

ENTREPRENEURIAL INTENTION IN BRAZIL: THE CHALLENGE IN USING INTERNATIONAL MEASUREMENT

INTENÇÃO EMPREENDEDORA EN BRASIL: EL RETO DE USAR UN INSTRUMENTO DE MENSURACIÓN INTERNACIONAL

Cássio Pasin Couto

Master's degree
Universidade Federal Fluminense
cassiopasin@gmail.com

Sandra R. H. Mariano

PhD
Universidade Federal Fluminense
sandramariano@id.uff.br

Verônica Feder Mayer

PhD
Universidade Federal Fluminense
vmayer@gmail.com

Submitted on: 3/26/2011

Approved on: 7/29/2013

RESUMO

A partir do modelo de identificação da intenção empreendedora proposto por Chen e Liñán (2009) e do instrumento de coleta de dados desenvolvido pelos mesmos para testar o modelo, este artigo se propôs a validar o modelo de intenção empreendedora em uma amostra brasileira. Anteriormente validado após aplicação em estudantes universitários na Espanha e em Taiwan, o instrumento desenvolvido, após sua devida tradução, foi aplicado em uma amostra de estudantes universitários brasileiros. Análises exploratória e confirmatória dos dados obtidos não foram capazes de validar o modelo. Os resultados sugerem que aspectos relacionados à cultura interferem na intenção empreendedora. No entanto, o instrumento mostrou-se eficaz na identificação das impressões dos estudantes acerca do empreendedorismo.

PALAVRAS-CHAVE: Intenção empreendedora. Estudantes brasileiros. Validação de instrumento de pesquisa.

ABSTRACT

This study aimed to validate the model of entrepreneurial intention (EI) in a Brazilian sample using the identification model of entrepreneurial intention proposed by Chen and Linán (2009) and the data collection instrument developed by them to test the model. Having been validated after application to college students in Taiwan and Spain, and following its translation into Portuguese, the survey was applied to a sample of Brazilian university students. Exploratory and confirmatory analyses of the data obtained were not able to validate the model. The results suggest that some aspects of culture influence the entrepreneurial intention. However, the instrument was effective in identifying the students' impressions about entrepreneurship.

KEYWORDS: Entrepreneurial intention. Brazilian students. Research instrument validation.

RESUMEN

A partir del modelo de identificación de la intención emprendedora propuesto por Chen y Liñán (2009) y del instrumento de recolección de datos desarrollado por los mismos para testear el modelo, este artículo se propone la validación del modelo de intención emprendedora en una muestra brasileña. Anteriormente validado tras su aplicación en estudiantes universitarios en España y en Taiwan, el instrumento desarrollado, después de su debida traducción, fue aplicado en una muestra de estudiantes universitarios brasileños. Los análisis exploratorios y confirmatorios de los datos obtenidos no fueron capaces de validar el modelo. Los resultados sugieren que algunos aspectos relacionados a la cultura interfieren en la intención emprendedora. Sin embargo, el instrumento se mostró eficaz en la identificación de las impresiones de los estudiantes acerca del emprendedorismo.

PALABRAS CLAVE: Intención emprendedora. Estudiantes brasileños. Validación de instrumento de investigación.

INTRODUCTION

The United Nations Conference on Trade and Development (UNCTAD, 2009), the United Nations department for promoting development, suggests that there is a direct relationship between social and economic development and entrepreneurial activity in society. Measuring the entrepreneurial capacity of a nation is one of the most important challenges facing researchers on Entrepreneurship. Indicators for measuring entrepreneurial capacity have been investigated, particularly those that focus on startup business intentions (MACHADO et al, 2010; CHEN and LIÑÁN, 2009).

According to Bygrave (2004), we live in an age of entrepreneurship. Schumpeter (1957), in his economic development theory, assigns to the entrepreneur the role of society changer in the capitalism system. Around the world, public policy makers and academics agree that entrepreneurship plays a critical role in the development and Welfare of a society, and consequently influences the development of nations. (BOSMA; WENNEKERS; AMORÓS, 2012; KARIMI et al., 2010). Its primary function is to innovate, find new ways to organize production factors, and combine these new factors. This capacity to introduce the new and create wealth is called "creative destruction" (KORNIJEZUK, 2004). The Global Entrepreneurship Monitor (GEM), the most extensive study on entrepreneurial activity in the world (containing data from over 40 countries in the 2008 report) strengthens the idea mentioned above, concluding that entrepreneurship is an important development engine that influences job creation, innovation and welfare (MACHADO et al, 2010). In this context, small businesses have a crucial role, as perception of opportunity and business creation are included in the entrepreneurial process (MARIANO & MAYER, 2008).

In view of the above, small enterprises are considered one of the main actors in economic development, with great influence on the creation of stable jobs and innovative technology (KORNIJEZUK, 2004). According to this author, since World War II, small businesses offering entirely new products and services generated 50% of innovations and 95% of radical innovations. In Brazil, 98% of companies are small business (2004 data), which confirms the importance of small businesses to the Brazilian economy (MARIANO & MAYER, 2008).

