

INTRAPRENEURIAL BEHAVIOR: A STUDY OF HIGHER EDUCATION INSTITUTIONS

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**SUZETE ANTONIETA LIZOTE¹ | JEFERSON LANA² |
MIGUEL ANGEL VERDINELLI³**

ABSTRACT

Corporate entrepreneurship brings to organizations a new working philosophy, in which the individual ability of each employee can be more effectively developed. Corporations that adopt an intrapreneurial culture will be effective in their market, with intrapreneurs generating innovations and competitive advantages. In this context, this study seeks to characterize intrapreneurial behavior among employees of two universities of Santa Catarina, Brazil, linking it to five organizational factors: managerial support, freedom in the workplace, available time, uncertainty in tasks, and rewards. It also seeks to measure organizational identity to determine if this variable is a mediator in the relationship between the factors and intrapreneurial behavior. Analysis of the data involved the use of Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) and Structural Equations Modeling (SEM), seeking to evaluate the relationships proposed between the organizational factors. The results shown that the factors are positively related with intrapreneurial behavior. In regard to the relationship between the factors and organizational identity, the strongest relationship was found with managerial support, followed by freedom in the workplace. The other factors showed a poorer relationship in the coefficients. Finally, the hypothesis that organizational identity is a mediator between organizational factors and intrapreneurial behavior was not supported. The theme in question is very important for providing information and support that can help managers in the strategic decision-making process, as well as increasing knowledge of practices of corporate entrepreneurialism.

Keywords: Organizational factors. Intrapreneurial behavior. Higher Education Institutions.

1 Doutora, Universidade do Vale do Itajaí, suzete@univali.br.

2 Doutorando, Fundação Getúlio Vargas, jeferson.lana@gvmail.br.

3 Doutor, Universidade do Vale do Itajaí, nupad@univali.br.

RESUMO

Empreendedorismo corporativo traz para as organizações uma nova filosofia de trabalho, em que a capacidade individual de cada empregado pode ser desenvolvida de forma mais eficaz. As corporações que adotam uma cultura intraempreendedora serão eficazes em seu mercado, com inovações empreendedoras e vantagens competitivas. Neste contexto, o presente estudo visa caracterizar o comportamento intraempreendedor entre os funcionários de duas universidades de Santa Catarina, Brasil, vinculando-os em cinco fatores organizacionais: apoio da direção, liberdade no ambiente de trabalho, tempo disponível, incerteza nas tarefas e recompensas. O estudo procura também medir a identidade organizacional para determinar se esta variável é um mediador na relação entre os fatores e o comportamento intraempreendedor. A análise dos dados envolveu o uso da Análise Fatorial Exploratória (EFA), Análise Fatorial Confirmatória (CFA) e Modelagem de Equações Estruturais (SEM), visando avaliar as relações propostas entre os fatores organizacionais. Os resultados mostraram que os fatores são positivamente relacionados com o comportamento intraempreendedor. No que diz respeito à relação entre os fatores e a identidade organizacional, a relação mais forte foi encontrada com o apoio da direção, seguida pela liberdade no ambiente de trabalho. Os outros fatores mostraram uma relação mais fraca com os coeficientes. Finalmente, a hipótese de que a identidade organizacional seja um mediador entre os fatores organizacionais e o comportamento intraempreendedor não foi confirmada. O tema em questão é muito importante para fornecer informações e apoio, ajudando gestores no processo estratégico de tomada de decisão, bem como aumentando o conhecimento das práticas de empreendedorismo corporativo.

Palavras-Chave: Fatores Organizacionais. Comportamento Intraempreendedor. Instituições de Ensino Superior.

RESUMEN

El emprendedorismo corporativo les aporta a las organizaciones una nueva filosofía de trabajo en la que la capacidad individual de cada empleado puede ser desarrollada de forma más eficaz. Las corporaciones que adoptan una cultura intraempreendedora serán eficaces en su mercado, con innovaciones empreendedoras y ventajas competitivas. En este contexto, el presente estudio se propone caracterizar el comportamiento intraempreendedor entre los empleados de dos universidades de Santa Catarina, Brasil, vinculándolos en cinco factores organizacionales: apoyo de la dirección, libertad en el ambiente de trabajo, tiempo disponible, incertidumbre en las tareas y recompensas. El estudio procura también medir la identidad organizacional para determinar si esta variable es un mediador en la relación entre los factores y el comportamiento intraempreendedor. El análisis de los datos incluyó el uso del Análisis Factorial Exploratorio (EFA), Análisis Factorial Confirmatorio (CFA) y Modelos de Ecuaciones Estructurales (SEM), con el propósito de evaluar las relaciones propuestas entre los factores organizacionales. Los resultados mostraron que los factores están relacionados positivamente con el comportamiento intraempreendedor. En lo que se refiere a la relación entre los factores y la identidad organizacional, la relación más fuerte encontrada fue con el apoyo de la dirección, seguida de la libertad en el ambiente

de trabajo. Los otros factores mostraron una relación más débil con los coeficientes. Finalmente, la hipótesis de que la identidad organizacional es un mediador entre los factores organizacionales y el comportamiento intraempresario no fue confirmada. El tema en cuestión es muy importante para proporcionar informaciones y apoyo, ayudando a los gestores en el proceso estratégico de toma de decisión, así como aumentando el conocimiento de las prácticas del emprendedorismo corporativo.

Palabras Clave: Factores Organizacionales. Comportamiento Intraempresario. Instituciones de Enseñanza Superior.

