

ENTREPRENEURIAL PROFILE OF STUDENTS. RESULTS OF A COMPARATIVE ANALYSIS OF TWO UNIVERSITIES

María Elvira López Parra^{1*}

María Margarita Carrera Sánchez²

¹ Technological Institute of Sonora, Mexico


² Autonomous University of de Nuevo Leon, Mexico

Abstract: The lack of opportunity represents a significant challenge for government institutions, society, and universities, particularly for the latter, given their mission to produce professionals equipped to enter the labor market and drive positive change in their respective fields. In Mexico, higher education institutions have promoted entrepreneurship in their educational programs as a seedbed for entrepreneurs that allows them to develop skills as components of the entrepreneurial profile, and thus enter the labor market successfully. The objective of this research is to ascertain whether there is a significant difference between the components of the entrepreneurial profile of students enrolled in the business programs at the Technological Institute of Sonora and the Autonomous University of Nuevo León (Facpya-Linares), two universities in different states of Mexico. The research method involved a comparison of two universities that offer entrepreneurship or business training as part of their academic programs. The two universities in question are the Technological Institute of Sonora and the Autonomous University of Nuevo León (Facpya-Linares). The sample size was 320 and 447, respectively, comprising business students. An instrument was used to assess the entrepreneurial profile. To ascertain significance, a student's t-test for independent samples was applied. In terms of the reliability of the instrument, a Cronbach's Alpha of 0.942 was noted. The results demonstrated a notable discrepancy between the mean scores of the entrepreneurial profile components among business students from the two educational institutions. The significant difference observed at the

¹ María Elvira López Parra, PhD, Ciudad Obregón, Sonora México, melopez@itson.edu.mx

 <https://orcid.org/0000-0003-3552-3517>

² María Margarita Carrera Sánchez, PhD, Monterrey, Nuevo León, México,

magaly_carrera@hotmail.com  <https://orcid.org/0000-0002-8543-6238>

* Corresponding author: María Elvira López Parra, melopez@itson.edu.mx, 6441 39 49 43

Technological Institute of Sonora is that students there have a greater perception of the entrepreneurial profile than students at the Autonomous University of Nuevo León on its Facpya-Linares campus, who were more indecisive in their responses.

Keywords: business competencies, entrepreneurial profile, entrepreneurship, entrepreneurship skills, management competencies, personal competencies, social competencies

JEL Classification: M1, L31

Introduction

Studies have shown that there is a relationship between the entrepreneurial competencies of individuals and the performance of organizations. The performance of human resources explains the behavior of organizations and makes their growth and development possible. In recent years, the entrepreneurial profile has been a subject of great interest to universities, which are convinced of the importance of promoting entrepreneurship among their students in order to increase their competitiveness in all areas of their lives, such as the implementation of personal, social, business and economic projects, among others.

Universities and research centers have incorporated into their curricula knowledge and skills that equip students with the tools to undertake not only the creation or consolidation of companies in the economic field, but also new ideas of social, environmental, and technological entrepreneurship. This allows students to improve the situation and problems that countries are experiencing in the different sectors.

This research responds to the need to obtain more information on the impact of study programs, specifically on the development of students' entrepreneurship skills, taking into account that in Mexico the greatest challenge is faced by universities since they are the ones that house millions of students (Almanza et al., 2017). In this regard, according to the Informative Bulletin of the Ministry of Public Education, national enrollment at the higher level reached 5.2 million students in 2023 (Ministry of Public Education, 2023).

In Mexico, the projection of including the development of an entrepreneurial profile in universities has also demanded a social approach. This approach must ensure that the vision, scope, and creative projections for entrepreneurship are in favor of the common good and the sustainable development of society. As Vásquez (2017) notes, this is crucial for ensuring the success of university-based entrepreneurship programs. Therefore, it is essential to conduct an analysis of the competencies that university students have developed or strengthened in these programs.

In a bibliometric study carried out on the development of entrepreneurship in public universities in Mexico, it was observed that there is little research that has documented entrepreneurial activity in these institutions, despite the fact that they have been considered seedbeds for entrepreneurship, creativity and innovation. Valdivia-Velasco, Coronado-Guzmán, and Argüelles-Dávila (2019) concluded that it is important to document the knowledge generated in these practices and encourage studies that contrast learned entrepreneurship and empirical entrepreneurship.

