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Artículos científicos

Diferencias en el Perfil Emprendedor de estudiantes de programas educativos de pregrado de una escuela de negocios del sureste mexicano

Entrepreneurial profile differences in undergraduate students by educational program in a southeastern Mexican business school

Diferenças no Perfil Empreendedor de alunos de cursos de graduação em uma escola de negócios no sudeste do México

Valentín Alonso-Novelo
Universidad Autónoma de Yucatán, México
valentin.alonso@correo.uady.mx
https://orcid.org/0000-0002-1970-6594

Gustavo Alberto Barredo-Baqueiro
Universidad Autónoma de Yucatán, México
gbarredo@correo.uady.mx
https://orcid.org/0000-0002-7746-0756

Jorge Ramón Salazar-Cantón
Universidad Autónoma de Yucatán, México
jsalazar@correo.uady.mx
https://orcid.org/0000-0001-8251-6761

Resumen

La educación emprendedora desempeña un papel fundamental en la formación de capacidades innovadoras orientadas al desarrollo económico en el estudiantado universitario. Las Instituciones de Educación Superior (IES) integran el emprendimiento cada vez más en sus planes de estudio para fortalecer las habilidades emprendedoras del alumnado. Este estudio tiene como objetivo identificar diferencias en los perfiles emprendedores entre los estudiantes de diversas licenciaturas de una escuela de negocios en el sureste de México. La investigación evalúa la percepción de los estudiantes sobre el respaldo institucional, la intención emprendedora, los rasgos psicológicos, el perfil de

personalidad, la actitud emprendedora y el estímulo académico, al considerar su impacto en el desarrollo emprendedor.

Mediante un enfoque cuantitativo y transversal, se recopilaron datos a través de una encuesta aplicada a una muestra representativa de estudiantes de cuatro programas académicos. Se emplearon estadísticas descriptivas y análisis de conglomerados a fin de examinar las variaciones en las percepciones emprendedoras. Los resultados indican que los estudiantes de Administración y Administración de Tecnologías de Información presentan rasgos emprendedores más sólidos, mientras que los de Contaduría Pública y de la licenciatura en Mercadotecnia y Negocios Internacionales muestran una orientación emprendedora menos marcada. El respaldo institucional y el estímulo académico influyen significativamente en el desarrollo emprendedor, con una correlación positiva entre la motivación intrínseca, es decir los propios intereses, valores o satisfacción personal del alumnado; y el apoyo extrínseco, que se entienden como recursos, incentivos y ayudas proporcionados por agentes ajenos al estudiantado, verbigracia las universidades, para impulsar su emprendimiento. En este sentido, el estudio confirma que la formación académica y los métodos de enseñanza moldean la identidad e intención emprendedora de los estudiantes. Estos hallazgos proporcionan una base para mejorar las políticas de educación emprendedora, asegurando que las IES brinden un apoyo adecuado para fortalecer las capacidades de emprendimiento del alumnado.

Palabras clave: perfil emprendedor, emprendimiento, educación superior.

Abstract

Entrepreneurial education plays a fundamental role in shaping students' ability to innovate and drive economic development. Higher Education Institutions (HEIs) have increasingly integrated entrepreneurship into their curricula to foster students' entrepreneurial skills. This study aims to identify differences in entrepreneurial profiles among undergraduate students at a business school in southeastern Mexico. The research assesses students' perceptions of institutional support, entrepreneurial intention, psychological traits, personality profile, entrepreneurial attitude, and academic encouragement, emphasizing their impact on entrepreneurial development.

Using a quantitative, cross-sectional approach, data were collected through a survey with a representative sample of undergraduate students from four academic programs. Descriptive statistics and cluster analysis were employed to examine variations in entrepreneurial perceptions. The results indicate that Management and Information Technology Management students exhibit stronger entrepreneurial traits, while Public

Accounting and Marketing and International Business students show lower entrepreneurial orientation. Institutional backing and academic encouragement significantly influence entrepreneurial development, with higher intrinsic motivation correlating with stronger extrinsic support. The study confirms that educational exposure and teaching methods shape students' entrepreneurial identity and intentions. These findings provide a foundation for improving entrepreneurship education policies, ensuring that HEIs offer tailored support to enhance students' entrepreneurial capabilities.

Keywords: Entrepreneurial profile, Entrepreneurship, Higher education

Resumo

A educação empreendedora desempenha um papel fundamental no desenvolvimento de capacidades inovadoras voltadas para o desenvolvimento econômico entre estudantes universitários. As Instituições de Ensino Superior (IES) estão cada vez mais integrando o empreendedorismo em seus currículos para fortalecer as habilidades empreendedoras dos alunos. Este estudo tem como objetivo identificar diferenças nos perfis empreendedores entre alunos de vários programas de graduação de uma escola de negócios no sudeste do México. A pesquisa avalia as percepções dos alunos sobre apoio institucional, intenção empreendedora, traços psicológicos, perfil de personalidade, atitude empreendedora e incentivo acadêmico, considerando seu impacto no desenvolvimento empreendedor.

Utilizando uma abordagem quantitativa e transversal, os dados foram coletados por meio de uma pesquisa administrada a uma amostra representativa de alunos de quatro programas acadêmicos. Estatísticas descritivas e análise de cluster foram usadas para examinar variações nas percepções empreendedoras. Os resultados indicam que os alunos de Administração e Gestão de Tecnologia da Informação apresentam traços empreendedores mais fortes, enquanto os de Contabilidade Pública e Marketing e Negócios Internacionais apresentam uma orientação empreendedora menos pronunciada. O apoio institucional e o incentivo acadêmico influenciam significativamente o desenvolvimento empreendedor, havendo correlação positiva entre a motivação intrínseca, ou seja, os próprios interesses, valores ou satisfação pessoal dos alunos; e apoio extrínseco, que é entendido como recursos, incentivos e auxílios fornecidos por agentes externos ao corpo estudantil, como universidades, para promover seu empreendedorismo. Nesse sentido, o estudo confirma que a formação acadêmica e os métodos de ensino moldam a identidade e as intenções empreendedoras dos alunos. Essas descobertas fornecem uma base para melhorar as políticas de educação empreendedora,

garantindo que as IES forneçam suporte adequado para fortalecer as capacidades empreendedoras dos alunos.

Palavras-chave: perfil empreendedor, empreendedorismo, ensino superior.

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Introduction

Residents' satisfaction in a territory depends on multiple factors, including citizens' entrepreneurial capacity, as studied in this work (Lauto, Pittino & Visintin, 2019). When a country progresses, it is assumed that the entrepreneurial abilities to identify and take advantage of opportunities to generate value and create new jobs that did not previously exist were effectively exercised (Hayes, 2024). In an innovative culture of continuous learning and education, the generation and application of knowledge and the creation of business entities can be the keys to sustained development (World Economic Forum, 2011).

Consequently, in this national context, Higher Education Institutions (HEIs) have included entrepreneurship in their curricula for at least two decades, as this topic is considered one of the essential components for strengthening the economic development structure of nations. This is due to its contributions to the creation and flourishing of new business opportunities. Particularly in Mexico, under the "Prosperous Mexico" goal of the national plan 2013-2018, the executive branch aimed to provide opportunities to entrepreneurs with the aim of progressively reducing reliance on welfare programs and enabling the population to overcome poverty. While not exclusively, entrepreneurs tend to be a segment comprised of young people pursuing tertiary education (Amador et al., 2020).

Currently, universities are entities of utmost importance to the communities they serve, as they generate, apply and disseminate knowledge available to society. This enables them to play a strategic role as agents of change, promoting an entrepreneurial and innovation culture among their students. Universities, in addition to having solid academic training, aim for their graduates to be prepared and willing to assume a committed role towards responsible action. This involves conceiving, undertaking, and leading innovative projects, both within existing companies and institutions and by creating new entities (Fuentes et al., 2013).

Accordingly, it is necessary for universities to enable and promote innovative processes and entrepreneurial attitudes. According to Fuentes et al. (2013), Empirical evidence from several countries suggests that entrepreneurial start-up support activities

fosters a cultural transformation —namely, the social acceptance of the entrepreneurial role—and leads to better training, equipping entrepreneurs with superior skills and competencies compared to their peers in managerial performance.

Therefore, policies that tertiary education institutions can adopt to promote entrepreneurship include, among others: support for technologically innovative projects, promotion of university spin-offs, academic support, participation in competitions where winners receive various types of backing, courses in which business ideas can be developed and applied, workshops and projects on entrepreneurship, and similar initiatives. Thus, universities have positioned themselves at the forefront of this phenomenon out of their own interest in producing value-creating projects and initiatives, not only to respond to their students' and society's needs, but also as a social duty (Damián, 2020).

University involvement in entrepreneurship has grown significantly, particularly in times marked by constant financial difficulties and imminent economic recession, the importance of providing tools to strengthen future economic-administrative graduates´ competencies in a highly competitive market has become evident.

Consequently, universities have a high duty towards their communities and seek to link their teaching and research activities socially by contributing, through transfer, to the transformation of organizations to become more entrepreneurial and innovative. Numerous initiatives oriented towards entrepreneurship have been observed in the university system in recent years. This is why Higher Education Institutions (HEIs), through the use of various mechanisms, such as: teaching methodologies, entrepreneurship courses, university awards, reference models, etcetera, serve as a significant sustenance for entrepreneurship backing systems (Guerrero et al., 2016).