INTRODUCTION

ORGANIZATIONS have become increasingly concerned with intrapreneurship as a competitive strategy (STEVENSON & JARILLO, 1990; KURATKO, IRELAND & HORNSBY, 2001). Leaders and academics, including corporate managers, are looking for ways of promoting people and teams to be more creative, thereby making organizations more competitive (KENNEY & MUJTABA, 2007). In the definition of Zahra and Covin (1995), intrapreneurship has two dimensions: one that includes the company's commitment to building new products or processes, creating new markets, and another that addresses strategic renovation, which is the revitalization of operations.

Research in this area, according to Moriano *et al.* (2009), has focused on identifying the variables that influence the entrepreneurial orientation, as well as the intrapreneurial behavior of individuals. At the organizational level, the importance of different factors is emphasized, such as the size of the organization, structure, adequate use of rewards, managerial support, and availability of resources (ANTONCIC & HIRSRICH, 2003; HORNSBY, KURATKO & MONATGNO, 1999; ZAHRA & COVIN, 1995).

In relation to individual behavior within organizations, research has focused on the different personal characteristics (SHABANA, 2010; KRAUSS *et al.*, 2005) and some authors, like Moriano *et al.* (2009), emphasize that this theme is still little studied, while studies that do exist fail to investigate in depth the question of "why" some people develop an intrapreneurial behavior within the organization, while others do not.

The challenge for companies to maintain the intrapreneurial spirit of their employees is a constant factor, according to the understanding of Chieh and Andreassi (2007), as they grow, reach stability, and achieve a certain degree of success. In the case of Higher Education Institutions, the challenge is greater, as they are generally classified as more complex organizations (ANDRADE, 2002).

To understand the complexity of university management, Andrade (2006) highlights that factors should be considered, like the degree of autonomy of the professors, the dependence on individual skills, planning, and the diversity and clarity of the

objectives, among others. Bertucci (1999), studying higher education institutions (HEI), concludes that the decision-makers, at all levels, appear as intermediaries between the environment and the organization, and their performance is directly influenced by the way in which the managers perceive and understand the university, how they communicate and initiate processes, and the way in which they promote and manage the organizational units.

Seeking to fill this gap, this study will replicate, in the university organizational environment, the model developed by Moriano *et al.* (2009), focusing on the identification of the members with the organization as a psychosocial variable, that influences the development of intrapreneurial behavior. For this purpose, the modeling of structural equations will be used, to evaluate whether the influence of organizational factors on intrapreneurial behavior is affected by the degree to which the members identify with the organization.

Faced with these points, the aim of this work is to describe the level of identification of the employees with the organization in two HEIs considered and how this psychosocial variable is related to the development of intrapreneurial behavior.

Once we can find out some important relations between employees' identification and intrapreneurial behavior, we argue that becomes possible to better managing corporations such as universities. HEIs, which are also influenced by changes in other types of organizations, are going through changes that, according to Andrade (2006), require better results and lower administrative and operating costs, and enable the training of qualified professionals to work in the job market. These changes mean people need to be encouraged to carry out their activities with satisfaction, developing a spirit of creativity and teamwork, respecting the autonomy and individuality of each one, to carry out a work of excellence. Thus, employees are called to perform activities that differ from the traditional ones, since as Hashimoto affirms (2006), the present decade is marked by innovation. As a consequence, there is a need for HEIs to identify and make the most of the intrapreneurial potential of their employees.

Therefore, the theme in question is important because it is an important part of the search to identify intrapreneurial behavior among the employees of the institutions investigated. Based on the results of the research, the HEIs can demonstrate their strengths and weaknesses in relation to the corporate entrepreneur, and based on this, develop activities that stimulate creative and innovative participation, in the search for greater competitiveness in the provision of educational services.

THE ENTREPRENEURIAL UNIVERSITY

Universities are institutions that have bureaucratic managerial behavior, and whose objective is the dissemination of knowledge, through teaching, research and extension activities (RODRIGUES & TONTINI, 1997). However, like any other type of organization, as Audrestsch and Phillips (2007) emphasize, changes are evident,

i.e. in an evolving, unstable and dynamic situation brought about by globalization, it has become a challenge, forcing them to transform themselves permanently, affecting a series of changes in relation to their mission, approaches, structure, and even culture.

Since their origins, in the Middle Ages, according to Bricall (2000), the primordial objective of the universities was the transfer of knowledge from the professors to the students, with the ultimate goal of preparing new professionals to meet the demands of the job market. Etzkowitz (2003) stresses that since its creation, in 11th century Europe, the university has undergone two revolutions. The first occurred at the end of the 19th century, when it prioritized research as its mission. The second began after the middle of the 20th century, when it added a new mission, geared towards economic and social development. At the beginning of the 1980s, a phase of discussions gained strength under the direction of the role of the Higher Education Institutions.

The university of the 21st century is faced with challenges of the modern economy, which places it as the driving force of the development of innovation. Lanzillotti (1997) highlights that giving a new dimension to higher education therefore means rethinking HEI as institutions committed to social change, and revealing their interface with society, seeking to adapt to the new realities.

The mission of higher education, as recognized by the Ministry of Education of Brazil, should signify a point of balance between the popular sovereign and the autonomy of the academic action, such that society recognizes in the proposed mission, the demonstration of a commitment to which human, material and financial resources are mobilized. In this context, according to Demo (1991), there is a need to create, develop, organize and disseminate knowledge in their areas of operation, with the goal of participating and contributing to the social, economic, cultural and scientific development of the nation.