Mexico is home to 216 universities, as reported by the National Association of Universities and Institutions of Higher Education (ANUIES, 2024). This figure includes the Technological Institute of Sonora and the Autonomous University of Nuevo León. Moreover, the National Association of Faculties and Schools of Accounting and Administration (ANFECA, 2024) oversees a network of affiliated universities, with specializations in Economic and Administrative Sciences organized by geographical regions. The objective of this network is to establish uniform standards for curricula and programs across regions. Additionally, the objective is to provide updates to academic staff and implement new teaching methodologies. ANFECA is a nationwide association comprising the following regions: northwest, north, center, west, south, and Mexico City. The network encompasses approximately 274 institutions, the majority of which are public universities. Among these are the Technological Institute of Sonora and the Autonomous University of Nuevo León (Facpya-Linares), which offer programs in the fields of economics and administration. These institutions provide courses designed to cultivate entrepreneurial skills among young university students and equip them with the tools to navigate a globalized and competitive environment.

In terms of the geographical context in which the two universities under study are situated, it can be noted that the Technological Institute of Sonora is located on five campuses in the southern region of the state of Sonora. The aforementioned institutions are situated in the following campuses: Obregón-Nainari, Obregón-Centro, Guaymas, Empalme, and Navojoa. The campus under consideration is that of Obregón. According to the National Institute of Statistics, Geography and Informatics (INEGI, 2020b), the municipality has a population of 436,484.

As for the Autonomous University of Nuevo León, it has 6 campuses: University City, Agricultural Sciences, Health Sciences, Mederos Unit, Linares and Sabinas Hidalgo. The campus under study is Facpya-Linares. This municipality has 84,666 people according to INEGI records (2020a).

Considering the importance of the development of skills and attitudes in the entrepreneurial profile of university students and the necessity of evaluating their impact, this research aims to ascertain whether there are notable differences between the components of the entrepreneurial profile of students in the business careers program at the Technological Institute of Sonora and those in the Faculty of Public Accounting and Administration (Facpya-Linares) at the Autonomous University of Sonora. The universities in Nuevo León are from two different states in Mexico.

The aim of the article is to identify, on the one hand, the skills developed in entrepreneurship, according to the perception of university students, and on the other, the comparison of their perceptions with another university that also promotes entrepreneurship in its educational programs, particularly in careers related to the fields of economics and administration.

Literature review

The resource theory focuses on the analysis of the resources that generate competitive advantages in organizations or in individuals to face the turbulence of the current environment (Wernerfelt, 1984). In this regard, entrepreneurship competencies are defined as the skills that people have to develop individually and in organizations, allowing the generation of jobs and creativity in various areas.

The concept of entrepreneurial orientation, as defined in the literature, pertains to the process of establishing entrepreneurial strategies aimed at meeting goals in diverse situations and in the organizational environment, creating a competitive advantage taking into account the tendency to create new ideas, proactivity, and risk-taking (Rodrigo-Alarcón, Parra-Requena, & García-Villaverde, 2014).

Regarding the entrepreneurial profile, Santillán, Gaona, and Hernández (2015) highlight that entrepreneurial skills are of great relevance to participate in the different programs of support and financing funds for the growth or creation of companies and new products; These pay greater attention to the dimensions of the entrepreneurial profile, highlighting that entrepreneurial activities contribute to the reduction of poverty through employment and to the increase of the well-being of citizens. They also argue that financial institutions that support entrepreneurs have seen an increase in innovative companies over the past 30 years.

The development of entrepreneurial capacities in people allows the achievement of their objectives, hence Castillo et al. (2021) emphasize the significance of universities integrating entrepreneurship competencies, such as motivation to achieve, autonomy, innovation, self-efficiency, optimism, and tolerance in the face of difficulties, into their study programs. This is because such competencies contribute to economic development at the regional level.