However, despite the importance of entrepreneurship in stimulating a country's economic development, the mortality rate of small businesses in many countries is very high (DEMONEL & LEITE, 2003). Also, according to the authors, in the United States, around 50% of small business perish in the first year and 75% to 80% perish between three and five years. South Africa and Japan have very similar rates.

In Brazil, a study by Sebrae "*Fatores Condicionantes e Taxa de Mortalidade de Empresas no*

Brasil” (Conditioning Factors and Mortality Rate of Companies in Brazil), published in 2005, shows data from 2000 to 2002, asserting that the mortality rates of businesses 2, 3 and 4 years old are 49.4%, 56.4% and 59.9% respectively (MARIANO & MAYER, 2008).

Considering that the country’s culture¹ directly influences its progress and development (CASTRO NETO & SOARES, 2005), initiatives to monitor and stimulate entrepreneurial activity around the world are justified. Such initiatives have been developed by academic institutions, such as GEM, which measures levels of entrepreneurship in each country and identifies the factors and policies that trigger this behavior (ACS et al, 2009), or by those responsible for public policies to promote entrepreneurial capital development (CUNHA & TORRES, 2003). Policies to promote changes in this scenario are also needed, such as those that promote entrepreneurship, developing projects to better prepare current and future entrepreneurs and increase their chances of success.

Thus, the observation of business opportunities and the development of entrepreneur attitudes and activities are strongly influenced by the individual’s cognitive aspirations, and their entrepreneurial intentions. Thus, evaluating the entrepreneurial intentions in a group enables us to draw conclusions about the impressions of this group, concerning the idea of starting their own business (CHEN & LIÑÁN, 2009).

Chen and Liñán (2009) developed a tool to measure entrepreneurial intention. Adapting Ajzen’s (1991) model for expression of human behavior in specific situations, these authors developed the Entrepreneurial Intention Questionnaire (EIQ). Applying the questionnaire to undergraduate students in two different countries with distinct cultures, they concluded that the instrument has applicability in different cultures (CHEN & LIÑÁN, 2009). However, according to Gjersing et al (2010), a previously validated instrument does not necessarily mean it is valid in another culture or time.

Given that the development of entrepreneurial characteristics is strongly influenced by cultural factors (ACS et al, 2009; CHEN & LIÑÁN, 2009), and that society’s culture motivates individuals to manifest specific behaviors that would not necessarily be encouraged in other societies (CHEN & LIÑÁN, 2009), the main goal of this study is apply and test the validity of the instrument developed by Chen and Liñán for a Brazilian sample, considering that the Brazilian culture is distinct from those in which the EIQ were applied. This study also seeks to evaluate, based on the results obtained, the respondent’s impressions about entrepreneurship.

LITERATURE REVIEW

The term entrepreneurship has its origins in the 17th Century French military history, when it was used to refer to those who led military expeditions (KORNEIJEZUK, 2004). According to Korneijezuk (2004), the first person to use the term entrepreneur in the business context was Richard Cantillon in the 18th century, referring to a person who buys goods and services for a price with the intention of selling them later.

Since then, studies about entrepreneurship have advanced significantly, with several contributions from many areas of knowledge. Study on the world of entrepreneurship was no longer attracting the attention of economists and pioneers, but it was attracting virtually all the disciplines in human and management science (FILLION, 1999). Thus, research on entrepreneurship is characterized as multidisciplinary, and as a result of these various contributions, Fillion (1999) notes that the literature on entrepreneurship is confused about the definition of an entrepreneur. The author justifies the situation, alleging that researchers end up favoring the premises of their own disciplines in their studies.

Cunningham & Lischeron (1991) identified six schools of thought about entrepreneurship, each with a different perspective on the attributes and capabilities of an entrepreneur. They are: the School of the “Great Person”, which sees the ability to undertake such an innate characteristic, the Psychological Characteristics School, which assigns to entrepreneurs unique values, attitudes and needs that develop over the individual’s experience, the Classic School, which sees as the main characteristic of the entrepreneur’s ability to innovate, the Management School, which highlights the management skills of the entrepreneur, the Leadership School, which promotes the ability to motivate and create empathy among the subordinates and, the Entrepreneurship School, which considers the entrepreneurial skills in an organizational environment (CUNNINGHAM & LISCHERON 1991).

Table 1: The Entrepreneurship Schools of Thought

Entrepreneurship School	Basis of Thought	Characteristic
"Great Person"	The entrepreneur has a natural intuitive ability	Intuition, persistence, confidence.
Psychological Characteristics	Entrepreneurs have values, attitudes and needs that drive them.	Need for achievement, strong personal values.
Classic	The central characteristic of entrepreneurial behavior is innovation	Innovation and creativity
Management	Entrepreneurs are those who initiate and manage a business. Their skills can be developed	Planning, budgeting, and capitalization.
Leadership	Entrepreneurs are leaders of people who achieve their goals by developing his team	Motivation, development and directing.
Entrepreneurship	The entrepreneur is able to run and develop initiatives inside the company	Alertness to opportunities in the corporate environment

Source: Adapted from Cunningham & Lischeron (1991).