Entrepreneur

The word *"entrepreneur"* derives from French root "*entreprendre*", with the denotation to undertake (Palanivelu & Manikandan, 2015). Linked to its francophone origin, the term "*entrepreneur*" has been synonymous with businessman, promoter of economic and social development (Azqueta, 2017).

Today's entrepreneurs humanize their environment, acting as innovators and catalysts for change. Their efforts create value that benefits individuals, organizations, the economy, and society at large. Beyond economic growth, they drive meaningful progress—prioritizing human well-being first, then extending their impact to broader societal transformation (Azqueta, 2017; Morales-Rodríguez et al., 2018)."

Later, Thornton (2019) defined the term as applying to any person taking part in private business, counting agroindustry, production and commerce, in which there is insecurity about future market prices, calling this figure a businessperson also.

Subramani (2020) defines an entrepreneur as a motivated, visionary, speculative and unafraid individual with versatile skills. These skills enable them to identify, evaluate, and seize promising yet risky promising market and economic opportunities by strategically managing limited resources, capital, and innovative ventures to address unmet needs. For Gonzalez et al., (2024) it is simply the act of creation of a new business.

As a result, universities have been drawn to entrepreneurship, as their goal is not only to educate for the practice of a profession, but also to promote attitudes and values in their graduates that foster individual creativity and lead to innovative and productive approaches to job creation sustainable employment. Entrepreneurship education expands student's capability to start a venture in the future. Entrepreneurial competence gained through quaternary entrepreneurship education will affect their entrepreneurial intention. Therefore, this standards and viewpoints presence is relevant in all professions, not exclusively in those linked to business and economic fields, and in all cases, it is essential for entrepreneurs to embody ethical leadership (Azqueta, 2017; Kaptein, 2019 and Lv, et al, 2021).

The importance of the term entrepreneur is such, that in some countries, like Colombia, it has been included in the legal domain and has been conceptualized as: a person with the potential to innovate, conceived as the ability to create goods and services in a creative, methodical, ethical, responsible and effective manner (Ministerio de Ciencia Tecnología e Innovación, 2006 and Albórnoz et al., 2017).

In Mexico, the term has not yet been formally integrated into national legislation, and the concept is currently included in a bill: An entrepreneur is someone who has the potential to identify and recognize a business opportunity. Based on this, they obtain and use resources to carry out a business project (Enríquez, 2020).

Lastly, Álvarez (2021) identifies two classes of entrepreneurs: a) individuals driven by their necessity to survive, often starting businesses focused on trade, goods, services, or intermediation; and b) idealistic people who envision and strive to make businesses prosper, vision shared with Wathanakom *et al* (2020). In both cases entrepreneurship is viewed as an additional source of wealth, with the expectation that over time, entrepreneurs will see their vision or venture fulfilled in which they can use their creativity to make a change (Wathanakom, Khlaisang & Songkram, 2020).

Therefore, entrepreneurship is the process of creating something new and assuming the risks and rewards. Entrepreneurship is a way of thinking, pondering and acting that focuses on detecting opportunities. With a global vision, guided by impartial leadership and the management of calculated risk, it aims for value and wealth creation that benefit the organization, the economy and society (Ministerio de Ciencia Tecnología e Innovación, 2006 and Albórnoz et al., 2017).

Entrepreneurship, or entrepreneurial activity, is carried out by individuals known as entrepreneurs, who independently take on the risks and uncertainties of the viability of the project to create their own business. They start from the discovery, evaluation and exploitation of opportunities, aiming to achieve certain economic, political, social, among other objectives through administrative and logistical activities. Their goal is to introduce new goods and services, organizational forms and processes. These often exhibit innovative characteristics (Amador et al., 2020; Campuzano-Vásquez & Cedillo-Chalaco, 2021 and Castillo et al., 2021).

However, in Mexico, entrepreneurship is defined in a bill as: the ability to start a project from scratch, an initiative or a business, through a set of activities requiring a combination of technical, human, managerial, and entrepreneurial competencies, whose performance requires a diverse set of skills (Enriquez, 2020).

Entrepreneurial profile

Hence, if there is a need for entrepreneurs, this profile must be encouraged in university classrooms (Corrales, 2022). Entrepreneurial profile can be defined as a set of characteristics, qualities, interests, knowledge, skills and specific personal and professional attitudes necessary to implement an idea and thus achieve successful attainment of their objectives (Gómez et al., 2018; BBVA, 2023; and Sánchez, 2023).

Higher education institutions (HEIs) as institutes that shape future professionals play a prominent role within the entrepreneurship ecosystem, as they promote critical factors that influence the entrepreneurial profile in students through the inclusion of topics such as innovation and continuous improvement in their academic curricula (Real et al., 2021).

The training of entrepreneurs cannot be conceived without a key element: teachers, whom the European Commission (2021) refers as entrepreneurial professors. They should be charismatic, open-minded, confident, flexible, responsible, but capable of defying policies if conditions warrant it. They are able to listen, capitalize on ideas, and communicate them effectively. They work in teams and seek to narrow the gap between school and business, working with external experts and focusing on real-life

experiences. Additionally, they consider the financial aspect of each stage. In short, the entrepreneurial professor is more of a coach than a teacher (Comisión Europea, 2021).

At this point, it is feasible to make the following hypotheses:

H1: An individual's entrepreneurial identity is shaped by the interplay of personal characteristics, environmental factors, and educational exposure, which collectively enhance their capacity to innovate and contribute to economic and social development.

H2: The integration of entrepreneurial training into higher education curricula positively influences students' entrepreneurial intention, thereby increasing their propensity to pursue entrepreneurial ventures.

H3: When professors adopt an entrepreneurial teaching approach—prioritizing mentorship and facilitation over traditional lecturing—they foster a stronger entrepreneurial mindset and better prepare students to address business challenges.

This work aims to contribute to the improvement of undergraduate students' entrepreneurial profile at a business school in a public university in the state of Yucatán, México. The foundation is that the better their entrepreneurial training, the more effectively they will be able to manage the economic units they establish.

Furthermore, mapping such perceptions and developing a diagnosis on how students themselves perceive their entrepreneurial training is vital to explore what succeeds from the practices employed so far and inform and innovate future decision-making by the university administration, with the aim of improving the program.

The general purpose of this work is to identify the differences among undergraduate business school programs students' entrepreneurial profiles at a public university in the state of Yucatán, Mexico.

This work specific objectives are to identify differences in undergraduate business students' entrepreneurial profiles, by analysing variations in their: a) perceived institutional support; b) entrepreneurial intention; c) psychological traits; d) attitudes toward entrepreneurship; e) personality characteristics; and access to academic support. These factors are examined for their influence on shaping students' entrepreneurial profiles.

Materials and methods

This research adopted a quantitative, cross-sectional design.

This was a descriptive study in which the arithmetic mean was used for comparison and determination of the entrepreneurial profile. These statistical practices are designed to identify specific tendencies in the data. The result of applying these

techniques is a set of interpretable data is information to interpret because it is challenging for individuals to discern patterns within large datasets (Cooksey, 2020). The arithmetic mean, also named as arithmetic average, is the sum of all the values in a list of numerical values divided by the number of items in the record (Eurostat, n.d.).

A cluster analysis was also applied to the data. This is a statistical technique used to put together a set of objects (like variables) into groups based on their similarities. The aim is to guarantee that variables within the same cluster are more alike to each other than to those in other categories.

The study used intrinsic and extrinsic factors as axes to analyze students' agreement levels. The extrinsic dimension included university support (e.g., promoting entrepreneurship, offering related courses, and connecting students with society) and faculty influence (e.g., mentorship, motivation, and providing entrepreneurial tools). The intrinsic dimension covered personal traits, such as entrepreneurial interest, willingness to take risks, problem-solving skills, creativity, initiative, and a commitment to professional growth. These two axes helped distinguish how external support and individual attitudes shape students' entrepreneurial engagement.

The clustering process depended on similarity or distance measures, such as Euclidean distance and correlation coefficients. A hierarchical clustering method was employed using an agglomerative approach that successively merges similar groups into a dendrogram. The Ward method was employed to minimize within-cluster variance, making this classification reliable for identifying distinct groups in the data (Backhaus et al., 2023).

The studied population consisted of students from the four undergraduate programs offered at the business school of a public university in the state of Yucatán, Mexico. The sample was determined using the general formula for finite samples, and the population frame included students enrolled in the first and last semesters of the Spring 2021 academic term. In the “Public Accounting” program, there were 1,557 enrolled students, of which 138 were from the first semesters and 107 from the last semesters. In the “Management” program, there were 496 enrolled students, of which 49 were from the first semesters and 21 from the last semesters. In “Marketing and International Business”, there were 618 students, of which 45 were from the first semesters and 31 from the last semesters. Finally, in “Information Technology Management”, there were 177 enrolled students, of which 17 were from the first semesters and 4 from the last semesters (Alonso-Novelo et al., 2022).

Data were collected through a survey technique, using a questionnaire titled "*The Entrepreneurial Profile of University Students in Mexico*" ("*El perfil emprendedor de los estudiantes universitarios en México"* in Spanish*).* This questionnaire, adapted by Medina et al. (2022) was provided in electronic format via a survey management software called Google Forms®, hosted on a cloud service hosted on Google Drive®. A total of 618 valid responses were recorded, surpassing the sample obtained by the formula, of which 399 were from "Public Accounting" students, 105 from "Marketing and International Business" undergraduates, 85 from "Management" scholars, and 29 from "Information Technology Management" students, achieving a representative sample (Alonso-Novelo et al., 2022). For this study purposes, limitations of space and time considered were students attending a public university business school located in the city of Mérida, municipality of Mérida, Yucatán, during 2021.