In their 2015 study, Santillán, Gaona, and Hernández identify a set of competencies that are essential for supporting entrepreneurs in securing financing. These competencies include experience, administrative skills, leadership abilities, knowledge of the business environment, entrepreneurial personality traits, risk assessment capabilities, teamwork skills, and attention to detail.

Paz, Harris, and Franco (2016) also identify personal characteristics, such as initiative, risk acceptance, orientation to opportunities, emotional stability, self-control, decision-making capacity, management of social relationships, sense of urgency, honesty, and trust, as capabilities associated with the entrepreneurial profile. Likewise, Leyva et al. (2019) comment that a relevant skill in the entrepreneurial profile is initiative, because responsibility is assumed in the creative and innovative solutions that are presented to face certain situations.

In a study carried out by Paz, Salóm, García and Suárez (2020) on the entrepreneurial profile in the training of university students, the authors limited the characteristics of the entrepreneur to the following indicators: courage, vision of the future, perseverance, self-confidence, orientation to results, leadership and creativity. These researchers observed that these characteristics are present and moderately present according to the scale of interpretation of the average data, in university students in Venezuela. In addition, they conclude that students dedicate time to the development of

strategic plans and are motivated to achieve their goals and act with leadership, perseverance, confidence, creativity and courage, considering the difficulties of the environment.

Karimi et al. (2011) in their study with the model of entrepreneurial intentions observed that the most important competencies in entrepreneurship are self-efficacy and need for achievement, and the one that most inhibits entrepreneurship is the variable related to risk. In addition, Lin et al. (2022) in their study on the entrepreneurial intention of Chinese university students in Spain found that aspects such as gender, work experience, and direct relationship with entrepreneurial family members do not have a significant relationship with the entrepreneurial intention of the university students.

In public universities in Mexico, links with the business sector are encouraged, but it is necessary to consolidate a structure within the country that ensures the development of entrepreneurial skills among their students, for this it is necessary to work on mechanisms for the control and evaluation of entrepreneurship through educational programs and involving students, professors and entrepreneurs. as well as considering financial support for the development of innovative initiatives and ideas generated by university students (Neri, 2024).

Methodology

The aim of the article was, on the one hand, to identify the skills developed in entrepreneurship according to the perception of university students and, on the other hand, to compare their perceptions with another university that also promotes entrepreneurship in its educational programs, especially in those professions related to areas of economic and administrative sciences.

The research method was conducted at two different universities that offer entrepreneurship or business training courses as part of their academic programs. The universities are the Technological Institute of Sonora (ITSON) and the Autonomous University of Nuevo León (UANL) on its Facultad-Linares campus. The research is quantitative, descriptive, comparative and non-experimental in nature.

The sample consisted of 320 and 447 business students from ITSON and UANL-FACPYA, respectively. An instrument was applied to measure the entrepreneurial profile taking into account the personal, business, social, and managerial competencies that students had developed during their participation in the aforementioned courses. To ascertain the significance, the Student's T-test for independent samples was employed, in addition to a Likert scale comprising five response options. The instrument was adapted from the studies of Cabana-Villca et al. (2013) and Ibáñez (2012), which presented findings on the entrepreneurial attitudes of university students. The instrument is integrated, in its first part, by 17 questions, of which 9 are of the generic type to know the profile of the respondents such as age, gender, career, etc. The next 8 questions of this first part are related to their perception regarding the development of entrepreneurial skills from their experience at work and their life within the family. In the second part of the instrument, 45 questions were presented, of which 7 were related to personal skills, 7 more to business skills, 6 to management skills and 6 to social skills, in

addition, 8 questions were included about the skills that are promoted in educational programs and 11 about their vision in the creation of companies. Regarding the reliability analysis of the instrument, a Cronbach's alpha of 0.942 was observed.

For the comparison of means, the Student's T-test was used for independent samples. The independent variable was students from two higher education institutions, located in two different states of Mexico, the institutions are ITSON and the UANL on its Facpya-Linares campus. As for the dependent variables, the competencies that the students show to measure their entrepreneurial profile were such as personal competencies, business competencies, management competencies and social competencies, measured on a numerical scale at the interval level.

