results obtained from each country, a statistical study for each country was conducted. Interestingly, making a comparison of the variables used for the hypotheses, all of them were too similar to the pooled samples of those countries, with the perception of having the skills required (self-efficacy) and the transmitted knowledge (knowing an entrepreneur) being found statistically significant with the propensity to become an entrepreneur. In addition, the level of education was not associated with the entrepreneurial intention.

Furthermore, referring to the control variables in the case of Costa Rica, the fear of failure, the perspective of opportunities and gender played a significant role in business start-up activity (third column, Table 2); it is important to mention that in the full model and the pooled samples, too. For Germany, the control variables model demonstrates that the last three variables mentioned from Costa Rica and the age remained significant even in the control variables model (fifth column, Table 2). However, in the German full model, only the negative effect of gender disappeared (sixth column, Table 2).

As a conclusion, through the statistical study and the respective analyses, Hypothesis 1 is partially accepted and Hypothesis 2 is fully accepted. This is so for Hypothesis 1 because self-efficacy has a statistically positive relationship with the propensity to become an entrepreneur; nevertheless, there is an insignificant impact between the academic level and entrepreneurship. Hypothesis 2 is fully accepted because knowing an entrepreneur significantly influences the propensity of making a decision to become involved in a start-up activity.

5. Discussion and conclusions

The present study proves there is a partial positive correlation between human capital and the propensity to become an entrepreneur

because there is a relationship with self-efficacy but not with the academic level. In addition, social capital is complete positively correlated with the propensity to become an entrepreneur.

This research demonstrates that self-efficacy and knowledge are crucial for starting business activity. It means that depending on the level of human capital and transmitted knowledge, the level of influence will decide whether one becomes an entrepreneur. As a result, it has been shown that the perception that an individual has about having the skills required for a new venture is relevant for making the decision to engage in a business start-up. The empirical study proves that someone who thinks they have the skills required to manage a new venture would be more likely to become an entrepreneur (Morales & Roig, 2005; De Clercq & Arenius, 2006; Davidsson & Honig, 2003; Autio & Wennberg, 2010).

In addition, it was proven that external knowledge affects the propensity to engage in business start-up activities. It could be because if an individual has been in contact with people who have established their own businesses, those entrepreneurs transmit entrepreneurial knowledge from their personal experiences to the individual; in that way, the individual would feel more sure (less uncertainty) and confident in their abilities to undertake a new business (Davidsson & Honig, 2003; De Clercq & Arenius, 2006; Klyver, Hindle & Meyer, 2008). People decide to become entrepreneurs by different motivations. The GEM indicates individuals who chose to have their own businesses because of good market opportunities, but others have no choice because of necessity, according to GEM Global Report (Xavier et al., 2012).

The difference in samples between the countries (N = 277 for Costa Rica and N = 170 for Germany, although the total database of Germany is basically twice as large as that of Costa Rica) may occur because in Costa Rica many people decide to undertake a new business because it is the only option for work. However, in Germany, most entrepreneurs decided to engage in business start-up activities

because there were good market opportunities for entrepreneurship.

A very important fact from the statistical study and its respective analysis from Costa Rica and Germany is that there is not a relevant difference between the respective relationships in the statistics results (Table 2). In both countries, the perception of having the skills required to start a new venture has a statistically positive relationship with the propensity to become an entrepreneur. In addition, knowing an entrepreneur is positively related to the decision to start one's own business. However, focusing on control variables can suggest that the contexts from an underdeveloped country and a developed country may affect some factors differently as to the likelihood to engage in business start-up activities.

The results suggest that customized approaches with a focus on exclusive cultural contexts are essential for entrepreneurship in every country (Lee et al., 2006). It could explain why the age in Germany has a positive relationship with the propensity to become an entrepreneur but this age relationship is not significant in Costa Rica. That could mean that the profile of people varies according to the context in which they are involved, and it could affect them to engage in entrepreneurial activities.

Additionally, depending on environment where people are located, the personal and transmitted knowledge (human and social capital) will change. As a consequence, the type of business would be different depending on the context.

6. Limitations, Future Research and Implications

This study has some limitations, which are as follows: First of all, in this study, correlations were employed to give support to the causal relationship for the hypothesis, to know the change that one variable causes in another variable. However, across-sectional study was employed (logistic regression) to determine the relationship of the factors related to knowledge together with the propensity to become an entrepreneur. It could be explained as follows:

the majority of respondents answered that they have the skills required for a new venture because they are already involved in the entrepreneurial process. However, it may be that people first experienced interactions with entrepreneurs and that they subsequently made the decision to engage in business start-up activities. For that reason, although the hypotheses were established with concrete theory, it could be important to do a study related to knowledge factors and in another way, one focused on business start-up activities to detect clear causality.

Similarly, there was a limitation for the study in that there was only access to the questions established by the Global Entrepreneurship database; for that reason, only those questions or variables were employed for analyzing the social capital (knowing an entrepreneur). Future research should investigate the social capital with another variable that can help to determine the relation. Furthermore, some of those questions were limited by a period of time, and sometimes they could not be utilized to study a determined variable. A recommendation for the GEM database is to pay attention to the structure of how the questions are limited by a period of time because it could affect some potential studies.

Moreover, in this study, respondents from the GEM database 2012 were employed, those who conducted something for a new business but were not involved in the business start-up activity, that is, nascent entrepreneurs. It could be important to do further research to know whether these respondents continued with the entrepreneurial process after the interviews.

It is important for future researchers to study the principal reasons that cause the positive relationship of human capital and social capital with the propensity to become an entrepreneur. To determine the principal factors could help to improve entrepreneurship. Furthermore, it could permit one to indicate a positive relationship between social capital and factors related to human capital (Gradstein & Justman, 2000), for example, knowing how an entrepreneur could improve his skills and enhance human capital and vice

versa. Future studies could present valuable information to determine the reasons or nature of the relationships between factors related to knowledge and the reasons why they affect the propensity to become an entrepreneur.

However, future researchers could explore the effect of factors related to knowledge with the propensity that one person engages in various new ventures (Davidsson & Honig, 2003).

As a conclusion, one of the limitations to the development of new businesses in the studied countries is related to the factors that influence knowledge, particularly self-efficacy and transmitted external knowledge.

As far as recommendations to promote contact with other entrepreneurs, one could plan specific activities for entrepreneurs, such as conferences for transmitting entrepreneurial knowledge and obtaining good contacts from entrepreneurs. These activities could be promoted in public and private educational centers. In addition, entrepreneurs could visit high schools, colleges and universities to tell of their successful experiences as entrepreneurs. Correspondingly, students from educational centers could create associations to encourage and support business ideas, conducting activities for the integration of different careers, to engage in multidisciplinary teams. In addition, teachers focused on that topic, or if they had entrepreneurial experience, could provide consulting support.

The educational centers may have incubators that provide support and assistance to students or graduates who want to start their own businesses. Moreover, the state could implement campaigns to promote entrepreneurship, and the media might report more cases of successful companies and the experiences of their entrepreneurs.

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