In the development of this study, information was obtained from primary sources. A non-probability convenience sampling method was employed, as it is a technique where the subjects of the study are selected based on convenient accessibility and proximity to conduct the survey. One key limitation of non-probability convenience sampling is its potential lack of representativeness, as participants are selected based on availability and willingness rather than random selection, which may introduce sampling bias and limit generalizability (Etikan et al., 2016). Additionally, the method is susceptible to self-selection bias, where individuals with strong opinions or specific characteristics may be overrepresented, skewing results (Taherdoost, 2016). The absence of randomization also increases the risk of sampling error, making it difficult to infer causal relationships or apply findings to broader populations (Bornstein et al., 2013). While convenient and cost-effective, these constraints necessitate cautious interpretation of results, particularly in studies aiming for external validity.

The reliability of the research instrument—a 7-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree)—was assessed using Cronbach's α coefficient calculated in Microsoft Excel®. Internal consistency analysis results, overall and by dimension, are presented in Table 1.

Table 1. Instrument reliability analysis results.

Dimension	Cronbach's α value
Institutional backing	*0.9602*
Entrepreneurial intention	*0.9666*
Psychological profile	*0.9383*
Entrepreneurial attitude	*0.9433*
Personality profile	*0.9598*
Academic encouragement	*0.9392*
Overall	*0.9793*

Source: Data taken from software-based instrument (2021).

A Cronbach's α of .9793 suggests a high internal consistency, denoting that the items within the questionnaire are extremely correlated and quantify the same construct with minimal measurement error. When a scale has great reliability, it suggests that responses across items are highly stable and dependable. However, while high reliability is expected, values over 0.95 may indicate that some items in the scale are very similar (potential redundancy). In conclusion, with such a prominent α, the instrument can be securely used for measuring the proposed construct in similar populations, supposing other validity criteria are met (Tavakol & Dennick, 2011).

As mentioned previously, data were subject of a clustering process. The results for key statistical tests used to assess the suitability of the data for factor analysis where, on one side, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy, rating 0.976. The KMO statistic ranges from 0 to 1, where values closer to 1 indicate excellent suitability for factor analysis. A KMO value over 0.9 (as in this case 0.976) is considered marvellous (Kaiser, 1974), signifying that the sample is highly acceptable for factor analysis. On the other hand, Bartlett's Test of Sphericity was employed. This analysis explores whether the correlation matrix is significantly different from an identity matrix -where variables are uncorrelated. As seen in table 2, a high Chi-Square value, in this case Approximate Chi-Square ranked 32,217.139 and a Significance (sig) p-value < 0.001 indicate that the correlations between variables are statistically significant, supporting the use of factor analysis (Rossoni, Engelbert & Bellegard, 2016).

Table *2*. Factor Analysis.

Kaiser-Meyer-Olkin (KMO) and Bartlett's Tests		
KMO Measure of Sampling Adequacy		0.976
Bartlett's Test of Sphericity	Approx. Chi-Square	32217.139
	df	666
	Sig	<.001

Source: Data taken from software-based instrument (2021)

Note. df = degrees of freedom; Sig = Significance

Degrees of Freedom (df) obtained in this test were 666, are considered very High df greater than 500 or even 1,000 are often seen in multivariate tests. A high df suggests that a large number of variables are being analysed leading to more robust statistical power, meaning small variances may still yield statistically significant results. Implications of a high df are: a) greater stability since several variables usually conduct to more stable estimates; b) more complexity: requiring vigilant interpretation to avoid overfitting, and; c) simplicity in significance achievement considering that small differences detection is more likely and practical significance should also be considered (Rossoni, Engelbert & Bellegard, 2016).

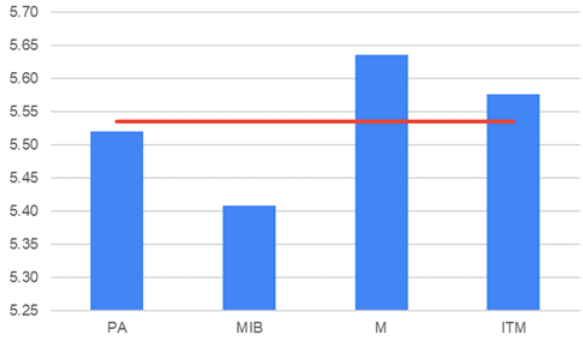
Wrapping-up, the high KMO value (0.976) implies that the data is compatible for factor analysis, as the sample size and correlations are suitable. The significant Bartlett's Test ($p < 0.001$) corroborates that the correlation matrix is not an identity matrix, indicating that the variables share sufficient variance for factor extraction. Based on these results, proceeding with factor analysis is appropriate and can provide important insights from the records.

From the total number of valid responses, 59.5% are pursuing a degree in "Public Accounting", 18.4% in "Marketing and International Business", 17% in "Management", and 5.1% in "Information Technology Management". Of these, 60% are in the early semesters and 40% are in final semesters. Additionally, 56% are women and 44% are men. It is also known that 32% have worked in positions in family businesses and 29% in private companies, in both cases, development of entrepreneurial attitudes was encouraged. Closing, 49% indicated that they have taken or are currently taking courses (lectures, workshops, electives, among others) where entrepreneurial skills are developed.

Results

As shown in Figure 1, the average entrepreneurial profile is 5.54/7.00. Above this indicator is the perception of "Management" (M) and "Information Technology Management" (ITM) students, who have a higher entrepreneurial spirit, with scores of 5.84/7 and 5.58/7 respectively. Conversely, undergraduates pursuing degrees in "Public Accounting" (PA), with 5.52/7 and "Marketing and International Business" (MIB), measuring 5.41/7, exhibit a lower entrepreneurial profile, which is below the average.

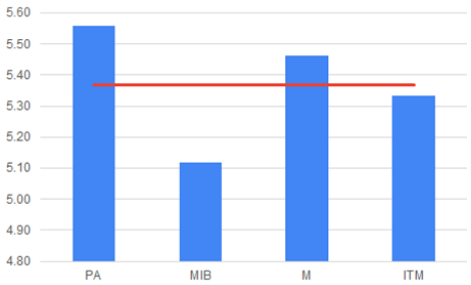
Figure 1. Overall vs. undergraduate specific entrepreneurial profile



Source: Authors' elaboration.

According to Figure 2, the perception of a greater institutional backing for entrepreneurship is notably higher among students of "Public Accounting" and "Management", scoring 5.56/7 and 5.46/7 respectively.

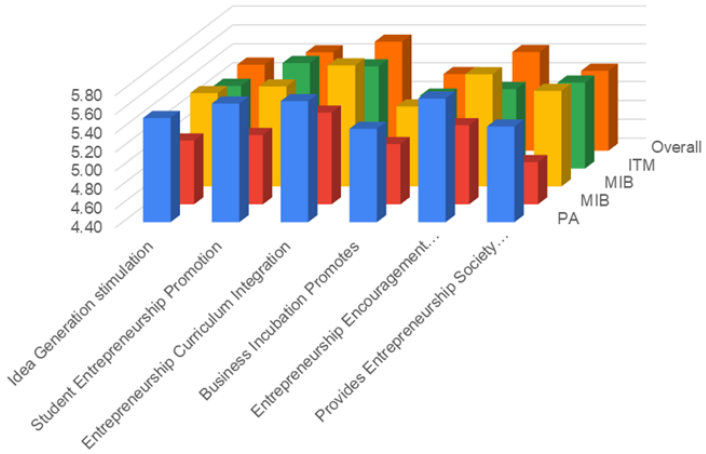
Figure 2. Overall vs study program institutional backing



Note: Authors' elaboration.

Below the average score of 5.37/7 classify "Information Technology Management" (5.33/7) and "Marketing and International Business" students, notching 5.12/7.

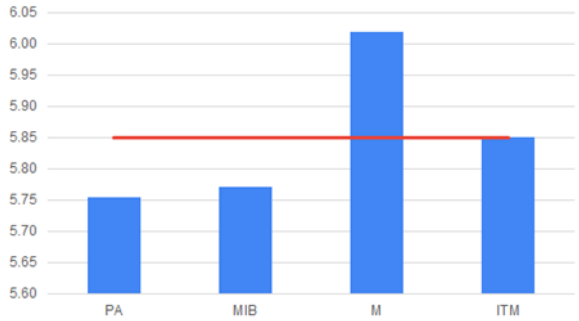
Figure 3. Institutional backing by indicator and study program



Source: Authors' elaboration.

In Figure 3, "Marketing and International Business" students are identified as the group perceiving the lowest Institutional Support across all indicators. There is only one exception, in the indicator entrepreneurship encouragement Recognition, where "Information Technology Management" students also have a very low perception, both scoring 5.24/7. "Public Accounting" undergraduates consistently have the highest level of institutional support awareness across all items. Additionally, "Management" students show consistent perceptions regarding indicators such as: integrating into curriculum entrepreneurship courses and workshops (5.68/7) and providing entrepreneurs society linking (5.41/7).