The null hypothesis to be resolved was:

H0. There is a significant difference in the components of the entrepreneurial profile between students of the business careers of the ITSON and the UANL (Facpya-Linares).

As for the procedure, the steps that were followed for the development of the research and the processing of the data was to analyze the theoretical and contextual framework in which the variables are located, then an instrument was adapted to achieve the objective set, the instrument was applied in the institutions of higher education under study, the corresponding statistical analyses were applied to compare the means of two groups. Finally, the results were interpreted and conclusions were drawn.

Results

To show the results, it is important to remember that the objective of this research is to determine if there is a significant difference between the components of the entrepreneurial profile of students of business careers of ITSON and the UANL (Facpya-Linares), universities in two different states of Mexico. In this regard, first, the descriptive analysis is presented, which allows to highlight the characteristics of the respondents, and secondly, the comparison of the means for each of the components of the entrepreneurial profile analyzed in this research.

Regarding gender, 61.01% of the respondents were female and 38.99% male, as can be seen in Table 1.

Table 1. Gender description in each educational institution

Gender	Educational institution		Total
	ITSON	UANL (Facpya-Linares)	
Male	113	186	299
Female	207	261	468
Total	320	447	767

Source: Prepared by the authors based on the statistical data generated with the SPSS V17

Table 2 shows that most of the respondents, 77.83%, are between 17 and 21 years old, while 20.33% are between 22 and 26 years old.

Table 2. Description of age in each educational institution

Age	Educational institution		Total
	ITSON	UANL (Facpya-Linares)	
17 to 21 years old	253	344	597
22 to 26 years old	57	99	156
27 to 32 years old	8	1	9
33 years and older	2	3	5
Total	320	447	767

Source: Prepared by the authors based on the statistical data generated with the SPSS V17

In Table 3, 32.07% of the respondents attend one of the first three semesters, while 40.28% attend the 4th. to the 6th. semester.

Table 3. Description of Semester in each educational institution

Semester	Educational institution		Total
	ITSON	UANL (Facpya-Linares)	
1, 2 and 3	139	107	246
4, 5 and 6	133	176	309
7 onwards	48	164	212
Total	320	447	767

Source: Prepared by the authors based on the statistical data generated with the SPSS V17

Table 4 shows that 40.54% of the respondents are enrolled in the Bachelor's Degree in Public Accounting, while 50.06% are enrolled in Bachelor's Degree in Administration and Bachelor's Degree in Tourism Business Administration.

Table 4. Description of Career in each educational institution

Degree	Educational institution		Total
	ITSON	UANL (Facpya-Linares)	
LCP, CP, LC	141	170	311
LA, LAE, LAET	118	266	384
LTI	0	11	11
LEF	61	0	61
Total	320	447	767

Source: Prepared by the author based on the statistical data generated with the SPSS V17. The acronym LCP stands for Bachelor of Public Accounting, CP stands for Public Accountant, LC stands for Bachelor of Accounting, LA stands for Bachelor of Administration, LAE stands for Bachelor of Business Administration, LAET stands for Bachelor of Tourism Business Administration, LTI stands for Bachelor of Information Technology, and LEF stands for Bachelor of Economics and Finance

Table 5 delineates the level of education attained by the respondent's mother. The data indicate that 35.46% of respondents' mothers studied up to high school, 20.73% completed high school, and 14.08% completed a bachelor's degree. Only 4.05% of mothers pursued postgraduate studies.

Table 5. Description of the Mother's level of schooling, in each educational institution

Mother's level of schooling	Educational institution		Total	%
	ITSON	UANL (Facpya-Linares)		
Elementary	13	63	76	9.90
Middle school	94	178	272	35.46
High school	99	60	159	20.73
University	60	48	108	14.08
Master's degree	15	13	28	3.65
Doctorate	2	1	3	0.40
Technical college	37	84	121	15.78
Total	320	447	767	100%

Source: Prepared by the author based on the statistical data generated with the SPSS V17

Table 6 delineates the educational level of the respondent's father. The data indicate that 31.16% of fathers studied up to high school, 24.77% completed high school, and 17.73% pursued a bachelor's degree. Only 3.66% of fathers engaged in postgraduate studies.