It is in this scenario that the concept of the entrepreneurial university emerges, as it refers, according to Teixeira (2001), to the proactive attitude of institutions towards transforming the knowledge created into added value. Thus, it seeks to bring itself into line with the demands of the society, in which it is inserted, establishing itself as a vector for social and economic development.

Etzkowitz (2003) defines the entrepreneurial university as one that has the capacity to generate a strategic direction to be followed, formulating clear academic objectives and transforming the knowledge generated into a social economic value. The author also considers it a favorable environment for innovation, due to the concentration of knowledge and intellectual capital, in which the students are a good source of potential entrepreneurs.

Similarly, Cullen (2010, p. 41) states that the teaching institution "must aim for the employability of its students, giving them tools that will help them to develop useful competencies to manage businesses [...] rather than a specific training for a particular job position".

The second World Conference on Higher Education, promoted by UNESCO in 2009, addressing with The New Dynamics for Higher Education and Research for Societal Change and Development, emphasizes that the training offered should include entrepreneurship education (UNESCO, 2009, § 18). It is important to emphasize, also, paragraph C of article 1 of the Missions and Functions of Higher Education contemplated by UNESCO (1998): “advance, create and disseminate knowledge through research and provide, as part of its service to the community, relevant expertise to assist societies in cultural, social and economic development, promoting and developing scientific and technological research as well as research in the social sciences, the humanities and the creative arts”. In view of these aspects, it is seen that HEIs need to be linked to social issues, with the primordial function of economic and social development.

Clark (1998), based on a study of five European institutions in the nineteen eighties through to the middle of the nineteen nineties, proposed that the model of the entrepreneurial university should contain five key elements, namely: a strengthened steering core, an enhanced development periphery, a discretionary funding base; a stimulated academic heartland, and entrepreneurial belief.

Etzkowitz (2003) states that to be considered entrepreneurial, the university must meet seven objectives; it must be creative; involved with the local community; communicate with various publics; undertake risks; enter the market; be quality focused; and be concerned with its reputation. These functions are in line with those recommended by Cullen (2010), who states that an entrepreneurial university is one that has the capacity to create a strategic management to be followed, establishing clear academic objectives and transforming the knowledge generated into an economic and social value. This author also considers it to be an ideal environment for innovation, due to the concentration of knowledge and intellectual capital, in which the students become potential entrepreneurs.

In the view of Audy and Ferreira (2006), to be entrepreneurial, the university needs the motivation and commitment of its members, seeking to reinforce the entrepreneurial culture and develop the ideal that characterizes the institutional identity.

CORPORATE ENTREPRENEURSHIP

Entrepreneurship is an emerging area of research that is constantly evolving. It includes the themes of creation, innovation and expansion of new projects in the individual and organizational dimensions, highlighting the specialty of intrapreneurship in existing organizations (ANTONCIC & HISRIC, 2003).

Currently, as Shabana (2010) affirms, companies are restructuring and rethinking their internal working processes, mainly due to the pressures of the market, imposed by consumers, competitors, suppliers, governments, and in particular, the variables of the macro-environment. Intrapreneurship is not only a form of seeking

to increase the level of productivity, according to Pinchot (1985), it is also a means of coordinating the work and the business processes in a more integrated way. In this same line of thinking, Filion (2004) highlights that in order to be entrepreneurs, people must be strongly committed to what they are doing, and must be capable, at least, of continuing what they have started.

The corporate entrepreneur is the employee who excels in the organizational environment, i.e. he or she is an integral part of the organization. Intrapreneurs are agents of change, as they are individuals who have ideas and transform them into viable realities for the company. Pinchot (1985) emphasizes that internal entrepreneurs are gifted with unique qualities and that among the perceived characteristics, the innovator profile is emphasized. This author points out that they are those who, after getting an idea, receiving the freedom, incentive and resources, dedicate themselves enthusiastically to transforming this idea into a successful product. Jennings and Young (1990) reinforce the idea that corporate entrepreneurialism is the process of development of new products or processes.

Wunderer (2001) mentions how a company employee who innovates, identifies and creates business opportunities sets up and coordinates new combinations or arrangements of resources to add value. This statement complements the concept developed by Pryor and Shays (1993), who point out that intrapreneurship involves creating an environment in which innovation can flourish and transform ordinary people into entrepreneurs who assume responsibilities and roles within the company.

Longenecker and Schoen (1975) establish three essential components of corporate entrepreneurialism: 1) innovation - entrepreneurship is associated with innovative or creative action and involves the creation of products, services, processes, business, alternative markets of materials and structural changes in the organization; 2) autonomy - the entrepreneur should enjoy the autonomy to make decisions through regarding the use of resources, establishment of objectives, choice of strategies of action and search for relevant opportunities; and, 4) propensity to assume risks - every entrepreneurial initiative involves some degree of risk, and the greater the factor of innovation, the greater the uncertainty, a fundamental component of risk.

Thus, Guilhon and Rocha (2000) suggest that to meet the competitive demands of the new organizational context, freedom of action at all levels of the company, in participative mode, should be the rule of conduct and managerial orientation in the process of permanent management of change. As Pryor and Shays (1993) affirm, proactive companies were heading in this direction, as the decentralization of decision-making was being incorporated into the strategic planning, seeking to lower operating costs and raise the quality of the services and products offered, with the direct participation of employees.

