

# Entrepreneurial Intention of Undergraduate Students from a Municipal Public University of the State of São Paulo - Brazil

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**Abstract**— *The central proposal of this paper is to study the entrepreneurial intention of undergraduate students, both beginners and those in the process of completing, at a Municipal Public University in the State of São Paulo - Brazil. Therefore, the research method used a quantitative approach, using a closed questionnaire with a Likert scale, developed by Liñan and Chen (2009) called the Entrepreneurial Intention Questionnaire. The data analysis was divided into 2 stages: the reliability analysis by Cronbach's  $\alpha$  and the exploratory factor analysis. As a result of the research, it was found that the entrepreneurial career is perceived as favorable by the students of management, economics, and accounting sciences from different periods, being more attractive than formal work. However, pursuing an entrepreneurial career is not necessarily a positive alternative in the opinion of those around the survey respondents to the point of being encouraged by families, friends, and colleagues. Finally, students consider that their knowledge about the mechanisms to support entrepreneurial practice is limited within the analyzed institution.*

**Keywords**— *Entrepreneurial, Entrepreneurial Intention, Undergraduate Students, Entrepreneurial Intention Questionnaire.*

## I. INTRODUCTION

Economic development and job creation are directly related to the intensity of entrepreneurial activity in a country or region. Dornelas (2005) points out that the existence of support and incentives for new ventures is a way to increase economic growth and reduce the unemployment rate. Entrepreneurial activity, in turn, is recognized as an attractive option, though arduous. Finally, it is the driving force of the capitalist economy (Schumpeter, 1997).

Entrepreneurship can mean economic, personal, and social transformations (Camozzato et al., 2018). Given this transformation, an appropriate place for verifying the latent desire to undertake are universities, especially those focused on management such as: accounting, and economic sciences.

With the growing need to change concepts and methodologies in teaching, and the preparation of professionals for the future, rapid changes in societies have been discussed in academia. There is evidence that most

universities in Brazil do not prepare their students to be entrepreneurs (Moraes et al., 2016).

In this perspective, the ideal would be a harmony between professors and universities, preparing students, both in theory and in practice, so that they can create companies that develop new products and services, and come to contribute to the growth of the economy. In this way, each university has the responsibility to sow the entrepreneurial culture, and to develop skills that lead students to compete for space in a very competitive market, leaving them to develop the profile of these new professionals.

In order to disseminate the entrepreneurial culture, studies and discussions on entrepreneurial intention have gained greater relevance in the academic sphere since the last decades of the 20th century, such as, among others, the works of Shapero and Sokol (1982), Bird (1988, 1992), Krueger (1993), Lee and Wong (2004), Liñan (2004), Kristiansen and Indarti (2004), Carvalho and González (2006), Liñan and Chen (2009), Teixeira and Davey

(2010), Lima et al. (2011), Nabi et al. (2018) and Hueso et al. (2020).

In view of the above, this paper aims to analyze the entrepreneurial intention of undergraduate students in the management, economics, and accounting sciences courses of a Municipal Public University of the State of São Paulo, Brazil. Therefore, the entrepreneurial intention questionnaire (EIQ) developed by Liñán and Chen (2009) was used, which will be explained below.

## II. ENTREPRENEURIAL INTENTION AND THE ENTREPRENEURIAL INTENTION QUESTIONNAIRE FROM THE PERSPECTIVE OF LIÑÁN AND CHEN

In the perception of Filion (1991), an entrepreneur is an individual who imagines, develops and realizes visions, that is, the vision is an image projected in the future, from the place that the entrepreneur aspires for the solidity of his product and / or service in the environment market, that is, vision refers to where and how the entrepreneur wants to conduct his enterprise.

Complementing Filion (1991), Liñán and Chen (2009) argue that before deciding to be or not an entrepreneur, it is necessary to analyze the entrepreneurial intention involved in the process of creating a company. Bird (1988) explains that entrepreneurial intention can be seen as a state of mind in which the person's attention is directed to a certain situation, with a view to achieving a certain goal.