From a broader view of the entrepreneurial process, it is possible to establish a more objective definition. Fillion (1999, p.19.), seeking a common denominator among the different points of view, provides the following definition:

The entrepreneur is a creative person, characterized by the ability to set and achieve goals and a high level of awareness of the environment in which they live, using it for business opportunities. An entrepreneur who continues to learn about possible business opportunities and moderate risky decisions that focus on innovation continues to play an entrepreneurial role.

ENTREPRENEURSHIP IN BRAZIL

In Brazil, more than 600,000 new businesses are started each year, and another 1.5 million people register in the category of Individual small entrepreneurs (GRECO et al, 2010). In total, approximately 27 million people aged 18 to 64 years are involved in the creation or management of their own businesses, making this the 3rd largest entrepreneurial population among the 54 countries polled by the 2011 Global Entrepreneurship Monitor (ANDREASSI et al, 2011).

However, despite the strong entrepreneurial activity in the country, entrepreneurs still face many difficulties. According to studies by SEBRAE (small entrepreneur support agency in Brazil), the first five years are the most challenging for entrepreneurs. The mortality rate of small businesses initially reach rates of 22% in companies with up to 2 years in existence (2007 data), increasing to 58% mortality in companies with up to 5 years (2010 data) (PORTAL BRASIL, 2012). These indices have increased in recent years, mainly due to the improvements of the Brazilian economy, the growth of the domestic market, and advances in the legislation (the most recent examples being the General Law of Micro and Small Enterprise in 2007 and the Individual Entrepreneur Law in 2008) and the increase of education in entrepreneurship. But developments are still needed in some aspects, such as government policies to reduce bureaucracy and relieve the tax burden, better and easier access to financial support, and investment in education and training entrepreneurs, encouraging culture and entrepreneurial behavior in all levels of education (PORTAL BRASIL, 2012; ANDREASSI et al, 2011).

UNDERSTANDING ENTREPRENEURIAL INTENTION

According to Ajzen (1991), intentions include motivational factors that influence behavior, indicating how strong is the wish to try, how much effort the individual needs to put in to perform a behavior. As a general rule, the stronger the intention to manifest a behavior, the more likely the person is to achieve it (Ajzen, 1991).

In light of the many different studies about entrepreneurship, those that investigate the entrepreneurship behavioral triggers are emphasized. Among these, many highlight the important role of intention to start a new business (CHEN & LIÑÁN, 2009). For this reason, several entrepreneurial intention models have been developed, seeking to understand the factors and influences that shape the intention of starting a business (DRENNAN, KENNEDY & RENFROW, 2005).

THE THEORY OF PLANNED BEHAVIOR AND THE ENTREPRENEURIAL INTENTION MODEL

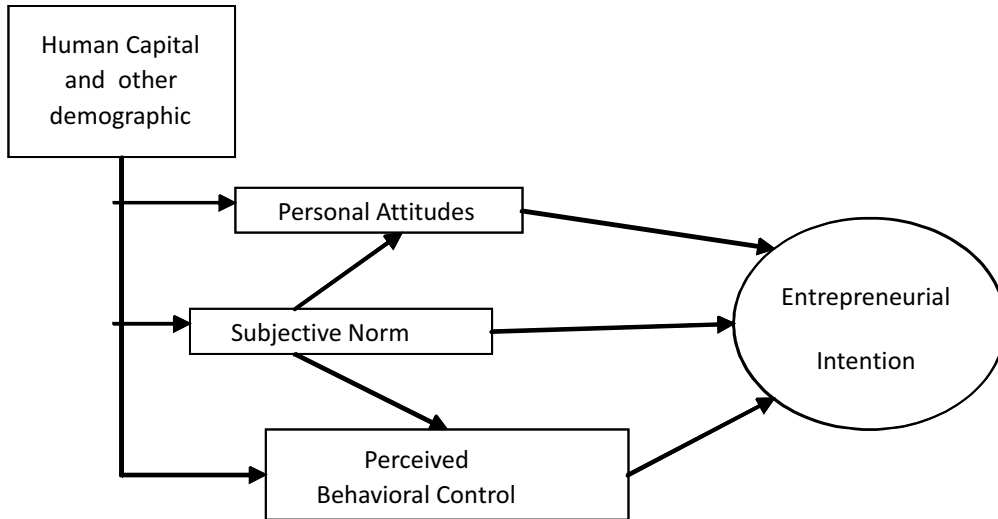
In the field of social psychology, intention is identified as the most important and immediate antecedent of behavior (Drennan, Kennedy & Renfrow, 2005). Based on this, the theory of planned behavior, developed by Ajzen (1991), aims to predict and explain human behavior in specific contexts. According to Ajzen, conceptually, there are three independent variables that determine intent, they are:

- Attitude towards the behavior: refers to the degree to which a person has a favorable or unfavorable evaluation about the behavior in question;
- Subjective norm: refers to the perceived social pressure to perform the behavior or not.
- Perceived behavioral control: refers to the perceived ease or difficulty of performing the behavior

Finally, it establishes that, the more favorable the attitude and the subjective norm about a behavior, and the greater the control about this behavior, the greater the individual's intention will be in expressing this behavior (AJZEN, 1991).