Examining successful innovations in large companies, Pinchot (1985) identified entrepreneurial behaviors in some employees, who were acting as agents of change in their organizations, improving processes and creating new business

opportunities. These individuals came to be known as intra-corporate entrepreneurs, or Intrapreneurs. Intrapreneurship relates to emerging behavioral intentions of individuals who present their own ideas, and then bring them into the life of the organization, with the help of the management (SHABANA, 2010). Assuming risks, they seek to transform an idea into a profitable business within the organizational environment of which they form part.

Intrapreneurship consists of a system for accelerating the innovations within organizations, as Pinchot (1985) affirms, exploring opportunities and seeking to gain above-average returns, through the better use of the entrepreneurial skills of the employees, who in turn, have more restricted freedom of action, since they are not the owners of the business. Meanwhile, according to Zilber and Brancalião (2008), this action should take into account the environment in which the company is inserted, and the identification of opportunities that can generate new business.

Every organization has to face the battle to win market share, and constant adaptation to the changes in the business world, and Intrapreneurship becomes essential for its important role. In a more incisive form, Shabana (2010, p. 33) states: "Intrapreneurship is no longer a choice; it is an attitude of survival", since according to the author, external confusion is forcing internal change. This behavior of innovation, of exploiting opportunities, should be instilled and institutionalized in companies as a predominant factor for success.

ORGANIZATIONAL FACTORS

In their studies on intrapreneurial behavior, Kuratko, Montagno and Hornsby (1990) carried out an exploratory survey using five different constructs: support of the higher management; rewards and resources; structure and limits of the organization; tendency to assume risks; and availability of time. Meanwhile, empirical analyses carried out by the same authors, reduced the factors to: management support; organizational structure; and available resources and rewards.

Kuratko and Hodgetts (1998) demonstrate the main steps to creating a working environment that encourages entrepreneurial conduct among the employees:

a) establish clear goals: these need to be mutually agreed by the employees and managers, so that the specific steps can be carried out;

b) create a system of feedback and positive reinforcement: it is necessary for potential inventors, creators, or intrapreneurs to see that there is acceptance and reward;

c) emphasize individual responsibility: trust and responsibility are key factors for the success of any innovation program;

d) provide rewards (or awards) based on results: the reward system should emphasize and encourage people to assume risks.

Zahra and Garvis (2000) created the ICE (International corporate entrepreneurship) with the purpose of identifying the presence of corporate entrepreneurialism in subsidiaries of American multinationals. In the study, they identify that the companies researched have tolerance for high risk projects; they seek out challenges rather than simply responding to the competition; they emphasize strategic actions of great reach, rather than small tactical changes, and they reward calculated risk-taking.

The development of intrapreneurial behavior, according to Moriano *et al.* (2009), is favored or limited by the types of procedures that organizations require of their employees in the performance of their activities. Hornsby, Kuratko and Zahra (2002) identify five organizational components that promote this behavior, namely:

1) Managerial support: it is essential for the management to accept the employees with intrapreneurial behavior, as well as enabling conditions and resources for developing innovative ideas (STEVENSON & JARILLO, 1990, KURATKO *et al.*, 1993). The management, in the view of Hisrich and Peters (2004), should facilitate the way for intrapreneurs, enabling them to overcome bureaucratic barriers and/or obtain resources. According to Moriano *et al.* (2009), it reflects how far the managerial structure encourages the employees to believe that innovation and entrepreneurship are part of the role of everybody in the organization. They argue that the conditions that reflect the support of the management are: being quick to adopt the employees' ideas: recognition of people who are able to carry the ideas forward; support for small experimental projects; and the pre-selection of the capital to begin projects.

2) Freedom in the workplace: consists of giving autonomy on employees' decisions, delegating them authority and responsibility (ZAHRA; KORRI & YU, 2005). For Cozzi and Arruda (2004), it means the existence of values like respect and trust in people; encouragement for them to act, and stimulus for decentralization of power. Siqueira and Gomide (2004) affirm that the autonomy given to employees encourages them to discover the best solutions for the business. Hashimoto (2006) warns that the organizational system should be flexible enough to allow freedom of decision-making and action for the intrapreneurs and their teams.

3) Rewards: these encourage employees to face new challenges (KURATKO; MONTAGNO & HORNSBY, 1990; KURATKO; HORNSBY & BISHOP, 2005). According to the authors, to be effective, they should be based on goals, feedback, individual responsibility and awards based on results. For Stevenson and Jarillo (1990), besides the existence of challenges that increase the responsibility, the intrapreneurs' ideas need to be recognized by the highest levels of the organizational hierarchy.

4) Available time: encourages employees to have new ideas and develop new products, as well as changing existing procedures (COVIN & SLEVIN, 1991).

5) Organizational limitations: the study by Moriano *et al.* (2009) redefines this as uncertainties in tasks, referring to a lack of clear norms, and a lack of decision as to the level of performance expected of the employees. According to Kuratko, Hornsby and Bishop (2005), the processes on management should be open, accessible to all,

and frequently revised, so that their learning can be disseminated. For the authors, a lack of strategic direction can inhibit actions that really have an impact. Hashimoto (2006) argues that in the intrapreneurial organization, the most important communication is from the top down, i.e. from the upper management to the other departments. This is in the direction that the chosen strategic guidance should flow, the detailing of the vision and mission, the feedback generated based on information received from the external environment, and changes of an institutional nature, which are instigated internally.