Figure 4. Overall vs study program entrepreneurial intention

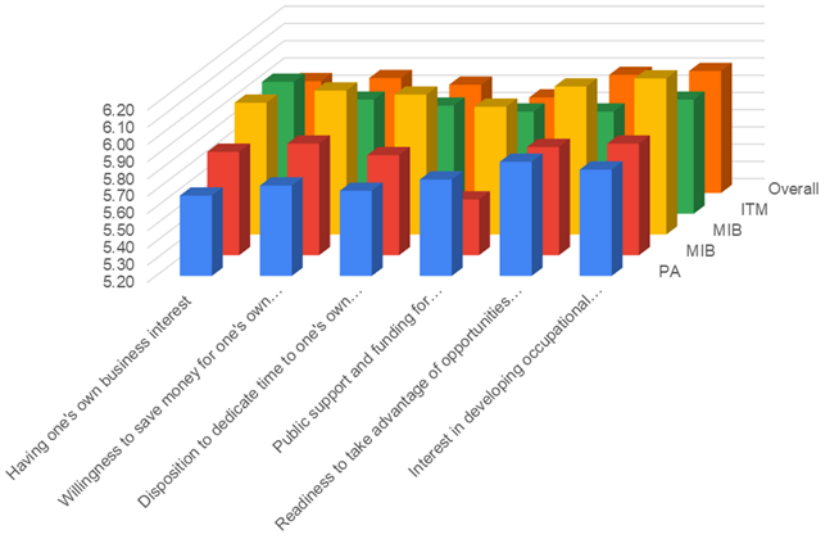


Source: Authors' elaboration.

In Figure 4, the highest entrepreneurial intention is identified among "Management" students, gaining 6.02/7. "Information Technology Management" scholars have an 5.85/7 entrepreneurial intention, matching the average. Below this amount appear "Marketing and International Business" students with a 5.77/7 mark, and "Public Accounting" undergraduates with 5.75/7.

The entrepreneurial intention concept is covered by the following elements: 1) Interest in starting one's own business.; 2) Willingness to save money for one's own business.; 3) Disposition to dedicate time to one's own business creation.; 4) Awareness of public support and funding mechanisms for entrepreneurship.; 5) Readiness to take advantage of opportunities when they arise; and 6) interest in developing occupational entrepreneurial attitudes.

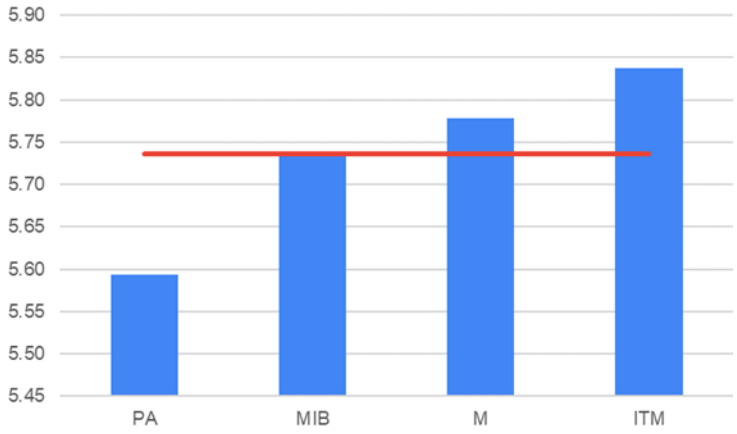
Figure 5. Entrepreneurial intention by indicator and study program



Source: Authors' elaboration.

In Figure 5, it is evident that in five out of six indicators, "Management" students exhibit the highest entrepreneurial intention, except for "interest in having their own business" item, where "Information Technology Management" students show outstanding ambitions with a score of 5.97/7. However, they show the lowest readiness to take advantage of opportunities when they arise (5.79/7). Those who report the least knowledge of public support and funding for entrepreneurship (5.52/7) are "Marketing and International Business" students. In the other four elements, "Public Accounting" students report the lowest scores in the remaining four elements.

Figure 6. Overall vs study program Psychological profile

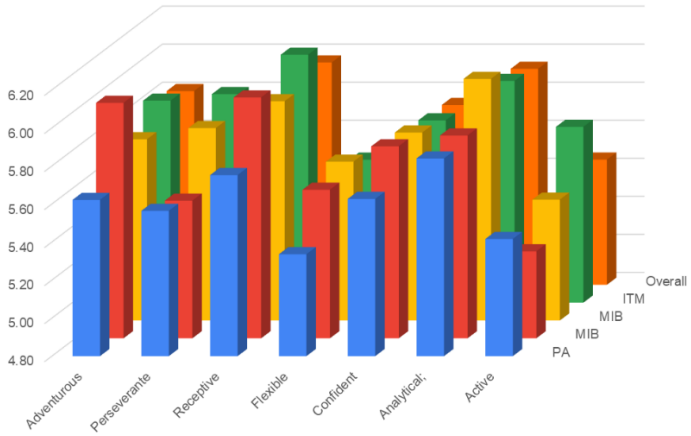


Source: Authors' elaboration.

As indicated in Figure 6, "Information Technology Management" psychological profile (5.84 /7) is the highest, followed by "Management undergraduates", who score 5.78/7. Both marks are above the average of 5.74/7. Slightly below the average are "Marketing and International Business" students, with a 5.73/7 assessment. Finally, "Public Accounting" students have the lowest tally, at 5.59/7.

Psychological profile includes the following seven psychological traits: 1) Adventurous; 2) Perseverant; 3) Receptive; 4) Flexible; 5) Confident; 6) Analytical; and 7) Active.

Figure 7. Indicator and study program Psychological Profile



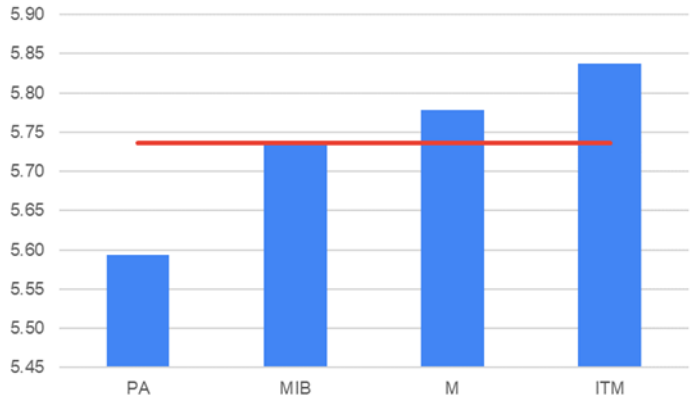
Source: Authors' elaboration.

In Figure 7, it is evident that "Marketing and International Business" students score the highest in traits as being adventurous, flexible, and confident, with 6.04/7, 5.58/7, and 5.81/7, respectively. "Information Technology Management" undergraduates scores excel in traits such as perseverance, receptiveness, and analytic thinking, with 5.90/7, 6.10/7, and 5.70/7, correspondingly. Lastly, "Management" students present the highest values in the analytical attribute with a 6.07/7 grade. On the other hand, "Marketing and

International Business" students appear to be the least perseverant, scoring 5.52/7, while "Public Accounting" students report limited psychological profiles for entrepreneurship in the other six factors.

In Figure 8, entrepreneurial attitude is analysed in the context of business school undergraduates.

Figure 8. Overall vs study program Entrepreneurial attitude

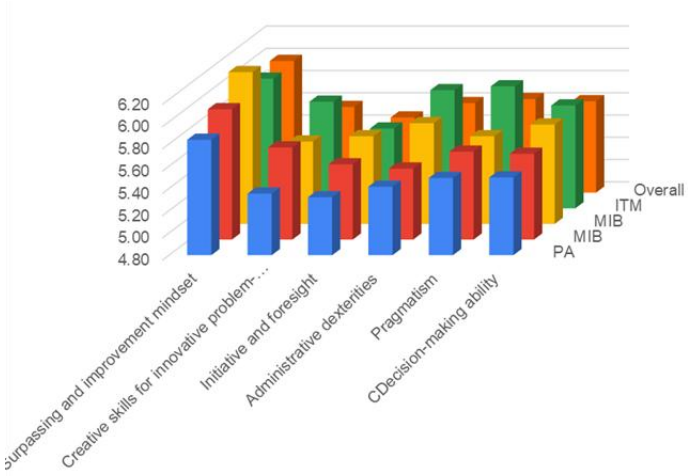


Source: Authors' elaboration.

As stated in Figure 8, the lowest Entrepreneurial Attitude is reported by Public Accounting students (5.49/7). Those in Marketing and International Business score slightly below the average of 5.65/7, grading 5.61/7. Above average are Management students (5.71/7), followed by Information Technology Management students, who have the highest score at 5.79/7.

Entrepreneurial attitude incorporates six characteristics that an aspiring entrepreneur should possess: 1) Surpassing and improvement mindset; 2) Creative skills for innovative problem-solving; 3) Initiative and foresight; 4) Administrative dexterities; 5) Pragmatism; and 6) Decision-making ability.