As stated earlier, Ajzen's theory attempts to predict and explain human behavior in specific contexts. Therefore, it is possible to apply the fundamentals of the theory of planned behavior to predict and explain entrepreneurial behaviors, considering the individuals' intention to start a business (CHEN & LIÑÁN, 2009). Based on this, the model of entrepreneurial intention is established (Figure 1):

Figure 1: Model of Entrepreneurial Intention



Source: CHEN & LIÑÁN, 2009

In this context, the determining factors of entrepreneurial intention can be described as:

- Personal Attitude (PA) – refers to the degree to which the individual holds a positive or negative personal valuation about being an entrepreneur.
- Subjective Norm (SN) – refers to the perceived social pressure to carry out or not carry out entrepreneurial behaviors.
- Perceived behavioral control (PBC) – refers to the perception of the ease or difficulty of becoming an entrepreneur.

Besides these factors, this entrepreneurial intention model highlights the human capital – skills, abilities and individual talents – that is possessed and developed for professional and personal growth (LÓPEZ-RUIZ, 2004), and other demographic variables that directly influence entrepreneurial intention, such as experience and education (CHEN & LIÑÁN, 2009).

THE ENTREPRENEURIAL INTENTION QUESTIONNAIRE

Based on the established model, the Entrepreneurial Intention Questionnaire (EIQ) was developed by Chen and Liñán (2009) to test the entrepreneurial intention model, measuring intention, and the variables that influence it.

The questionnaire contains six sections. The first and fourth relate directly to elements of the entrepreneurial intention model (Figure 1). The perceptions about these items were obtained through Likert² measurement scales.

Tables 2 to 5 present the question blocks related to PA, SN, PBC and Entrepreneurial Intention variables. The respondents were asked to read the statements and indicate their degree of agreement from total disagreement (1) to total agreement (7).

Table 2: Personal Attitude Factors

A02	A career as entrepreneur is attractive to me.
A10	If I had the opportunity and resources, I'd like to start my own business.
A12	Among various options, I'd rather be anything except an entrepreneur.
A15	Being an entrepreneur would give me great satisfaction.
A18	Being an entrepreneur implies more advantages than disadvantages to me.

Source: Chen & Liñán (2009), adapted

Table 3: Subjective Norm Factors

A03	My friends would approve of my decision to start a business.
A08	My close family would approve of my decision to start a business.
A11	My colleagues would approve of my decision to start a business.

Source: Chen & Liñán (2009), adapted

Table 4: Perceived Behavioral Control Factors

A01	I can control the creation process of a new firm.
A05	I am not prepared to start a viable firm.
A07	To start a firm and keep it working would be easy for me.
A14	If I tried to start a firm, I would have a high chance of succeeding.
A16	It would be very difficult for me to develop a new business project.
A20	I know the necessary practical details to start a firm.

Source: Chen & Liñán (2009), adapted

Table 5: Entrepreneurship Intention Factors

A04	I am ready to do anything to be an entrepreneur.
A06	I will make every effort to start and run my own firm.
A09	I have serious doubts about starting my own business someday.
A13	I am determined to create a firm in the future.
A17	My professional goal is to become an entrepreneur.
A19	I have little intention to start a firm someday.

Source: Chen & Liñán (2009), adapted

In the sections Education and Experience, Knowledge about Entrepreneurship and Personal Data, the statements are about human capital and other demographic variables. They do not directly influence intention, but are useful for identifying the effect of these factors on those they directly affect (CHEN & LIÑÁN, 2009).

The questionnaire was answered by students from countries with distinct cultures (Spain and Taiwan). Based on the results, CHEN & LIÑÁN (2009) concluded that entrepreneurial intention is sustained in different countries and different cultures.

Based on this conclusion, and considering the weight of culture on entrepreneurial intention, this article aims to evaluate the instrument's capacity to measure entrepreneurial intention, identifying the structure of the entrepreneurial intention model in Brazil.

METHODOLOGY

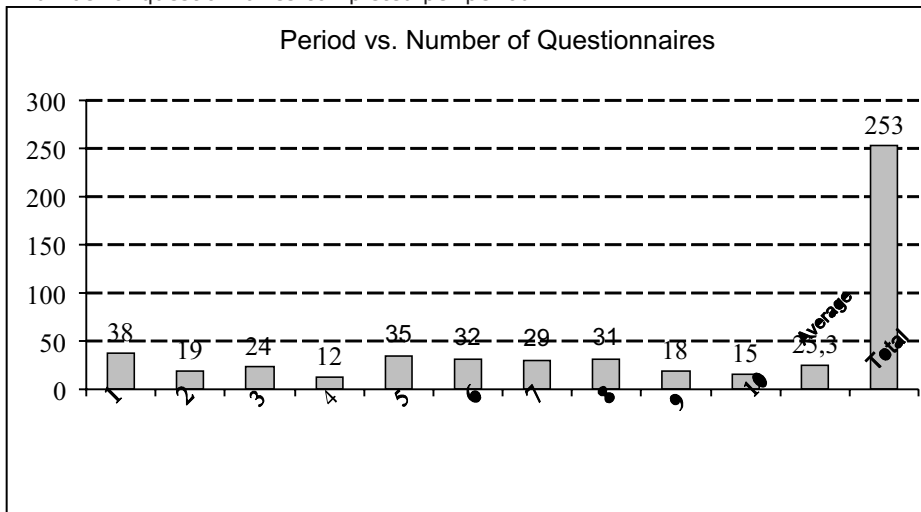
Before testing the Entrepreneurial Intention Questionnaire, it was necessary to contact Professor Francisco Liñán, who kindly provided the questionnaire. The starting point was to have the EIQ translated into Portuguese, as the version we received was in English. The translation was kept as close to the original version as possible, evaluating whether the terms used in the construction of the questionnaire have the same meaning for the Brazilian sample.