Ireland, Kuratko and Morris (2006) highlight that with the growth of organizations, often the bureaucracy appears to hinder innovation, and sometimes even the capacity to compete. These authors also identify that the majority of companies do not have an organizational culture that is favorable to the spirit of entrepreneurship, inhibiting the employees with the implementation of policies and procedures that repress signs of entrepreneurial behavior. As a result, the employees leave the organization, to follow their own business ambitions.

However, it should be emphasized that the intrapreneurial behavior, or its own development, can be reinforced or restricted by the attitudes and actions of the organization. As Drucker (2002) affirmed, a culture that is favorable to the formation of an entrepreneurial spirit encourages the employees in a constant search for the new, for the best way of developing something, a constant improvement, a conduct that leads to the dedication and commitment of individuals.

METHODOLOGICAL PROCEDURES

The study, from the point of view of its objectives, is defined as a descriptive study, as it seeks to present a reality and verify a model. For this purpose, the population studied consisted of employees of two Higher Education Institutions in the Brazilian state of Santa Catarina. Together, both HEI have around 7,600 employees among teachers, managers and staff. The sample size was calculated for a significance of 5%, reaching a total minimum expected of 380 respondents, who occupied different job positions in different departments of the institutions.

The data collection instrument used had 59 statements, which had to be answered through a Likert type scale, with five levels of agreement, divided into eight main blocs relating to the constructs of the model. The questionnaire was adapted from the work of Moriano *et al.* (2009) and was applied during September 2011 by the authors. In total, we obtained 382 valid questionnaires (exceeding the 380 minimum expected).

Analysis of the data involved the use of Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) and Structural Equations Modeling (SEM), seeking to evaluate the relationships proposed between Intrapreneurial behavior (IB), defined as Innovation (IN) and Risk Assumption (RA); Organizational Identity (OI); and the exogenous factors Managerial Support (MS), Freedom in the Workplace (FW), Rewards (RW), Available Time (AT) and Uncertainty in the Work (UW).

As the initial ideas proposed in this article deal with the verification of the model of Moriano *et al.* (2009), the use of CFA is therefore justified. The grouping of correlated information by its inherent factors, mediated by reflective indicators, is an objective of factor analysis. The variables together have greater significance, and contribute better to the statistical models (CORRAR *et al.*, 2010). As defined by Aranha and Zambaldi (2008, p. 107) the CFA specifically “seeks to verify whether the data observed behave according to a theoretical expectation”. Thus, the authors defend the view that a positive relationship reinforces the theory, but divergences can lead to problems with the data, with the theory, or both. When the construct was not unidimensional, EFA was used to select the most representative questions of the construct.

To verify the unidimensionality of the different constructs, the criteria of Kaiser was used as a delimitation of the numbers of factors to retain, a variance extracted from more than 50% of the factor loads greater than 0.7 (in module), to have a minimum communality of 50% (HAIR *et al.*, 2009; FÁVERO *et al.*, 2009). A minimum of three variables was maintained for each construct, and the reliability was measured by Cronbach’s alpha.

The relationships between the constructs and the variables were evaluated by means of the SEM, executed in subsequent mode to the CFA, using the software AMOS®. The SEM, according to Codes (2005, p. 472) is “characterized by the capacity to specify, estimate and test hypothetical relationships between a group of variables”.

RESULTS AND DISCUSSION

Initially the eight constructs were evaluated, beginning with the five exogenous variables, as described below:

- Managerial Support – MS: This organizational factor was the one that had the highest number of items, with nineteen questions. Having ruled out the unidimensionality with all the indicators, as by the Kaiser criteria five factors should be considered, the most representative questions were then selected. Taking into account the criteria mentioned in the methodology, and after making the adjustments and refinements, four variables with significant factor loads were selected (>0.70). The variance extracted was 66% and the Cronbach’s alpha was 0.98.

- Freedom in the Workplace – FW: Initially, ten questions were part of this construct, but after exclusions due to lack of significance, six remained that met the restrictions imposed. Cronbach’s alpha was 0.90 and the extracted variance was 67%.

- Rewards– RW: From the six proposed question, only three were used in the modeling. The factor arising from these questions had an extracted variance of 78% and a value of 0.86 in Cronbach’s alpha.

- Available Time – AT: The questionnaire included six variables for investigation, of which three were part of the subsequent analyses. Cronbach’s alpha for these

was 0.68, and the extracted variable was 62%.

- Uncertainty in the Tasks (UT): Originally with six questions, unidimensionality was obtained with four of them. Cronbach's alpha was 0.78 and the extracted variance totaled 60%.

- Innovation – IN: Of the four questions, one did not present the basic requirements, and it was decided to eliminate it. The Cronbach's alpha calculated was 0.83 and the extracted variance was 75%.

- Risk Assumption – RA: The three initial questions were reunited in the only retained factor, according to the Kaiser criteria, which represented an extracted variance of 0.61. Cronbach's alpha was close to the minimum established, with a value of 0.68.