Carvalho and González (2006) considers that the idea of creating a new company is preceded by the intention, which, in turn, can be planned for a certain period of time, however, in some cases the intention is formed in the moment before if the idea materializes, and in other cases, the intention never coincides with the realization of the behavior. Thereby, Davidsson (1995) shows that the analysis of entrepreneurial intention can help to predict, albeit imperfectly, a certain behavior of an individual in relation to creating his own company.

In view of the above, Shapero and Sokol (1982), Ajzen (1991) and Carvalho (2004) contributed theoretically with theoretical models that dealt with the entrepreneurial intention of individuals in the process of creating a company.

The model developed by Shapero and Sokol (1982) consists of three fundamental theoretical constructors which determine the entrepreneurial intention. They are perception of desirability, erection of viability and propensity to act. The perceived desirability construct refers to the individual's interest in starting a certain

business, whereas the perception of viability is the level of perception that the agent believes is capable of starting a business and the propensity to act would be the impulse by which it would generate the act of undertaking.

Carvalho (2004), on the other hand, proposes the analysis of an entrepreneurial intention taking into consideration a future choice. The model proposed by him was developed based on studies of entrepreneurial skills, personal history of entrepreneurs and entrepreneurial intentions.

Ajzen's (1991) contribution to the area of knowledge of entrepreneurial intention was with the model of Theory of Planned Behavior (TPB), which is the basis of the entrepreneurial intention questionnaire developed by Liñán and Chen (2009). This questionnaire will be explained below.

This theory has the purpose of being able to explain the human behavior before the act of undertaking. TPB predicts that behavior and the intention to act result from three elementary attitudes, namely: personal attitude, the subjective norm, and the perceived behavioral control (Ajzen, 1991).

The author argues that personal attitudes refer to the attitude towards a behavior, and that it corresponds to a favorable or unfavorable analysis that the individual does of the behavior. On the other hand, the case of the subjective norm deals with the influence of the social environment on the individual's behavior, that is, it represents the "social pressure" to adopt a certain behavior. And the perceived behavioral control, refers to the individual's perception of his ease or difficulty in performing a certain task, conditioning his intention.

Based on Ajzen's TPB model (1991), Liñán and Chen (2009) developed the entrepreneurial intention questionnaire (EIQ) which aims to test the entrepreneurial intention model, measuring that intention and the variables that influence it. Figure 1 shows these variables and their relationships.

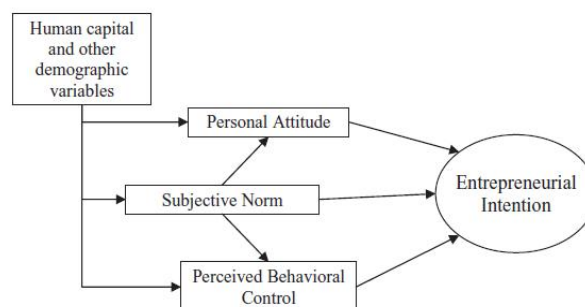


Fig.1: Entrepreneurial Intention Model

Source: Liñán e Chen (2009, p. 597)

The variables that determine entrepreneurial intention can be described, as follows:

- **Personal Attitude (PA):** refers to the positive or negative impression that the individual has about being an entrepreneur.
- **Subjective Norm (SN):** refers to social pressure exercised about the individual to become or not an entrepreneur, coming from the social circle in which he lives.
- **Perceived Behavioral Control (PBC):** refers to the individual's perception of the ease or difficulty of becoming an entrepreneur and his ability to undertake.

Liñan and Chen (2009) explain that in addition to these variables, the entrepreneurial intention model also highlights the human capital, which are the individual skills, capabilities, and dexterity that individuals have and develop for the purpose of professional and personal growth; and other demographic variables that indirectly influence the formation of entrepreneurial intention, such as the individual's experience and education.

Based on the model presented in Figure 1, Liñan and Chen (2009) developed the EIQ which is formed by five sections. The first to fourth sections are directly related to the elements of the entrepreneurial intention model (personal attitude, subjective norm, perceived behavioral control and entrepreneurial intention) and which are assessed using the Likert scale (1-7).