Figure 9. Indicator and study program Entrepreneurial attitude

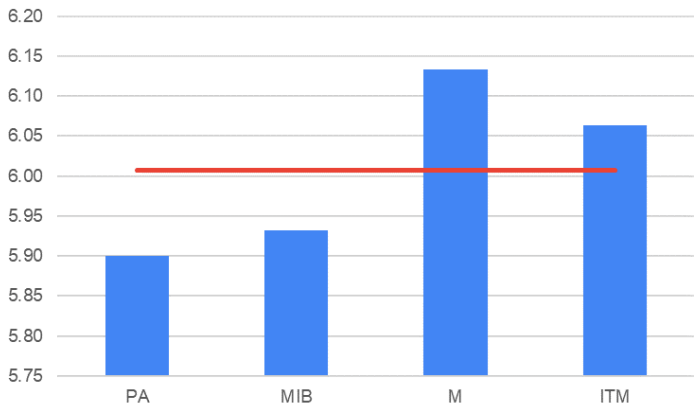


Source: Authors' elaboration

Figure 9 reveals that, relating to entrepreneurial attitude, "Public Accounting" students consistently report the lowest scores in all factors. Concerning surpassing and improvement mindset (6.16/7) and initiative and foresight (5.59/7) attributes, "Management" students stand out with the highest scores. Meanwhile, "Information Technology Management" scholars surpass others in the factors of creative skills for innovative problem-solving (5.76/7), administrative dexterities (5.86/7), pragmatism (5.90/7), and decision-making ability (5.72/7).

As highlighted in Figure 10, "Management" students (6.13/7) have the highest entrepreneurial personality profile, followed by those enrolled in "Information Technology Management" (6.06/7). In contrast, students in "Public Accounting" (5.90/7) and "Marketing and International Business" (5.93/7) have a personality profile below average (6.01/7).

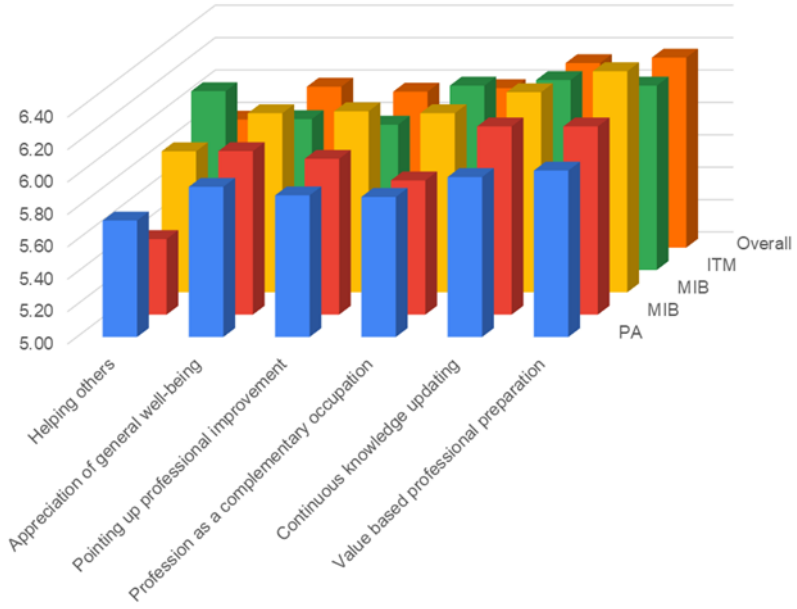
Figure 10. Overall vs study program Personality profile



Source: Authors' elaboration.

Entrepreneurial personality profile encompasses six distinct traits that an aspiring business owner should exhibit: 1) helping others; 2) appreciation of general well-being; 3) emphasizing professional development; 4) career as a complementary professional activity; 5) continuous knowledge updating; and 6) value based professional preparation.

Figure 11. Indicator and study program Personality profile.

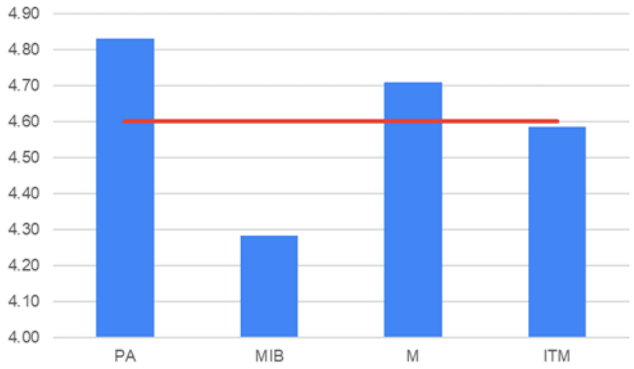


Source: Authors' elaboration.

Figure 11 specifies that, apropos personality profile, "Information Technology Management" students outperform others in elements such as: appreciation of general well-being (6.11/7); pointing up professional improvement (6.12/7); continuous knowledge updating (6.24/7); and emphasizing professional training based on values (6.36/7). In terms of helping others (6.10/7) and being an activity that complements their lives (6.14/7), "Information Technology Management" students again show the best signs of this temperament.

In the segment with lower ratings, "Marketing and International Business" students place little value on entrepreneurship as a means to help others (5.47) and their profession as a balancing occupation (5.83/7). "Public Accounting" and "Information Technology Management" scholars rate their predisposition to seek general well-being as low, with 5.83/7. Finally, "Public Accounting" undergraduates perceive their potential for professional growth as somewhat limited, rating their ability to value professional improvement, update their knowledge, and adhere to value-based instruction at 5.87/7, 5.99/7, and 6.03/7, respectively.

Figure 12. Overall vs study program Academic encouragement

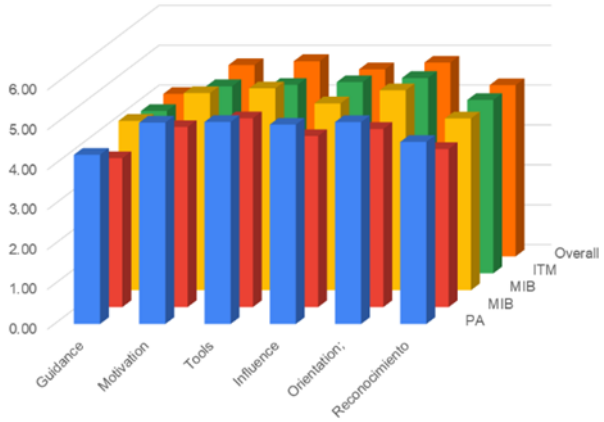


Source: Authors' elaboration.

As highlighted in Figure 12, those studying "Public Accounting" perceive the highest Academic encouragement (4.83/7), followed by "Management" scholars (4.71/7). Inversely, entrepreneurial academic encouragement is observed to be below average (4.60/7) by those studying "Information Technology Management" (4.59/7) and "Marketing and International Business" (4.28/7).

Academic encouragement covers six elements evaluated by university students: 1) guidance; 2) motivation; 3) tools; 4) influence; 5) orientation; and 6) recognition.

Figure 13. Indicator and study program Academic encouragement



Source: Authors' elaboration

Figure 13, shows those who perceive least academic encouragement are from students enrolled in the 2Marketing and International Business" program, who rate 5 of the 6 elements with the lowest expectation, However, entrepreneurial tools provided by professors to these students ranked high. In the case of "Information Technology Management" students, they showed the lowest grades with 4.74/7. Those who have a higher perception are "Public Accounting" students, who score the highest ratings to four

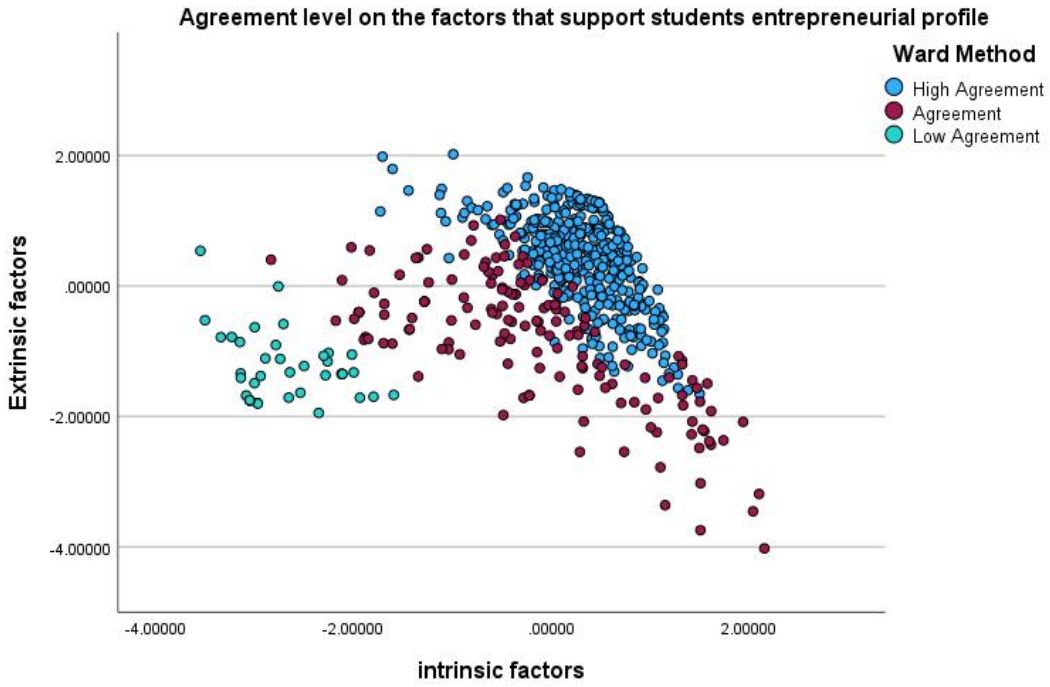
out of six elements, except for guidance (4.25/7) and tools (5.06/7), where the perception of those in “Management” degree stands out.

The scatter diagram, shown in Figure 14, exemplifies the agreement levels on the factors that support students' entrepreneurial profiles, via cluster analysis to categorize individuals based on intrinsic and extrinsic factors.