Table 6. Description of the degree of schooling of the father, in each educational institution

Parent's level of schooling	Educational institution		Total	%
	ITSON	UANL (Facpya-Linares)		
Elementary	23	64	87	11.34
Middle school	76	163	239	31.16
High school	103	87	190	24.77
University	76	60	136	17.73
Master's degree	18	6	24	3.12
Doctorate	4	0	4	0.54
Technical college	20	67	87	11.34
Total	320	447	767	100%

Source: Prepared by the author based on the statistical data generated with the SPSS V17

Below, the comparisons of means are shown to later identify if there is a statistically significant difference between the components of the entrepreneurial profile of students of the business careers of the ITSON and the UANL (Facpya-Linares).

Table 7 shows the averages of each of the competencies of the entrepreneurial profile and of the two universities under study. It should be remembered that the answers in the instrument to measure competencies were on a Likert scale with numbering from 1 to 5 where 1 was “strongly disagree”, 2 “disagree”, 3 “undecided”, 4 “agree” and 5 “strongly agree”.

Table 7. Means of the competencies of the entrepreneurial profile

Competencies	Educational institution	N	Means	Standard deviation	Standard error mean
Personal	ITSON	320	3.8638	0.47819	0.02673
	UANL (Facpya-Linares)	447	2.8655	0.76932	0.03639
Business	ITSON	320	4.0982	0.55290	0.03090
	UANL (Facpya-Linares)	447	2.6532	0.85493	0.04044
Management	ITSON	320	3.9365	0.58272	0.03257
	UANL (Facpya-Linares)	447	2.9366	0.82429	0.03899
Social	ITSON	320	3.9047	0.65416	0.03657
	UANL (Facpya-Linares)	447	2.9161	0.85836	0.04060
Entrepreneur Profile	ITSON	320	3.9531	0.51254	0.02865
	UANL (Facpya-Linares)	447	2.8364	0.75054	0.03550

Source: Prepared by the author based on the statistical data generated with the SPSS V17

Below, the tables are presented to identify whether there is a significant difference between the components of the entrepreneurial profile (personal, business, management and social skills) between the universities under study; and finally the table is placed that shows the comparison of means of the entrepreneurial profile in both universities and the indication if they are significantly different.

Table 8 demonstrates the application of the Levene test for equality of variances, observing that the p-value (sig) is ≤ 0.05 in personal competencies, which means that equal variances are not assumed. In addition, the analysis of differences in the personal competencies of ITSON and UANL students (Facpya-Linares) revealed that statistically significant differences were found ($t_{(751,343)} = 22.112; p - value = 0.000$). This indicates that ITSON students perceived themselves to be more in agreement with practicing personal competencies ($\bar{X} = 3.8638$) than UANL (Facpya-Linares) students who were undecided ($\bar{X} = 2.8655$).

Table 8. Student's T-test for equality of means of personal competencies

Personal Competencies	Levene's test the same. of variances		t-test for equality of means						
	F	Sig.	t	gl	Sig. (bilat.)	Dif. of means	Dif. standard error	95% difference confidence interval	
								Inferior	Superior
Equal variances are assumed	89.097	0.000	20.545	765	0.000	0.99839	0.04860	0.90299	1.09378
Equal variances are not assumed			22.112	751.343	0.000	0.99839	0.04515	0.90975	1.08703

Source: Own research

Personal competencies such as initiative, risk acceptance, opportunity orientation, emotional stability, self-control, decision-making capacity, sense of urgency, honesty, trust, among others, are capacities that are associated with the entrepreneurial profile according to Paz, Harris and Franco (2016) and Karimi et al. (2011).