After the translation, an understanding pre-test was performed with ten students of the last period of the undergraduate course in Business Administration at Universidade Federal Fluminense (Niterói, Brazil). Overall, the evaluation of the survey was positive and the students answered the questionnaire without any difficulties of comprehension. However, some changes were suggested to some of the terms, to avoid ambiguity in the interpretation. The term "colleagues", for example, when translated, raised doubts because in Portuguese, the term could be applied to a relationship of friendship. So, to preserve the original intention of the term, it was translated as "colegas de trabalho" (work colleagues).

Finally, the questionnaires were applied in a non-probability sample of students of the abovementioned course, between September and October 2009. The questionnaires were applied in the classroom, with the teacher’s permission. After being informed about the purpose and content of the survey questionnaire, the students were asked to voluntarily fill out the EIQ, the same procedure used in the research of Chen and Liñán (2009) research. In the last period of students, the questionnaire applications occurred, mostly, through direct approach at the college and date scheduling for application, because students at this point, are hardly concentrated in single classes and do not go to the institution as often as the other students. With students in the eighth period, the questionnaire was applied in the same way, due to difficulties in scheduling the application with the teachers.

In all, 254 questionnaires were collected back. An average of 25.3 students per period were interviewed. Figure 2 shows the number of questionnaires completed, by period (one of the questionnaires did not specify which period the respondent was in).

Figure 2: Number of questionnaires completed per period



Source: survey data

To compile the information gathered, the CSPro software 4.0 was used. For the analysis of the results, the data were transferred to SPSS 16.0.

Regarding the analyses, due to the composition of the entrepreneurial intention model, which is made up of independent variables and only entrepreneurial intention as a single dependent variable, it is appropriate to use exploratory³ factor⁴ analysis (ANDERSON et al, 2006). Based on this, it is possible to evaluate whether the responses given by the Brazilian students reflect the conceptual framework of the entrepreneurial intention model proposed by Chen and Liñán (2009).

The first step is to evaluate whether the data were suitable for the application of factor analysis. The Kaiser-Meyer-Olkin⁵ (KMO) measure of sampling appropriateness was used, which assesses the data adequacy, quantifying the degree of intercorrelations among the variables (ANDERSON et al, 2006).

The measurements obtained for the core items of the entrepreneurial intention model in the Brazilian sample were evaluated for their reliability and validity.

Reliability can be understood as the evaluation of consistency and stability among the measurements assigned to different variables, while validity refers to the capacity of the measurements obtained to represent the proposed model (ANDERSON et al, 2006; CHEN & LIÑÁN, 2009). According to Chen & Liñán (2009), these are the essential psychometric measurements to be evaluated.

To assess the reliability of the scales obtained, confidence measurements of internal consistency are used. These are the most commonly used and assess if the scale items are a part of the

same construct, the correlation between them, applying to the multiple⁶ scales (ANDERSON et al, 2006). For diagnosis of scale reliability, Cronbach's alpha is the most frequently measure adopted (ANDERSON et al, 2006).

To analyze the capacity of the measurements obtained to represent the proposed model, the convergent validity of the measurement is obtained, which evaluates the correlation of the scale with other known measurements on the concept (ANDERSON et al, 2006). A high degree of correlation between them indicates that the measurement reflects the established concept (ANDERSON et al, 2006). To simplify the factor structure, reducing the ambiguities in the factor⁷ loadings, the rotation factor⁸ is recommended (ANDERSON et al, 2006). In the rotation performed, the orthogonal⁹ method of rotation factor VARIMAX¹⁰ was chosen, as it is easy to use in most data analysis software.

SAMPLE CHARACTERISTICS

Of the students who participated in the survey, 48% were men and 46.5% were women (12 questionnaires had no answers about the sex of the respondent). The participants' average age was 22.69 years, with a standard deviation of 4.384 (5.9% of the sample did not state their age), with 66.1% born in the State of Rio de Janeiro. 55.1% of the respondents lived in Niteroi, 25.6% lived in Rio de Janeiro, and 9.1% lived in São Gonçalo. Concerning their work experience, 80.3% of respondents said they had experience, but only 12.6% as business owners.

The sample characteristics had similarities to those described by Chen and Liñán (2009) with students from Spain and Taiwan. In the samples used by these authors, of the 512 participants (69.1% students of business administration), 47.7% were male and the average age was 23.5 years. In relation to work experience, only 41.6% had experience, with 3.9% as business owners (CHEN & LIÑÁN, 2009).