The fifth section requires information on human capital and other variables such as: age, gender, undergraduate course, and monthly income. The authors show that these variables do not directly influence intention but are useful to identify the effect of these factors on those who directly affect it.

### III. METHODOLOGICAL PROCEDURES

This research is configured as being of quantitative character, the results of the research can be understood based on the analysis of raw data collected with the aid of standardized and neutral instruments. The research also used mathematical language to describe the causes of a phenomenon and the relationships between variables.

As for the objective, this research is descriptive, as it describes the entrepreneurial intention of undergraduate students, both beginners and those in the process of completing, at a Municipal Public University of the State of São Paulo, during the first semester of 2020.

Based on the data provided by the secretary of the Department of Management and Business of the University studied, currently the undergraduate course in economics, accounting and management has a universe of 1050 students enrolled in the four years of the course.

The sample of this paper was probabilistic and finite, that is, considering a sampling error of 5% and a confidence level of 99%, we had a sample of 407 students. This number was obtained by the following equation, suggested by Santos (2015):

$$n = \frac{N \cdot Z^2 \cdot p \cdot (1 - p)}{Z^2 \cdot p \cdot (1 - p) + e^2 \cdot (N - 1)}$$

Where:

n - calculated sample.

N - population.

Z - standardized normal variable associated with the confidence level.

p - true probability of the event.

e - sampling error.

It is important to highlight that of the 407 research participants, 55.53% were female and 44.47% were male, with 64.86% undergraduate from the management course, 22.36% of the accounting sciences course and 12.78% of economics sciences. Another important fact is the age of the respondents. For the research sample, 82.80% are between 19 and 25 years old and 17.20% are over 26 years old.

The primary research data were obtained by applying a closed questionnaire with a Likert scale, developed by Liñan and Chen (2009) called the Entrepreneurial Intention Questionnaire, as explained in the previous section.

The data obtained from the questionnaire responses were tabulated on the Microsoft Excel spreadsheet and the data analysis was divided into 2 stages: the reliability analysis by Cronbach's  $\alpha$  and the KMO using the SPSS software - version 22 and the exploratory factor analysis using the SmartPLS 3.3.2 software. This data analysis wants to test 5 basic hypotheses, as shown in Table 1.

Table.1: Hypotheses

Hypotheses	Description	
H1	Personal attitude positively influences entrepreneurial intention	PA→EI
H2	Perceived behavioral control positively influences entrepreneurial intention	PBC→EI

H3	Subjective norm positively influences entrepreneurial intention	SN→EI
H4	Subjective norm positively influences personal attitude	SN→PA
H5	Subjective norm positively influences perceived behavioral control	SN→PBC

Source: Liñan and Chen (2009, p. 599)

#### IV. RESULTS

The entrepreneurial intention model, developed by Liñan and Chen (2009), is formed by independent variables. Given this characteristic, it was decided to use exploratory factor analysis. According to Hair et al. (2009), factor analysis in the main purpose of defining the inherent structure between the variables in the analysis.

However, before measuring the model variables by factor analysis, it is important to analyze the level of reliability of the sample to evaluate the consistency and stability of the measures attributed to the different variables. For this, this article used Cronbach's alpha to measure the level of reliability that is shown in Table 2.

Table.2: Cronbach's Alpha

Variables	Cronbach's alpha
Personal Attitude	0,893
Subjective Norm	0,708
Perceived Behavioral Control	0,902
Entrepreneurial Intention	0,948

When evaluating the reliability of the results obtained in the research, it was found that the indexes attributed to each variable in the model ranged between 0.708 and 0.948 (Table 2). Given this variation, it can be said that, theoretically, the scales can be considered reliable. According to Hair et al. (2009), the lower limit for a scale to be considered reliable is 0.7.

After analysis by Cronbach's alpha, it was analyzed the data obtained were suitable for the application of the factor analysis. Therefore, use the Kaiser-Meyer-Olkin (KMO) test which indicates the degree of susceptibility or the adjustment of the data for the factor analysis, that is, what is the level of confidence you can expect from the data when it is being treated by the multivariate method of factor analysis is successfully employed (Hair et al., 2009).