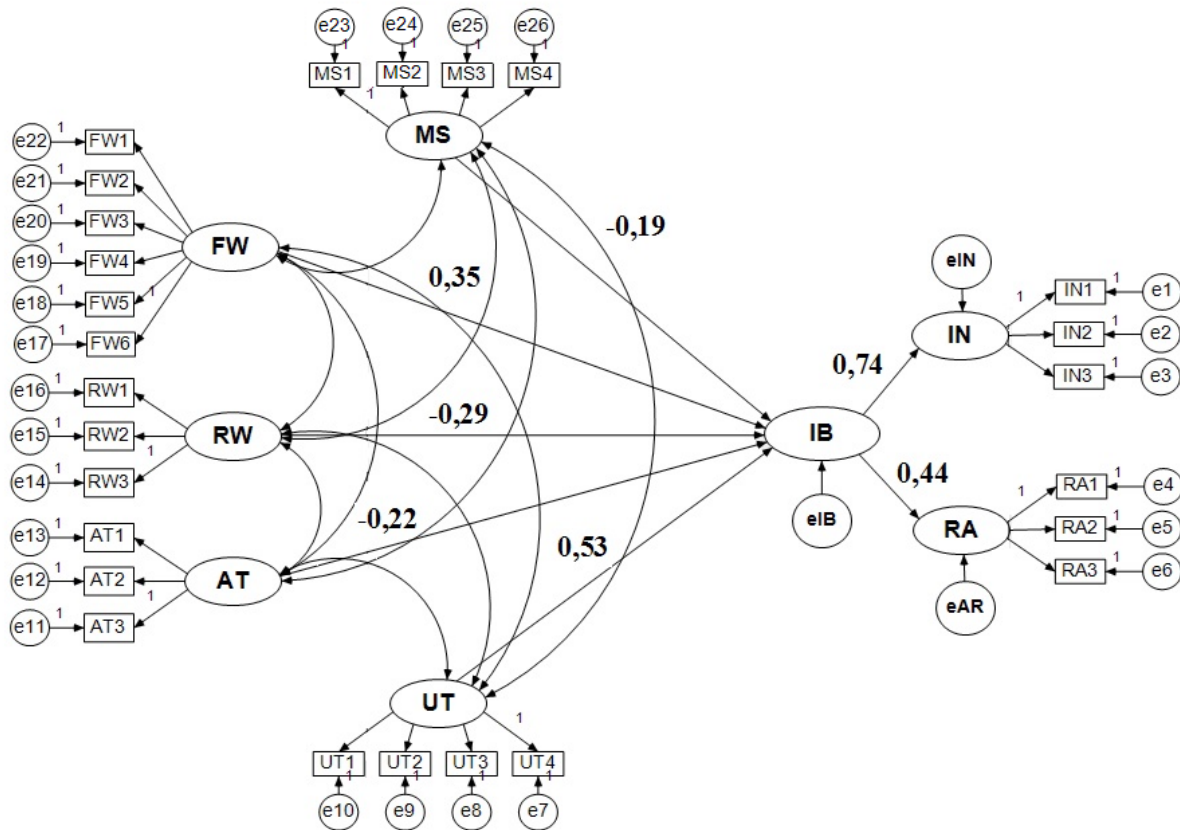
After analysis of the exogenous variables, which proved highly significant and with high convergent validity (except for AT), CFA of the endogenous variable was carried out, now positioned here as Mediator. For Abbad and Torres (2002, p. 21) (*apud* VIEIRA, 2009, p. 19) "The concept of mediation implies the supposition of a relationship between the variables involved. A mediator variable is one that, being present in the regression equation, decreases the scope of the relationship between a dependent and an independent variable". Thus, it is considered that when passing through the mediator, the effects of an independent variable are absorbed and retransmitted to the dependent variable. In this article, the initial proposal for evaluation is that Organizational Identity is a mediator construct of Intrapreneurial Behavior.

The factor analyses performed with Organizational Identity led to the following results: Organizational Identity – OI: Mediated by three questions, with a Likert-type scale, and a graphic scale, with four variables considered. From it three were retained, which for the first eigenvalue recovered a variance of 48%, close to the minimum stipulated. The Chronbach's Alpha presented lower than the recommended values, reaching only 0.43.

Once the analyses to select the indicators of each construct were complete, the SEM was then performed, which was divided into two separate stages. In the first, the model is presented without mediation of OI to determine the relationships between the exogenous variables and the Intrapreneurial Behavior. Figure 1A shows the model without mediation.

Figure 1 shows the structural model between IB and the exogenous variables. It seeks to determine the relationship between MS, FW, RW, AT and UT with IB, which is represented by IN and RA. Initially, the analysis of the relationship between IB and IN presented a coefficient of regression of 0.74(0,84). This value represents a strong relationship between the variables considered. IB and RA were less closely related, with a coefficient of 0.44(0,48).

Figure 1: Relational model between the organizational factors and intra-entrepreneurial behavior