RESULTS AND ANALYSIS: THE ENTREPRENEURIAL INTENTION QUESTIONNAIRE IN BRAZIL

Calculating the KMO from the measurements obtained for the core items of the entrepreneurial intention model, as shown in Table 6, a rate of 0.916 was obtained, which makes the data suitable for factor analysis.

Evaluating the reliability of the obtained results in the survey by the Cronbach's alpha, the rates for each variable of the model ranged from 0.691 to 0.158 (Table 2). Considering that the lowest rate for a scale to be considered reliable is 0.70, and also including values from 0.60 (ANDERSON et al, 2006), it is concluded that the multiple scales in the Brazilian case do not represent a strong correlation to be considered factors from a same variable.

Table 6: Reliability Indicators

	EI	PBC	SN	PA
Cronbach α	-0,158	0,124	0,651	-0,692

Source: survey data

Regarding the validity of the data, a rotated factor matrix was obtained based on the measurements collected, of the central elements of the entrepreneurial intention model (Table 7). First, it is noted that the rotated factor matrix shows four components in the scale. However, the factors that are part of the same variable did not show a higher degree of correlation in the same component, reflecting the entrepreneurial intention model. Only the factors related to Subjective Norm (NS) presented a strong correlation. Moreover, considering that, due to the sample size, we can consider the relevant factor loadings greater than or equal to 0.40 or less or equal to -0.40 (ANDERSON et al, 2006), we observed that the items A02, A07, A09 and A19 present significant factor loadings in more than one component detected by the matrix factor. Thus, we conclude that the rotated matrix was not able to reflect the entrepreneurial intention model with the collected data

among Brazilian students, and, consequently, the measurement tool of entrepreneurial intention is not valid in this context, at least not in the form in which it was applied.

Table 7: Rotated Factor Matrix

Factor	Variable	1	2	3	4
A02	PA	-0.466	-0.099	-0.095	0.443
A10	PA	0.709	-0.003	0.244	-0.211
A12	PA	-0.675	-0.066	-0.238	0.362
A15	PA	0.759	0.076	0.230	-0.034
A18	PA	0.747	0.268	0.111	0.010
A04	EI	0.393	0.590	0.136	-0.029
A06	EI	0.577	0.066	0.264	-0.282
A09	EI	-0.568	-0.134	0.030	0.507
A13	EI	0.750	0.317	-0.064	-0.150
A17	EI	0.771	0.260	0.075	-0.051
A19	EI	-0.724	-0.116	-0.053	0.413
A03	SN	0.142	0.055	0.739	-0.038
A08	SN	0.133	-0.012	0.779	-0.165
A11	SN	0.271	0.312	0.579	0.218
A01	PBC	0.176	0.613	0.070	-0.271
A05	PBC	-0.086	-0.200	-0.340	0.603
A07	PBC	0.169	0.499	0.330	-0.400
A14	PBC	0.599	0.324	0.253	-0.106
A16	PBC	-0.177	-0.127	0.131	0.635
A20	PBC	0.077	0.808	-0.017	-0.086

Source: Survey data.

Finally, the results of the application of the EIQ to a Brazilian sample did not reach sufficient levels of reliability and validity, as had been achieved in the work of Chen and Liñán (2009).

Observing the results through the Entrepreneurial Intention Model proposed by Chen and Liñán, based on Ajzen’s theory (1991) the data collected through the EI questionnaire did not reflect the structure of the entrepreneurial intention model, as the rotation factor analysis showed, and a correspondence was found between the model and the results only for the SN items. Also, when analyzing the items correlated to each variable of the model individually, the correlations found between the responses were weak, revealing that the students’ impressions about the item related to the entrepreneurial intention model were not sufficiently cohesive.

BUSINESS STUDENTS AND THE EIQ

Although the main objective of this study is to validate the entrepreneurial intention measurement instrument with a Brazilian sample, based on the data collected, it was possible to extract relevant information concerning the Business Administration students’ impressions of entrepreneurial intention, the factors that influence this behavior, and how it is received in society. In this context, we offer isolated observations based on the descriptive data analysis.

In relation to the items that dealt with the attractiveness of the career as an entrepreneur, looking at the averages we see a disposition in favor of this behavior. In item A15 (“Being an entrepreneur would give me great satisfaction”), the average value on a scale of 1 to 7 - with 1 representing total disagreement with the 7 representing total disagreement - was 5.63 (standard deviation = 1.534). In item A17 (“My professional goal is to be an entrepreneur”), the mean was 4.03 (standard deviation = 1.750). Finally, in item A18 (“Being an entrepreneur means more advantages than disadvantages for me”), the average was 4.91 (standard deviation = 1.562).

When asked about the attractiveness of work options such as “employee” or “entrepreneur” (on a scale of 1 to 7, with 1 representing low attractiveness and 7 high attractiveness), the average for

the second option was slightly higher (4.25 compared to 5.46 and standard deviations of 1.684 and 1.567, respectively). These values, when sorted by the respondent's study period, as shown in Table 8, show that the average values attributed remain close together, suggesting a regularity in the respondents' perceptions about these options along the course, without great variations in these aspects of the study.