Those who perceive least academic encouragement are from students enrolled in the Marketing and International Business program, who rate 5 of the 6 elements with the lowest perception, However, entrepreneurial tools provided by professors to these students ranked high. In the case of Information Technology Management students, they showed the lowest grades with 4.74/7. Those who have a higher perception are Public Accounting students, who score the highest ratings to four out of six elements, except for Guidance (4.25) and Tools (5.06), where the perception of those in Management degree stands out.

The scatter diagram, shown in Figure 14, exemplifies the agreement levels on the factors that support students' entrepreneurial profiles, utilizing cluster analysis to categorize individuals based on intrinsic and extrinsic factors.

Figure 14. Entrepreneurial support factor agreement



Source: Authors’ elaboration

Prior to clustering, the data were assessed for their suitability using factor analysis diagnostics. The KMO measure of sampling adequacy yielded a value of 0.976, which is classified as marvellous (Kaiser, 1974), indicating excellent sampling adequacy and suggesting that the data are highly appropriate for factor extraction. Additionally,

Bartlett's Test of Sphericity confirmed the presence of statistically significant correlations among the variables, with an Approximate Chi-Square of 32,217.139, df = 666, and $p < 0.001$, thus supporting the use of factor analysis.

This statistical foundation justifies proceeding with cluster analysis, which revealed a three-group segmentation of students based on the alignment of entrepreneurial factors: The first one reveal students with high agreement -represented with blue circles- which are concentrated in the upper-right section, signifying undergraduates with prominent intrinsic and extrinsic factor alignment supporting entrepreneurial tendencies. The second group show scholars with an average level of agreement -embodied by purple circles- who are spread in the mid-range, presenting moderate consonance with entrepreneurial factors. Finally, students showing low agreement degrees –in cyan circles- are scattered mostly in the lower-left area, denoting undergraduates with minimal alignment in both intrinsic and extrinsic factors.

The spatial distribution suggests a positive correlation between intrinsic and extrinsic factors, insinuating that students who exhibit strong intrinsic drives, tend to perceive as well strong external support. The density and concentration of Cluster 1 implies homogeneity among high-agreement students who strongly support entrepreneurial factors.

In contrast to the low-agreement group, Cluster 3, which is more dispersed, showing greater variability and possible external barriers influencing entrepreneurial orientation.

Overall, this clustering approach—preceded by robust factor analysis validation—offers valuable insights into the segmentation of student profiles. These findings are instrumental for designing targeted educational interventions aimed at fostering entrepreneurial skills, particularly by addressing the motivational disparities evident among lower-agreement groups, which are more diverse, signalling different influences affecting their entrepreneurial orientation.

Discussion

The findings of this study offer significant insights into the entrepreneurial profile of undergraduate students at a business school in a public university in Yucatán, Mexico. The results indicate that, on average, students possess a moderately high entrepreneurial profile. However, notable variations exist among different programs, with "Management" and "Information Technology Management" students exhibiting a

stronger entrepreneurial orientation compared to those in “Public Accounting” and “Marketing and International Business” programs.

One key aspect to emphasise is the high levels entrepreneurial intention among “Management” students. Their high perception of institutional support, particularly in integrating entrepreneurship courses into the curriculum and fostering societal connections, may contribute to this elevated entrepreneurial drive. The “Information Technology Management” scholars, while displaying high entrepreneurial intention and psychological traits, show the lowest readiness to seize opportunities, indicating a potential gap between intention and action that could be addressed through targeted educational interventions.

To close this gap, educational programs can focus on developing opportunity recognition and exploitation skills through practical, hands-on experiences. Entrepreneurship education needs to innovate from traditional lecture-driven instruction to pro-active approaches that replicate the dynamics of real-world entrepreneurial environments (Neck & Greene, 2011). For example, according to Fayolle and Gailly (2015), implementing active learning opportunities like: start-up incubators, mentorship programs, or experiential learning modules can significantly improve students’ ability to translate intention into action.

Conversely, “Public Accounting” and “Marketing and International Business” undergraduates demonstrate a lower entrepreneurial profile, which aligns with their relatively weaker perceptions of institutional support and entrepreneurial attitude. Notably, those specializing in “Marketing and International Business” report the lowest perception of institutional support across most indicators, underscoring the value of enhanced support structures within their academic programs. Additionally, “Public Accounting” undergraduates exhibit the lowest entrepreneurial intention across four of the six measured elements, reinforcing the need for curriculum adjustments that foster a more entrepreneurial mindset.

When analyzing entrepreneurial attitudes, individuals studying “Information Technology Management” stand out in attributes such as creativity, administrative skills, pragmatism, and decision-making, while “Management” students excel in surpassing challenges and demonstrating foresight.

These findings suggest that different academic disciplines nurture distinct entrepreneurial competencies, which universities should leverage by tailoring support mechanisms accordingly.

The entrepreneurial personality profile, a key determinant of entrepreneurial potential, further supports these observations. “Management” students exhibit the highest scores, followed closely by “Information Technology Management” undergraduates. This finding aligns with prior international studies, such as Fuentes et al. (2013) in Spain, where latent entrepreneurs were identified as committed, independent, and flexible. Similarly, Albornoz et al. (2017) in Colombia and Campuzano-Vásquez and Cedillo-Chalaco (2021) in Ecuador reported that entrepreneurial success is associated with self-discipline, adaptability, and confidence, traits that are also prevalent among the Yucatecan students surveyed in this study.

Support received from academic staff plays a critical role in shaping students' entrepreneurial perceptions. Students enrolled in the “Public Accounting” major report the highest level of academic encouragement, followed by “Management” students. In contrast, “Information Technology Management” and “Marketing and International Business” undergraduates rank below average in this domain, which could explain their relatively lower institutional support perception. This discrepancy suggests that academic programs must strengthen guidance, motivation, and recognition elements to foster a more entrepreneurship-friendly environment across all disciplines.

Cluster analysis further reinforces these findings by segmenting students into three groups: those with high, average, and low entrepreneurial agreement. Students in the high agreement cluster exhibit strong intrinsic and extrinsic motivation, aligning with studies in Chile (Soria-Barreto et al., 2016) and Brazil (Saboia & Martín, 2006), which emphasize that entrepreneurial success is linked to personal characteristics and self-evaluation abilities. In contrast, students in the lower agreement cluster exhibit diverse barriers to entrepreneurship, highlighting the need for customized interventions that address their specific challenges. The notable variability observed within the lower agreement cluster suggests that these students are influenced by a combination of barriers rather than a single dominant factor. This underlines the importance of tailored support strategies to address their specific needs and foster a more entrepreneurial mindset.

These barriers can be: a) economic, like limited access to financial resources or difficulty obtaining start-up capital; b) institutional, such as insufficient entrepreneurial training, lack of mentorship programs, or limited exposure to entrepreneurship courses; c) sociocultural, students experiencing low social encouragement for entrepreneurship, stemming from societal norms that prioritize stable employment over business creation, or from a lack of visible entrepreneurial role models, and d) psychological as fear of failure or lack of confidence.

When comparing the results to previous studies conducted nationally and internationally, it is evident that UADY students demonstrate a relatively strong entrepreneurial profile, exceeding the national average reported by reported by Real et al. (2021). However, their entrepreneurial perception remains lower than that of students from Universidad de Sonora, suggesting room for improvement. Internationally, findings show consistency with international findings on entrepreneurial traits in Spain, Colombia, Ecuador, and Brazil, confirming that entrepreneurial traits such as innovation, adaptability, and motivation are universally influential in shaping entrepreneurial profiles.

These findings provide critical insights for university administrators and policymakers seeking to enhance entrepreneurial education: a) strengthening institutional support, particularly for "Public Accounting" and "Marketing and International Business" students, b) refining curriculum design, and c) increasing academic encouragement can help foster a more robust entrepreneurial culture.

Additionally, addressing the intention-action gap observed among "Information Technology Management" undergraduates through experiential learning —such as business simulation projects or real-life entrepreneurial challenges—and real-world business opportunities can enhance entrepreneurial outcomes. Future research should explore longitudinal data to assess the long-term impact of these interventions on students' entrepreneurial success post-graduation.

Based on these results, this study meets its objective of providing a comprehensive diagnosis of students' entrepreneurial profiles, identifying variations among different programs and highlighting key factors influencing their entrepreneurial development. By mapping students' perceptions of their entrepreneurial training, the study provides valuable insights into successful educational practices and areas needing improvement. These findings serve as an evidence-based foundation for the university administration to make informed decisions and innovate entrepreneurial education strategies. Ultimately, the study contributes to the enhancement of undergraduate students' entrepreneurial profiles by shedding light on strengths and weaknesses in their training, setting the stage for a more entrepreneurial-ready generation of professionals.

Conclusion

This study identifies key differences in entrepreneurial profiles among undergraduate students at a business school in Yucatán, Mexico. The findings provide valuable insights into how students perceive their entrepreneurial abilities, institutional support, and academic encouragement, which aligns with the general objective of the research. By mapping these perceptions, the study contributes to understand what elements of the current entrepreneurial training are effective and where improvements are needed. These results serve as a basis for refining the university's approach to fostering entrepreneurial skills, supporting decision-making for future curriculum enhancements.