For interpretation of the obtained result, values close to 1.0 indicate that the factor analysis method is perfectly

adequate for the treatment of the data. On the other hand, values less than 0.5, indicate the inadequacy of the method (Hair et al., 2009). Table 3 presents the results obtained by the KMO test.

Table.3: KMO Test

Variables	KMO
Personal Attitude	0,872
Subjective Norm	0,611
Perceived Behavioral Control	0,882
Entrepreneurial Intention	0,912

When analyzing Table 3, it was found that the KMO varied between 0.611 and 0.912, showing that the values obtained in this test are adequate for the factor analysis, that is, the factor analysis is adequate for the proposed data treatment.

After the KMO analysis, the factor correlation matrix for the first hypothesis (Personal Attitude positively influences entrepreneurial intention) was analyzed, as shown in Table 4.

Table.4: Factorial Correlation Matrix for the Personal Attitude and Entrepreneurial Intention Variables

	E1	E2	E3	E4	E5	E6
PA1	0,406	0,403	0,426	0,387	0,369	0,400
PA2	0,604	<b>0,709</b>	0,681	<b>0,701</b>	0,690	<b>0,728</b>
PA3	0,502	0,563	0,624	0,677	0,654	<b>0,707</b>
PA4	0,591	0,654	0,668	0,672	0,636	0,681
PA5	0,635	<b>0,735</b>	0,695	0,697	<b>0,702</b>	<b>0,717</b>

When analyzing Table 4, it was noted that the personal attitude of undergraduate students in the Management, Accounting and Economic Sciences courses positively and moderately high influences entrepreneurial intention.

The correlations highlighted in green represent a high correlation with each other, that is, they present a clear association between the elements studied. Thus, it can be said that for respondents, the career as an entrepreneur is attractive to them and they, if they had the opportunity and resources, would create a company.

Table 5 presents the factor correlation matrix for the second hypothesis (perceived behavioral control positively influences entrepreneurial intention). The results obtained showed that the perceived behavioral control positively but moderately influences the entrepreneurial intention of the students participating in the research.

Table.5: Factorial Correlation Matrix for the Perceived Behavioral Control and Entrepreneurial Intention Variables

	EI1	EI2	EI3	EI4	EI5	EI6
PBC1	0,335	0,589	0,405	0,377	0,412	0,499
PBC2	0,322	0,525	0,371	0,318	0,319	0,490
PBC3	<b>0,244</b>	0,515	0,345	<b>0,292</b>	<b>0,293</b>	0,418
PBC4	<b>0,268</b>	0,481	0,374	<b>0,289</b>	<b>0,294</b>	0,412
PBC5	0,306	0,515	0,368	0,310	0,313	0,428
PBC6	<b>0,297</b>	0,487	0,394	<b>0,279</b>	<b>0,291</b>	0,426

The correlations highlighted in orange represent a low correlation with each other, that is, they present a lack of association between the studied elements. In this way, it can be said that undergraduate students in the Management, Accounting and Economic Sciences courses do not consider themselves prepared to start a company, as they do not know the practical details necessary to create a company.

Table 6 presents the factor correlation matrix for the third hypothesis (subjective norm positively influences entrepreneurial intention). The results obtained showed that the subjective norm positively but weakly influences the entrepreneurial intention of the students studied.

Table.6: Factorial Correlation Matrix for the Subjective Norm and Entrepreneurial Intention Variables

	EI1	EI2	EI3	EI4	EI5	EI6
SN1	0,132	0,169	0,086	0,125	0,106	0,131
SN2	<b>0,800</b>	<b>0,700</b>	0,103	0,500	0,006	0,052
SN3	0,050	0,034	<b>-0,049</b>	<b>-0,060</b>	<b>-0,031</b>	<b>-0,057</b>

The correlations highlighted in red represent a negative correlation with each other, that is, they present a lack of association between the studied elements. In this way, it can be said that colleagues do not influence the decision-making process of being an entrepreneur. The green correlations, which have a high correlation with each other, show that friends strongly influence the decision to create a company.