Table 8: Attractiveness Level of Work Options

Respondent's Period											Total	
	1	2	3	4	5	6	7	8	9	10	Mean	SD
Employee (Mean)	4.1	4.7	4.2	4.9	4.1	4.4	4.1	4.0	4.7	4.2	4.3	1.7
Entrepreneur (Mean)	5.8	5.3	5.6	5.4	5.4	5.6	5.2	5.1	5.2	5.9	5.5	1.6

Source: survey data. SD = Standard Deviation

Among the questions about the values that society associates with entrepreneurship, some responses suggest that entrepreneurial activities are not necessarily supported or encouraged by society. The items "My close family value entrepreneurial activities more than other activities or careers" and "The culture in my country favors the development of entrepreneurial activities," scored averages of 3.45 and 3.25, and deviations of 1.626 and 1.593, respectively.

Finally, when analyzing the values attributed to the item "Knowledge about Entrepreneurship", in which the respondent was asked to indicate their level of knowledge about supporting agencies and institutions to assist entrepreneurs, the means of the assigned values were below 4 in all five items (Table 9), for example, the item "Public service support", with an average of 3.96. It was therefore observed that in general, students perceive that they do not have enough knowledge about these mechanisms to stimulate entrepreneurship, although they have a positive view of the option of becoming an entrepreneur.

Table 9: Level of knowledge about supporting entrepreneurship institutions

Institutions	Mean
Private Associations	3.12
Public Service Institutions	3.96
Training Offer for Young Entrepreneurs	3.16
Soft Loans	3.54
Technical Assistance to Start New Businesses	3.26

Source: Survey data

In view of these remarks, the career as an entrepreneur is relatively attractive to students, but is not necessarily seen as a positive alternative to be encouraged by those around them. We also note that the respondents considered their knowledge of institutions and mechanisms to support entrepreneurial practice to be limited, which contrasts with the previous assessment about the attractiveness of entrepreneurship as a career. However, it is important to remember that these are only isolated observations that deserve further analysis.

FINAL CONCLUSIONS

This research showed that the model developed and tested by Chinese and Spanish researchers to measure the entrepreneurial intention was not validated among students in Brazil. Primarily, it reveals that the data collected were not cohesive enough to characterize a sample with a homogeneous impression about the items related to entrepreneur intention.

It is difficult to indicate specifically why the application of EIQ in a Brazilian sample did not repeat the results of the studies in Taiwan and Spain, but some factors can be identified. Firstly, as stated previously, the demographic characteristics of each population have a strong influence on perceptions and entrepreneurship and therefore, on entrepreneurial intention, for historical, socio-economic or cultural reasons (ACS et al, 2009). The formation of entrepreneurial intention in the Brazilian culture may be influenced by factors not foreseen by the model, which hinders the creation of a tool for measuring entrepreneurial intention that can be applied, as was the original aim of Chen and Liñán (2009).

These results agree with the work of Gjersing et al (2010) work, which states that although an appropriate translation of a research instrument, it does not guarantee that it will construct validity and reliability.

Another factor that may be considered is the translation of the questionnaire into Portuguese. Although an attempt was made to keep the translation as close as possible to the original text, it may be that the terms and phrases in the EIQ do not have the same meaning for the Brazilian language context. Finally, the model of the proposed formation of entrepreneurial intentions may not be appropriate to reflect the reality of Brazilian culture itself, although the authors claim that the model is applicable to different countries. However, these are just assumptions, and further studies are required to fully evaluate these results.

Although, descriptive analysis of collected data also allowed to draw some important impressions of the Brazilian students about entrepreneurship and their social value. Over the years, the GEM research shows Brazil as a high rate entrepreneurship country, about 10% of the adult population, and that the perception that the population have about this phenomenon is more positive than negative. Among the undergraduate students from Business, Administration, this perception is confirmed.

This research also demonstrates the need for more and new studies to understand the factors that influence entrepreneurial intention in Brazil, enabling a better understanding of this phenomenon in our territory. Investigating how cultural differences between Spanish and Brazilian and between Brazilian and Chinese influences entrepreneurial intention in young people, in these countries, will help us to understand the cultural aspects that distinguish these countries when it comes to entrepreneurship.