Regarding the specific objectives, several conclusions can be drawn. First, institutional backing for entrepreneurship is perceived differently across programs, with "Public Accounting" and "Management" students reported the highest perceived institutional support, while "Information Technology Management" and "Marketing and International Business" students report a lower perception. These findings suggest a need for more uniform institutional efforts in fostering entrepreneurship across all academic programs.

Second, entrepreneurial intention varies among students, with "Management" undergraduates showing the highest motivation to pursue entrepreneurial activities. Although "Information Technology Management" students display similar levels of intent, "Marketing and International Business", as well as "Public Accounting" scholars, report lower entrepreneurial intentions. These variations highlight the necessity of targeted initiatives to enhance entrepreneurial motivation among students with lower intent such as mentorship programs, student-led businesses, business plan competitions or spaces known as hackspace, hacklab, makerspace or hackerspace.

Third, psychological profile assessments indicate that "Information Technology Management" and "Management" students demonstrate the highest congruence with entrepreneurial traits, while "Marketing and International Business", along with "Public Accounting" undergraduates, report slightly lower. This finding underscores the importance of reinforcing psychological traits associated with entrepreneurship, particularly among students with weaker profiles.

Fourth, entrepreneurial attitude assessments reveal that scholars in "Information Technology Management" and "Management" demonstrate display more developed entrepreneurial attitudes, whereas "Public Accounting" and "Marketing and International Business" students exhibit lower levels of initiative and problem-solving skills. This

suggests that additional strategies should be implemented to encourage a proactive and innovative approach to entrepreneurship across all programs.

Fifth, personality profile findings indicate that “Management” exhibit the most robust entrepreneurial characteristics, closely followed by “Information Technology Management” students. Meanwhile, “Public Accounting” and “Marketing and International Business” students display a weaker alignment with entrepreneurial traits. These differences underscore the importance of personality traits that foster entrepreneurship among students with lower results.

Lastly, academic encouragement emerges as an area requiring attention, with “Public Accounting” undergraduates perceiving the highest level of support and “Marketing and International Business” students reporting the lowest. Given that pedagogical reinforcement plays a crucial role in shaping students' entrepreneurial perspectives, addressing these disparities should be a priority for the institution in shaping perceptions and fostering motivation.

Cluster analysis further revealed three distinct groups based on agreement with entrepreneurial support factors. The first cluster, representing students with high intrinsic and extrinsic motivation, showed strong alignment with entrepreneurial traits, while the second cluster displayed moderate alignment. The third cluster, with the lowest level of agreement, was the most dispersed, indicating diverse barriers or influences affecting students' entrepreneurial orientation. The positive correlation between intrinsic and extrinsic factors suggests that students with strong internal motivation also perceive greater external support. These insights highlight the importance of designing tailored interventions to strengthen entrepreneurial skills among students with lower alignment.

Based on the analysis of the hypotheses, the following conclusions are drawn:

The study findings are consistent with the first hypothesis, which posits that entrepreneurial identity is shaped by personal characteristics, environmental influences, and educational exposure. The results confirm that psychological profile, personality traits, and entrepreneurial attitude are key factors influencing students' entrepreneurial identity, with variations observed across different programs.

The second hypothesis, which states that integrating entrepreneurial training into higher education curricula positively influences students' entrepreneurial intention, is also validated. The programs with stronger entrepreneurial components, such as “Management” and “Information Technology Management”, correspond to students with higher entrepreneurial intention. This suggests that further integration of experiential and project-based content could enhance students' motivation and preparedness for entrepreneurial activities.

The third hypothesis, which asserts that an entrepreneurial teaching approach enhances students' entrepreneurial mindset and preparedness, is supported.

This indicates teaching methods contribute to entrepreneurial development while other factors, such as institutional support, mentorship, facilitation and personal motivation, also play a significant role.

Strengths

One of the strengths of this study is the strong entrepreneurial spirit observed among “Management” and “Information Technology Management” students. These programs demonstrate effective engagement in fostering entrepreneurial skills, aligning with the institution’s goal of strengthening students' entrepreneurial identity. Additionally, the university successfully cultivates a personality profile that matches entrepreneurial requirements, contributing to a solid foundation for students pursuing entrepreneurial careers. Students also recognize the importance of continuous knowledge updating and values-based professional education as essential components of their entrepreneurial development. These strengths reflect the institution’s successful implementation of students participating in business plan competitions

Weaknesses

Opportunities for improvement include strengthening the entrepreneurial spirit among “Public Accounting” and “Marketing and International Business” students, as their perceptions fell below the overall average. Additionally, institutional backing and academic encouragement require reinforcement, particularly for students in programs with lower entrepreneurial alignment. On an individual level, students identified gaps in the mentoring or feedback mechanisms provided by tutors and the recognition received from professors regarding their entrepreneurial attitudes. Addressing these weaknesses through targeted strategies will further enhance the entrepreneurial ecosystem within the university.

Overall, the study contributes to a deeper understanding of entrepreneurial profiles among undergraduate business students, providing critical insights into entrepreneurial education at the university level and highlighting essential areas for strategic improvement and actionable insights for curriculum development and institutional policies.

By leveraging these findings, the institution can refine their role in entrepreneurial education strategies to better support students in their journey toward success by fostering an innovative environment conducive to business creation and economic development.

Through this, the institution enhances its influence as a as a key catalyst for regional progress and innovation.

Future Research Directions

Based on empirical evidence, results presented in this work lay the groundwork for continuing the study of the entrepreneurial profile so that HEI´s can inform and enhance decision-making processes in entrepreneurship education.

References

Albornoz, M., Ramírez, A., Gómez, A., Rueda, G., Cadrazco, M., Fernández, H., … Anchicoque, J. (2017). Perfil emprendedor del estudiante de las Facultades de Administración, adscritas al capítulo Oriente de ASCOLFA. Ediciones Universidad. https://editorial.com.co/ascolfa/index.php/libros/article/view/89/84

Alonso-Novelo, V., Salazar, J., Barredo, G., Barrera, L., & Sabido, T. (2022). Capítulo XXIII: Resultados obtenidos en el Estado de Yucatán. In I. Pérez, F. J. Espinoza, J. M. Medina, J. R. Salazar, J. P. Galindo, T. J. Hernández, … S. Fernández (Eds.), Análisis de la actitud emprendedora en México como aportación social: Principales hallazgos en estudiantes universitarios de Administración y Contaduría (pp. 404–426). Editorial Incunabula.

Álvarez, J. Á. (2021). El emprendedor y su perfil psicológico. Gerencia, la revista del líder actual, (noviembre). https://revistagerencia.com.gt/el-emprendedor-y-su-perfil-psicologico/

Amador, M. L., García, Y., & Díaz, J. F. (2020). Comparación del perfil emprendedor en estudiantes del área empresarial e industrial México-Perú. RIDE Revista Iberoamericana para la Investigación y el Desarrollo Educativo, 10(20), 1–22. https://doi.org/10.23913/ride.v10i20.598

Azqueta, A. (2017). El concepto de emprendedor: Origen, evolución e interpretación. In Simposio Internacional El Desafío de Emprender en la Escuela del Siglo XXI (pp. 21–39). Universidad de Sevilla. https://idus.us.es/bitstream/handle/11441/74177/El%20concepto%20de%20emprendedor%20origen%2C%20evoluci%C3%B3n%20e%20introducci%C3%B3n.pdf?sequence=1&isAllowed=y

Backhaus, K., Erichson, B., Gensler, S., Weiber, R., & Weiber, T. (2023). Cluster analysis. In Multivariate analysis (pp. 453–532). Springer Gabler. https://doi.org/10.1007/978-3-658-40411-6_8

BBVA. (2023, September 12). Emprendedor intuitivo: Ejemplos y características de este perfil. https://www.bbva.com/es/innovacion/emprendedor-intuitivo-ejemplos-y-caracteristicas-de-este-perfil/

Bornstein, M. H., Jager, J., & Putnick, D. L. (2013). Sampling in developmental science: Situations, shortcomings, solutions, and standards. Developmental Review, 33(4), 357–370. https://doi.org/10.1016/j.dr.2013.08.003

Campuzano-Vásquez, J. A., & Cedillo-Chalaco, L. F. (2021). Perfil emprendedor de los estudiantes de la carrera de Economía de la Universidad Técnica de Machala en presencia del COVID-19. INNOVA Research Journal, 6(3.2), 47–62. https://doi.org/10.33890/innova.v6.n3.2.2021.1939

Castillo, E. F., Reyes, C. E., Ayala, C. I., & Arroyo, E. M. (2021). Escala de perfil emprendedor en estudiantes universitarios peruanos. Revista Venezolana de Gerencia, 26(94), 839–856. https://www.redalyc.org/articulo.oa?id=29069612021

Comisión Europea. (2014). Educación en emprendimiento: Guía del educador. Unión Europea. https://pagina.jccm.es/europa/pdf/PUBLICACIONES/2014%20Guia%20del%20Educador%20en%20emprendimiento.pdf

Cooksey, R. W. (2020). Descriptive statistics for summarising data. In Illustrating statistical procedures: Finding meaning in quantitative data (pp. 61–139). Springer Nature. https://doi.org/10.1007/978-981-15-2537-7_5

Corrales, M. (2022, July 27). El perfil emprendedor, su formación, entorno y motivaciones. EGADE Business School. https://egade.tec.mx/es/egade-ideas/opinion/el-perfil-emprendedor-su-formacion-entorno-y-motivaciones