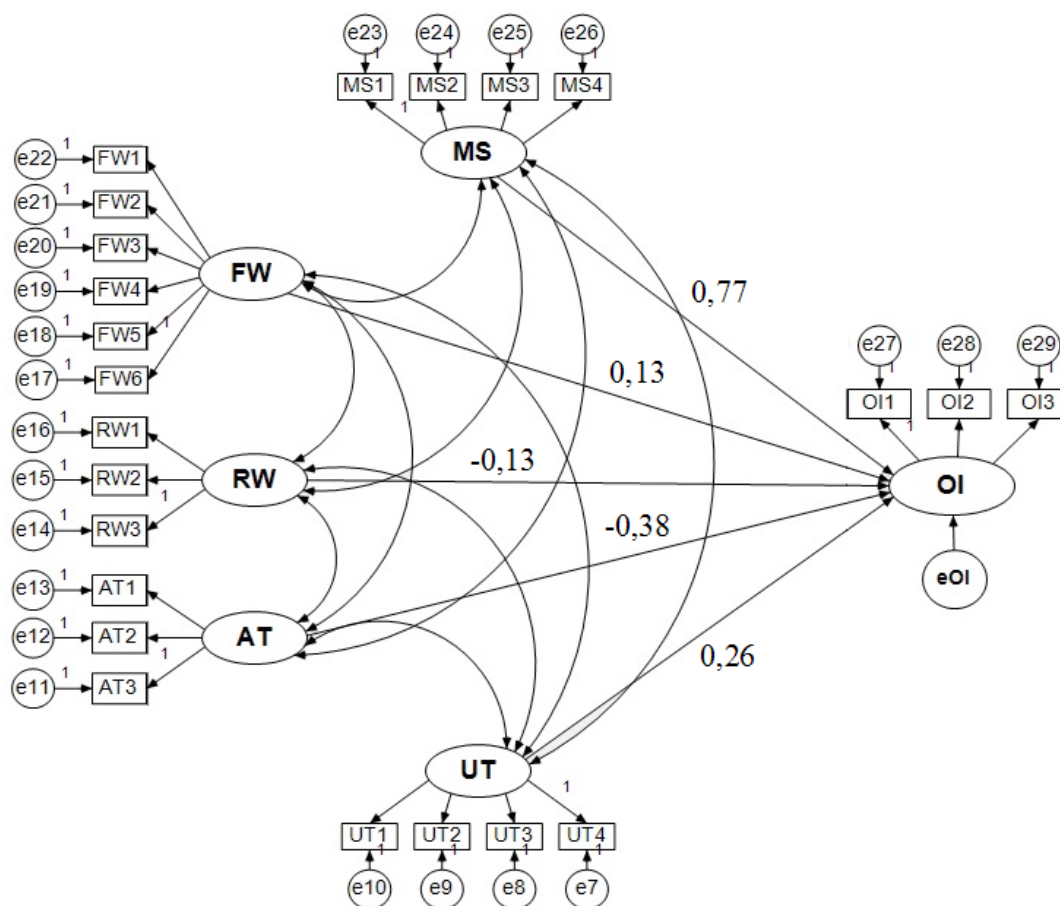


Source: Designed by the authors (2012).

The relationship between IB and the other variables presented diverse data. Unlike the original model, proposed in Moriano *et al.* (2009), which showed little significance in practically all the organizational factors and the intrapreneurial behavior, the HEIs studied presented considerable relationship between them. In order of relevance, the UT presented the highest coefficient of regression (0,53) in relation to the IB, indicating that the more clearly-defined the actions are, the better the intrapreneurial behavior of each individual within the organizations will be. Another considerable factor was Freedom in the Workplace, with a coefficient of 0.35, which represents a significant relationship for the model. Thus, environments where there is more freedom led, in the HEIs studied, to more intrapreneurial behavior. Finally, both the AT and RW represent significant, though negative coefficients, of -0.22 and -0.29 respectively. Evaluating the questions applied, it was found that the variables with factor load above 0.70 in AT are those related to lack of time. Thus, a high degree of agreement of the interviewees with the questionnaire involved an analysis of lack of available time for the tasks. Therefore, the greater the use of work time, the less time to look for intrapreneurial behavior. The same occurred with rewards, where agreement with the variables implies a lack of recognition as reward for activities. Thus, whenever RW decreases, this means the activities are being recognized, which generates rewards. Managerial Support did not show any significance.

To determine the validity of the proposed mediation in the model of Moriano *et al.* (2009), the researchers also sought to apply the SEM among the organizational factors and Organizational Identity, seeking to determine the relationships between them. Figure 2 indicates the proposed results.

Figure 2: Relational model between the organizational factors and organizational identity



Source: Designed by the authors (2012).

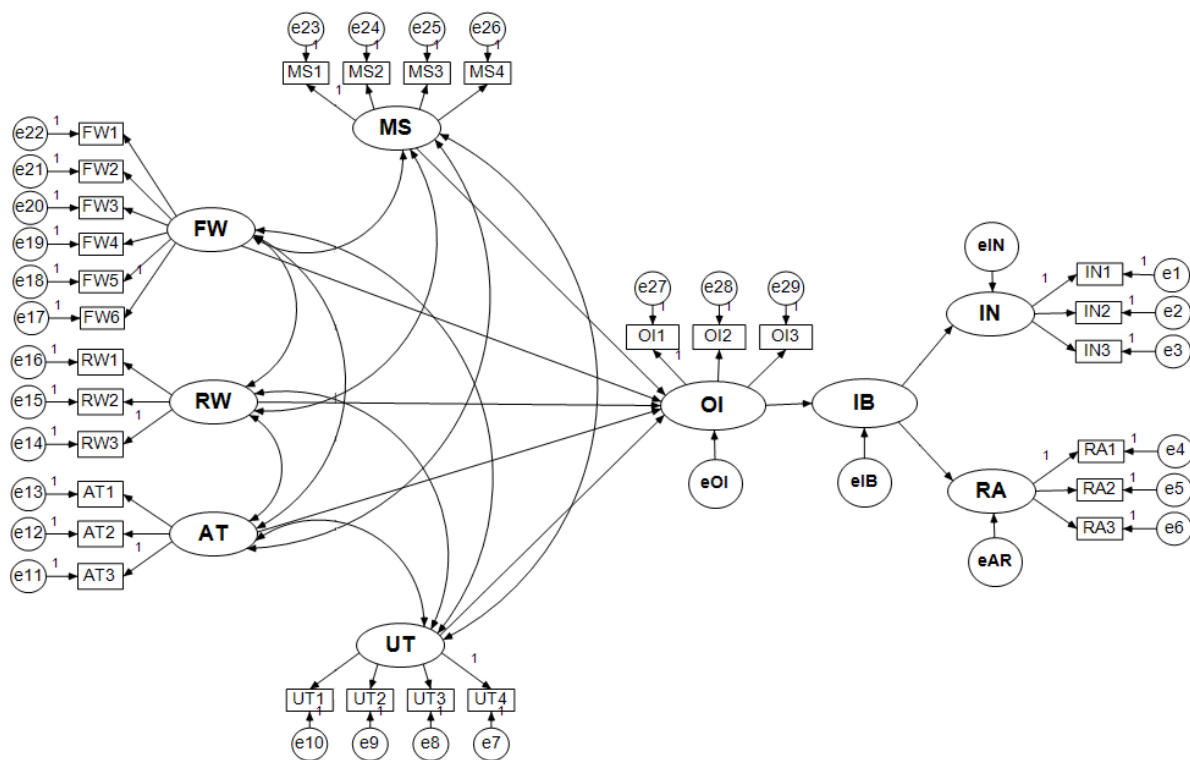
Figure 2 shows the mean values for the relationship between the organizational factors and Organizational Identity – OI. The main relationships are Managerial Support with values of 0.77 ($p < 0.001$) and Available Time, with a negative coefficient of -0.38 ($p < 0.001$). With a relationship considered small, Uncertainty in the Tasks – UT obtained a coefficient of 0.26 ($p = 0.057$). Both FW and RW presented non-significant values (0.13 and -0.13, respectively). The reliability outputs of AMOS® such as GFI, CFI, RMR, RMSEA presented lower minimum values required for acceptance of the model. The validity of the relationships proposed by the model of Figure 2 is therefore questioned.