Tables 7 and 8 show the factorial correlation matrix for the fourth and fifth hypotheses (subjective norm positively influences personal attitude and subjective norm positively influences perceived behavior).

Table.7: Factorial Correlation Matrix for the Subjective Norm and Personal Attitude Variables

	PA1	PA2	PA3	PA4	PA5
SN1	0,193	0,161	0,220	0,218	0,212
SN2	0,209	0,154	0,188	0,176	0,133
SN3	0,086	0,041	0,011	0,018	0,074

Table.8: Factorial Correlation Matrix for the Subjective Norm and Perceived Behavioral Control Variables

	PBC1	PBC2	PBC3	PBC4	PBC5	PBC6
SN1	0,195	0,114	0,150	0,120	0,075	0,136
SN2	0,084	0,062	0,023	0,038	0,098	0,035
SN3	0,108	0,038	0,033	0,081	0,142	0,043

When analyzing Tables 7 and 8, it was found that the subjective norm positively but weakly influences the personal attitude and perceived behavioral control of the students who participated in the research. Thus, it can be said that there is no social pressure exerted on individuals to become or not an entrepreneur, coming from the social circle in which they live.

## V. CONCLUSION

The current Brazilian economic scenario that promotes a climate of uncertainty in youth employment demonstrates the need to create alternatives for the future, being clear that self-employment and, specifically, the creation of companies, can work, no doubt, as one of the solutions to this problem.

Hecke (2011) corroborates this statement saying that endeavor can mean great job opportunities for students who complete an undergraduate course, especially in Administration, Accounting and Economic Sciences. Another important fact is that when creating a new company, it can mean leverage in the growth process of the region where these future entrepreneurs operate.

Based on this observation, this paper aimed to analyze the entrepreneurial intention of undergraduate students in the management, economics, and accounting sciences courses at a Municipal Public University of the State of São Paulo - Brazil.

Based on the entrepreneurial intention questionnaire (QIE) developed by Liñán and Chen (2009), it can be concluded that the entrepreneurial career is perceived as favorable by the students of management, economics and

accounting sciences from different periods, being seen as more attractive than formal work.

However, pursuing an entrepreneurial career is not necessarily a positive alternative in the opinion of those around the survey respondents to the point of being encouraged by families, friends, and colleagues. Finally, students consider that their knowledge about the mechanisms to support entrepreneurial practice is limited within the analyzed institution.

In order to improve knowledge about entrepreneurial practice, it is recommended that the municipal public university located in the state of São Paulo restructure the curriculum of the Management, Economic and Accounting Sciences courses, inserting subjects that contemplate the development of students' entrepreneurial intention.

Given the importance of university education in the development of entrepreneurial skills and competences, it is believed that the present study achieved its objective with consistent results. By observing the behavior of the municipal public university, students throughout the undergraduate course in Management, Economic and Accounting Sciences, it is expected to contribute to the progress of the courses in order to stimulate and promote entrepreneurship not only as a career option, but also as a field of study.

As suggestions for future studies, we point out the adoption of a longitudinal cut with monitoring of individuals for multiple measures corresponding to their evolution in the courses. It is also suggested to replicate this study with other degrees from the same university such as medicine, psychology, law, engineering, and others. Finally, it is suggested to expand this study in a comparative way with students from other universities located in the State of São Paulo.