Damián, J. (2020). El emprendimiento en el contexto de la universidad no emprendedora: La voz de los estudiantes. Innovación Educativa, 20(84), 9–32. https://www.ipn.mx/assets/files/innovacion/docs/Innovacion-Educativa-84/el-emprendimiento-en-el-contexto-de-la-universidad-no-emprendedora-%20la-voz-de-los-estudiantes.pdf

Enríquez, J. R. (2020, February 2). Iniciativa con Proyecto de Decreto por el que se reforma la fracción XII del artículo 4 de la Ley del Instituto Mexicano de la Juventud. Senado de la República.

https://infosen.senado.gob.mx/sgsp/gaceta/64/3/2020-12-15-1/assets/documentos/Inic_Morena_Sen_Enriquez_Art_4_Inst_Juventud.pdf

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1–4. https://doi.org/10.11648/j.ajtas.20160501.11

Eurostat. (n.d.). Glossary: Arithmetic mean. Statistics Explained. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Arithmetic_mean

Fayolle, A., & Gailly, B. (2015). The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence. Journal of Small Business Management, 53(1), 75–93. https://doi.org/10.1111/jsbm.12065

Fuentes, F., Saco de Larriva, F., & Rodríguez, P. (2013). Estudio sobre el perfil emprendedor en el alumnado universitario de Córdoba. Consejo Social de la Universidad de Córdoba. https://helvia.uco.es/xmlui/bitstream/handle/10396/14158/Perfil_emprendedor_III_informe_estudio_interactivo.pdf?sequence=1&isAllowed=y

Gómez, C. D., Silva, M. A., González, Y., & Parga, N. (2018). El perfil de los empresarios y la creación de empresas en el municipio de Villa Hidalgo, Jal. Conciencia Tecnológica, 55, 19–28. https://www.redalyc.org/journal/944/94455712002/html/

Gonzalez, K. C., Olivares, R. A., & Rodriguez, N. E. (2024). Mujeres en la industria cultural y creativa desde un marco de emprendimiento regional. Tirant Humanidades.

Guerrero, M., Urbano, D., Ramos, A. R., Ruiz-Navarro, J., Neira, I., & Fernández-Laviada, A. (2016). *Perfil emprendedor del estudiante universitario: Informe 2015-2016*. Observatorio de Emprendimiento Universitario en España. Crue Universidades Españolas - RedEmprendia - CISE. https://www.crue.org/wp-content/uploads/2020/02/20161201_Observatorio-de-Emprendimiento-Universitario_informe_web.pdf

Hayes, A. (2024, October 3). Entrepreneur: What it means to be one and how to get started. Investopedia. https://www.investopedia.com/terms/e/entrepreneur.asp

Kaiser, H. F. (1974). An index of factorial simplicity. Psychometrika, 39(1), 31–36. http://cda.psych.uiuc.edu/psychometrika_highly_cited_articles/kaiser_1974.pdf

Kaptein, M. (2019). The moral entrepreneur: A new component of ethical leadership. Journal of Business Ethics, 156, 1135–1150. https://doi.org/10.1007/s10551-017-3641-0

Lauto, G., Pittino, D., & Visintin, F. (2019). Satisfaction of entrepreneurs: A comparison between founders and family business successors. Journal of Small Business Management, 58(3), 474–510. https://doi.org/10.1080/00472778.2019.1660937

Lv, Y., Chen, Y., Sha, Y., Wang, J., An, L., Chen, T., … Huang, L. (2021). How entrepreneurship education at universities influences entrepreneurial intention: Mediating effect based on entrepreneurial competence. Frontiers in Psychology, 12, 655868. https://doi.org/10.3389/fpsyg.2021.655868

Medina, J. M., Morales, F. I., Cervantes, J. R., Flores, M. L., & Fernández, S. (2022). Capítulo III: Método. In I. Pérez, F. J. Espinoza, J. M. Medina, J. R. Salazar, J. P. Galindo, T. J. Hernández, … S. Fernández (Eds.), Análisis de la actitud emprendedora en México como aportación social: Principales hallazgos en estudiantes universitarios de Administración y Contaduría (pp. 404–426). Editorial Incunabula.

Ministerio de Ciencia Tecnología e Innovación. (2006, January 26). Ley 1014 de 2006. De fomento a la cultura del emprendimiento. Colombia. https://minciencias.gov.co/sites/default/files/upload/reglamentacion/ley-1014-2006.pdf

Morales-Rodríguez, M., Díaz-Barajas, D., & Morales-Rodríguez, I. E. (2018). Psicología del emprendedor: Promoción de atributos psicológicos asociados al emprendimiento en estudiantes de nivel superior. Vinculatégica, 415–423. http://www.web.facpya.uanl.mx/vinculategica/vinculat%C3%A9gica_2/52%20MORALES_DIAZ_MORALES.pdf

Neck, H. M., & Greene, P. G. (2011). Entrepreneurship education: Known worlds and new frontiers. Journal of Small Business Management, 49(1), 55–70. https://doi.org/10.1111/j.1540-627X.2010.00314.x

Palanivelu, V. R., & Manikandan, D. (2015). Concept of entrepreneurship. Cognitive Discourses: International Multidisciplinary Journal, 3(3), 1–13. http://cdimj.naspublishers.com

Real, I., Espinoza, F. J., Medina, J. M., Salazar, J. R., Galindo, J. P., Hernández, T. J., & Fernández, S. (Eds.). (2021). Análisis de la actitud emprendedora en México como aportación social: Principales hallazgos en estudiantes universitarios de Administración y Contaduría. Editorial Incunabula.

Rossoni, L., Engelbert, R., & Bellegard, N. L. (2016). Normal science and its tools: Reviewing the effects of exploratory factor analysis in management. Revista de Administração, 51(2), 198–211. https://doi.org/10.5700/rausp1234

Saboia, F. A., & Martín, N. (2006). Los rasgos psicológicos del emprendedor y la continuidad del proyecto empresarial: Un estudio empírico de los emprendedores brasileños. REAd - Revista Eletrônica de Administração, 12(2). https://revistas.face.ufmg.br/index.php/read/article/view/172

Sánchez, L. (2023, August 8). El perfil de un emprendedor. EmprendePyme.net. https://emprendepyme.net/el-perfil-de-un-emprendedor.html

Soria-Barreto, K., Zúñiga-Jara, S., & Ruiz-Campo, S. (2016). Educación e intención emprendedora en estudiantes universitarios: Un caso de estudio. Formación Universitaria, 9(1), 25–34. http://www.redalyc.org/articulo.oa?id=373544194004

Subramani, J. (2020). Concept of entrepreneurs and entrepreneurship: A critical review. International Journal of Innovative Science and Research Technology, 5(5), 177–179. https://www.ijisrt.com/assets/upload/files/IJISRT20MAY187_(1).pdf

Taherdoost, H. (2016). Sampling methods in research methodology: How to choose a sampling technique for research. International Journal of Academic Research in Management, 5(2), 18–27. https://doi.org/10.2139/ssrn.3205035

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. International Journal of Medical Education, 2, 53–55. https://doi.org/10.5116/ijme.4dfb.8dfd

Thornton, M. (2019). Turning the word upside down: How Cantillon redefined the entrepreneur. The Quarterly Journal of Austrian Economics, 23(3–4), 265–280. https://doi.org/10.35297/qjae.010071

Wathanakom, N., Khlaisang, J., & Songkram, N. (2020). The study of the causal relationship between innovativeness and entrepreneurial intention among undergraduate students. Journal of Innovation and Entrepreneurship, 9, Article 15. https://doi.org/10.1186/s13731-020-00125-5

World Economic Forum. (2011). Global entrepreneurship and the successful growth strategies of early-stage companies. World Economic Forum. https://www.iese.edu/media/research/pdfs/ESTUDIO-137.pdf

Rol de Contribución	Autor (es)
Conceptualización	Valentín Alonso-Novelo «principal»
Metodología	Valentín Alonso-Novelo «principal», Gustavo A. Barredo-Baqueiro «que apoya». Jorge Salazar Cantón «que apoya».
Software	Valentín Alonso-Novelo «principal»
Validación	Valentín Alonso-Novelo «principal», Gustavo A. Barredo-Baqueiro «que apoya» Jorge Salazar Cantón «que apoya».
Análisis Formal	Valentín Alonso-Novelo, Gustavo A. Barredo-Baqueiro «igual»
Investigación	Valentín Alonso-Novelo «principal», Gustavo A. Barredo-Baqueiro «que apoya» Jorge Salazar Cantón «que apoya».
Recursos	Valentín Alonso-Novelo, Gustavo A. Barredo-Baqueiro, Jorge Salazar Cantón .«igual»
Curación de datos	Valentín Alonso-Novelo «principal», Gustavo A. Barredo-Baqueiro «que apoya», Jorge Salazar Cantón «que apoya».
Escritura - Preparación del borrador original	Valentín Alonso-Novelo «principal» Jorge Salazar Cantón «que apoya».
Escritura - Revisión y edición	Valentín Alonso-Novelo «principal», Gustavo A. Barredo-Baqueiro «que apoya».
Visualización	Valentín Alonso-Novelo «principal», Gustavo A. Barredo-Baqueiro «que apoya».
Supervisión	Valentín Alonso-Novelo «principal» Jorge Salazar Cantón «que apoya».
Administración de Proyectos	Valentín Alonso-Novelo «principal»
Adquisición de fondos	Valentín Alonso-Novelo, Gustavo A. Barredo-Baqueiro Jorge Salazar Cantón. «igual»