REFERENCES

- ACS, Z J.; AUTIO, E.; BOSMA, N. S.; CONDURAS, A; LEVIE, J. **Global Entrepreneurship Monitor – 2008**. Executive Report – 2008. Curitiba: Global Entrepreneurship Research Consortium, 2009.
- AJZEN, I. The Theory of Planned Behavior. **Organizational Behavior and Human Decision Processes**, 1991, v. 50, pp. 179-211.
- ANDERSON, R. E.; BABIN, B. J.; BLACK, W. C.; HAIR, J. F. ; TATHAM, L. R. **Multivariate Data Analysis**. New Jersey: Pearson Prentice Hall, 2006.
- ANDREASSI, T. et al. Empreendedorismo no Brasil: 2011. Curitiba: IBQP, 2011.
- BOSMA, N.; WENNEKERS S.; AMORÓS, J. E. **Global Entrepreneurship Monitor 2011 Extended Report: Entrepreneurs and Entrepreneurial Employees Across the Globe**, Global Entrepreneurship Research Association, 2012.
- BYGRAVE, W. D.; ZACHARAKIS, A. **The Portable MBA in Entrepreneurship**. New York: John Wiley & Sons, 1997.
- CASTRO NETO, J. L.; SOARES, R. C. M. Estudo das Diferenças Culturais como Empecilho a Harmonização Contábil: Casos no Brasil, EUA e Japão. **V Congresso USP de Controladoria e Contabilidade**, São Paulo, 2005.
- CHEN, Y; LIÑÁN, F. Development and Cross-Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions. **Entrepreneurship Theory and Practice**, 2009, v. 33, n. 3, p. 593-617.
- COOPER, D. R.; SCHINDLER, P. S. **Métodos de Pesquisa em Administração**. Porto Alegre: Artmed, 2003.
- CUNHA, C. H. B.; TORRES, L. S. Estudo da Percepção de Estudantes Sobre os Conceitos de Empreendedorismo e de Perfil Empreendedor Disseminados Informal e Formalmente no Ensino Superior. **Anais do I Congresso Nacional de Empreendedorismo**. Florianópolis/SC, 2003.
- CUNNINGHAM, J. B.; LISCHERON, J. Defining Entrepreneurship. **Journal of Small Business Management**, 1991, v. 29, p.45-61.
- DEMONEL, W.; LEITE, V. F. Ensino de empreendedorismo: uma alternativa metodológica à formação tradicional. **I Congresso Nacional de Empreendedorismo**, Florianópolis, 2003.

- DRENNAN, J; KENNEDY, J; RENFROW, P. Impact of childhood experiences on the development of entrepreneurial intention. **Entrepreneurship and Innovation**, 2005, v. 6, p. 231-238.
- KARIMI, S.; CHIZARI; BIEMANS, H. J. A.; MULDER M. **Entrepreneurship Education in Iranian Higher Education: The Current State and Challenges**. European. Journal of Scientific Research ISSN, 1450-216X, v. 48, n. 1, pp. 35-50, 2010.
- FILLION, L. J. Empreendedorismo: empreendedores e proprietários-gerentes de pequenos negócios. **Revista de Administração de Empresas**, São Paulo, 1999, v. 34, n.2, p. 05-28.
- GJERSING et al. Cross-cultural Adaptation of Research Instruments: language, setting, time and statistical considerations. *BMC Medical Research Methodology* v.10, n.13, 2010.
- GRECO, Simara Maria de Souza Silveira et al. Curitiba **Empreendedorismo no Brasil:2010**.IBQP, 2010.
- KORNIJEZUK, F. B. S. Características Empreendedoras de Pequenos Empresários de Brasília. **Dissertação de Mestrado em Administração**. Brasília: Universidade Federal de Brasília, 2004.
- LÓPEZ-RUIZ, O. J. O ethos dos executivos das transnacionais e o espírito do capitalismo. **Tese de Doutorado em Ciências Sociais**. Campinas: Universidade Estadual de Campinas, 2004.
- MACHADO, J. P et al. . **Empreendedorismo no Brasil – 2009**. Curitiba, IBQP, 2010.
- MARIANO, S. R. H.; MAYER, V. F. **Criatividade e Atitude Empreendedora**. Rio de Janeiro: Fundação CECIERJ, 2008.
- PORTAL BRASIL. Brasil empreendedor em números. Disponível em <<http://www.brasil.gov.br/empreendedor/empreendedorismo-hoje>>. Acesso em 04 ago. 2012.
- SCHUMPETER, J. A. **The theory of economic development**. Cambridge: Harvard University, 1957.
- UNCTAD - United Nations Conference on Trade and Development. 2009. **Key components of entrepreneurship and innovation policy frameworks**. Disponível em <<http://www.unctad.org/Templates/StartPage.asp?intItemID=2068>>. Acesso em 28 mar. 2010.

NOTAS

- 1 Underlying value system of a specific group or society (CHEN & LIÑÁN, 2009).
- 2 Metric measurement of classification summation, which asks the respondent to show their agreement or disagreement with the statement on a numerical scale in which the extremes represent the total disagreement and agreement (COOPER & SCHINDLER, 2003).
- 3 Perspective of factor analysis in which, in principle, the estimate of components or number of components to be extracted is not restricted (ANDERSON *et al*, 2006).
- 4 Multivariate analysis technique that identifies the underlying structure in a set of variables (ANDERSON *et al*, 2006).
- 5 KMO and Bartlett's Test of Sphericity. The Kaiser-Meyer-Olkin measure of sampling appropriateness tests whether the partial correlations among variables are small (ANDERSON *et al*, 2006).
- 6 Combination of several variables that measure the same concept in a single variable in way to strength the reliability of measurement (ANDERSON *et al*, 2006).
- 7 Correlation between original variables and key factors and the nature of a particular factor (ANDERSON *et al*, 2006).
- 8 Process of manipulation or adjustment of the axes of the factors to provide a simpler solution and significant factor (ANDERSON *et al*, 2006).
- 9 Factorial rotation in which the factors are extracted so as to keep it at 90 degrees. Each factor is independent of the other and the correlation between factors is determined as zero (ANDERSON *et al*, 2006).
- 10 The most popular method of orthogonal rotation, considered in most cases, is superior to other methods of simplifying the factor structure (ANDERSON *et al*, 2006).