## REFERENCES

- [1] Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- [2] Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of management Review*, 13(3), 442-453.
- [3] Bird, B. J. (1992). The operation of intentions in time: The emergence of the new venture. *Entrepreneurship Theory and Practice*, 17, 11-11.
- [4] Carvalho, D. (2004). *Variáveis associadas ao perfil empreendedor: relações com modelos familiares e formação empreendedor*. Rio de Janeiro: UFRRJ. Tese de Mestrado.
- [5] Carvalho, P., & González, L. (2006). Modelo explicativo sobre a intenção empreendedora. *Comportamento Organizacional e Gestão*, 12(1), 43-65.
- [6] Camozzato, E. S., Serafim, F. K., de Melo Cavalheiro, C. C., Lizote, S. A., & Verdinelli, M. A. (2018). Estilo cognitivo e intenção empreendedora dos estudantes de administração. *Revista Gestão Universitária na América Latina-GUAL*, 11(3), 105-121.
- [7] Davidsson, P. (1995). *Determinants of entrepreneurial intentions*. Comunicação apresentada na conferência Rent IX, Piacenza, Itália, 23-24 de novembro.
- [8] Dornelas, J. C. A. (2005). *Empreendedorismo*. Elsevier Brasil.
- [9] Filion, L. J. (1991). O planejamento do seu sistema de aprendizagem empresarial: identifique uma visão e avalie o seu sistema de relações. *Revista de Administração de Empresas*, 31(3), 63-71.
- [10] Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. & Tatham, R. L. (2009). *Análise Multivariada de Dados*. 6 ed. Porto Alegre, Bookman.
- [11] Hecke, A. P. (2011). *A Intenção Empreendedora dos alunos concluintes dos cursos de graduação em administração e ciências contábeis das instituições de ensino superior de Curitiba – PR*. Curitiba: UFPR. Tese de Mestrado.
- [12] Hueso, J. A., Jaén, I., Liñán, F., & Basuki, W. (2020). The influence of collectivistic personal values on the formation of entrepreneurial intentions. *International Small Business Journal*, 0266242620903007.
- [13] Kristiansen, S. & Indarti, N. (2004). Entrepreneurial intention among Indonesian and Norwegian students. *Journal of Enterprising Culture*, 12(1), 55–78.
- [14] Krueger, N. F. (1993). The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory and Practice*, 18(1), 5–21.
- [15] Lee, S. H. & Wong, P. K. (2004). An exploratory study of technopreneurial intentions: A career anchor perspective. *Journal of Business Venturing*, 19(1), 7–28.
- [16] Lima, E., Lopes, R. M. A., Nassif, V. M. J., & Silva, D. (2011). *Intenções e Atividades Empreendedoras dos Estudantes Universitários—Relatório do Estudo GUESSS Brasil 2011*. Grupo APOE—Grupo de Estudo sobre Administração de Pequenas Organizações e Empreendedorismo, PMDA-UNINOVE. *Caderno de pesquisa*, (2011-01).
- [17] Liñán, F. (2004). Intention-based models of entrepreneurship education. *Piccola Impresa/Small Business*, 2004(3), 11–35.
- [18] Liñán, F., & Chen, Y. W. (2009). Development and Cross-Cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593-617.
- [19] Moraes, M. B., da Silva, A. A. C., Monteiro, R. D. C. R. V., & Mendrot, A. R. (2016). Intenção Empreendedora de Alunos de Graduação de uma Universidade Municipal do Estado de São Paulo. *Anais do IX EGEPE*. Passo Fundo.
- [20] Nabi, G., Walmsley, A., Liñán, F., Akhtar, I., & Neame, C. (2018). Does entrepreneurship education in the first year of higher education develop entrepreneurial intentions? The role of learning and inspiration. *Studies in Higher Education*, 43(3), 452-467.

- [21] Santos, G. E. O. (2015). *Cálculo amostral*: calculadora on-line. Disponível em: <<http://www.calculoamostral.vai.la>>. Acesso em: 01 fev. 2020.
- [22] SCHUMPETER, J. (1997). *A teoria do desenvolvimento econômico (1912)*. São Paulo: Nova Cultural.
- [23] Shapero, A. & Sokol, L. (1982). Social dimensions of entrepreneurship. In C.A. Kent, D.L. Sexton, & K.H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 72–90). EnglewoodCliffs, NJ: Prentice Hall.
- [24] Teixeira, A. A., & Davey, T. (2010). Attitudes of higher education students to new venture creation: the relevance of competencies and contextual factors. *Industry and Higher Education*, 24(5), 323-341.