Finally, the last of the proposed models is the insertion of the variable OI between the organizational factors and IB. Thus, OI configures a relationship of mediation between the factors of IB. Mediation presupposes a greater relationship of factors with OI when

compared with the relationships of IB, as well as a significant coefficient between OI and IB. However, while the reliability of the model with OI was low, it can be affirmed that the chances of finding a small amount reliability of the new model are high.

This evidence can be verified through a series of factors and circumstances inherent to the sample analyzed. As the underlying work of Moriano *et al.* (2009) was carried out with 120 companies in various sectors, the status quo of an HEI may present factors that differ from the conclusions of those authors. Figure 3 shows the model indicated with OI proposed as mediator.

Figure 3: Model of organizational identity as a mediator between the factors and intra-entrepreneurial behavior



Source: Designed by the authors (2012).

As predicted, the values of the outputs of reliability and quality of adjustment of the AMOS® were below expected in an accepted model. This premise was sufficient to invalidate the OI as mediator of Intrapreneurial Behavior in the HEIs investigated. Nevertheless, a model of mediation (Hair *et al.*, 2009) presupposes that the relationships between the factors and the mediator are higher than that between factors and original dependent variable. This was not what was found by the model of this research. Only two of the five organizational factors presented improvements: MS, which with IB had a coefficient of -0.19 and found a good improvement for 0.77 (as seen in the model of Figure 2, MS had a good relationship with OI) and AT, with a relationship in module of 0.22 for 0.38. All the others, FW, RW and UT, had worsened coefficients. According to Hair *et al.* (2009) if the

relationships between the exogenous variables are not good, the hypothesis of mediation should be refuted.

Thus, by finding values that invalidate the relationship of mediation of OI for the model and reliability indicators that compromise the results, the mediation of the intrapreneurial behavior of the HEIs researched is considered refuted. As pointed out earlier, some specific criteria of the population researched may have lead the data to these conclusions. Furthermore, the internal form of management of the HEIs may be contrary to the ideas of Moriano *et al.* (2009). Thus, with the mediation refuted, the objectives of the analyses are considered to have been achieved.

FINAL CONSIDERATIONS

The actions involving intrapreneurship in organizations are increasingly being recognized and sought by managers. A company with a shared vision of its internal processes and interests has a high chance of presenting a management conduct that is more suited to global competitiveness. Good business practices and decisions may generate competitive advantages for organizations, and intrapreneurialism is a factor of great importance in this sense.

Studying HEIs of the region, this article sought to determine how intrapreneurialism occurs in these organizations, on what it is supported, how it emerges, and its importance. As addressed at the start of this research, intrapreneurialism depends on different factors, such as the size of the organization, structure, adequate use, and rewards, the support of the management, and the availability of resources. For this, the researchers sought to determine whether or not the HEIs had inherent management characteristics, or whether it would be possible to determine intrapreneurialism of these organizations, based on the model proposed by Moriano *et al.* (2009), as well as the measurement of Organizational Identity.

For the data analyzed, significant values were found for determination of the Intrapreneurial Behavior by the proposed organizational factors, namely: Managerial Support, Freedom in the Workplace, Rewards, Available Time, and Uncertainty in the Tasks. When the mediating variable (Organizational Identity) is added, the model loses its validity. In summary, contrary to what is proposed by Moriano *et al.* (2009), "Organizational Identity" does not serve as a mediator between the organizational factors and the intrapreneurial Behavior for the HEIs studied.

With these results, the research refuted the empirical model proposed on the mediation of OI. This reality relates specifically to the case researched. It is seen that in the HEIs researched, considering the management model and characteristic of the case, organizational identity cannot be used as a mediator for the management of intrapreneurial behavior by various factors.

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