Table 9. Student's T-test for equality of means of business competencies

Business Competencies	Levene's test the same. of variances		t-test for equality of means						
	F	Sig.	t	gl	Sig. (bilat.)	Dif. of means	Dif. standard error	95% difference confidence interval	
								Inferior	Superior
Equal variances are assumed	91.927	0.000	26.523	765	0.000	1.44497	0.05448	1.33802	1.55192
Equal variances are not assumed			28.394	757.702	0.000	1.44497	0.05089	1.34507	1.54487

Source: Own research

Table 9 shows the Levene test for equality of variances, observing that the p-value (sig) is ≤ 0.05 in business competencies, which means that equal variances are not assumed. In addition, the analysis of differences in the entrepreneurial skills of ITSON and UANL students (Facpya-Linares) reveals that significant statistical differences were found ($t(757,705) = 28,394$; $p - value = 0.000$), with which it is observed that ITSON students perceived themselves more in practicing business competencies ($\bar{X} = 4.0982$) than UANL students (Facpya-Linares) who were undecided ($\bar{X} = 2.6532$).

In this regard, Santillán, Gaona, and Hernández (2015) comment that entrepreneurial skills are of great importance to access financing programs, in addition to the fact that the financial institutions themselves have observed an increase in innovative companies in recent years.

Table 10. Student's T-test for equality of means of management competencies

Management Competencies	Levene's test the same. of variances		t-test for equality of means						
	F	Sig.	t	gl	Sig. (bilat.)	Dif. of means	Dif. standard error	95% difference confidence interval	
								Inferior	Superior
Equal variances are assumed	48.643	0.000	18.620	765	0.000	0.99984	0.05370	.89443	1.10525
Equal variances are not assumed			19.680	764.89	0.000	0.99984	0.05081	.90011	1.09958

Source: Own research

Table 10 shows the Levene test for equality of variances, observing that the p-value (sig) is ≤ 0.05 in management competencies, which means that equal variances are not assumed. In addition, the analysis of differences in the management competencies of ITSON and UANL students (Facpya-Linares) shows that statistically significant differences were found ($t_{(764.89)} = 19.680$); $p - value = 0.000$, with which it is observed that ITSON students thought they were more in agreement with practicing management competencies ($\bar{X} = 3.9365$) than UANL students (Facpya-Linares) who were undecided ($\bar{X} = 2.9366$).

Regarding the entrepreneurial profile in the training of university students, Paz, Salóm, García, and Suárez (2020) comment on the importance of developing management competencies such as vision of the future, perseverance, orientation to results, leadership, and creativity.

Table 11. Student's T-test for equality of means of social competencies

Social Competencies	Levene's test the same. of variances		t-test for equality of means						
	F	Sig.	t	gl	Sig. (bilat.)	Dif. of means	Dif. standard error	95% difference confidence interval	
								Inferior	Superior
Equal variances are assumed	38.528	0.000	17.314	765	0.000	0.98858	0.05710	0.87649	1.10067
Equal variances are not assumed			18.093	762.003	0.000	0.98858	0.05464	0.88132	1.09584

Source: Own research

Table 11 shows the Levene test for equality of variances, observing that the p-value (sig) is ≤ 0.05 in social competencies, which means that equal variances are not assumed. In addition, the analysis of differences in the social competencies of ITSON and UANL students (Facpya-Linares) demonstrates that statistically

significant differences were found ($t(762,003) = 18,093$); $p - value = 0.000$), with which it is observed that ITSON students thought they were more in agreement with practicing management competencies ($\bar{X} = 3.9047$) than UANL students (Facpya-Linares) who were undecided ($\bar{X} = 2.9161$).

Finally, the average comparison analysis of the entrepreneur profile was carried out, which includes the personal, business, management and social skills that every individual must promote to achieve the goals that they set in terms of entrepreneurship.

Table 12. Student's T-test for equality of means of the entrepreneurial profile

Entrepreneur Profile	Levene's test the same. of variances		t-test for equality of means						
	F	Sig.	t	gl	Sig. (bilat.)	Dif. of means	Dif. standard error	95% difference confidence interval	
								Inferior	Superior
Equal variances are assumed	59.966	0.000	23.044	765	0.000	1.11669	0.04846	1.02156	1.21182
Equal variances are not assumed			24.479	763.406	0.000	1.11669	0.04562	1.02714	1.20625

Source: Own research

Table 12 shows the Levene test for equality of variances, observing that the p-value (sig) is ≤ 0.05 in the entrepreneurial profile, which means that equal variances are not assumed. In addition, the analysis of the differences in the entrepreneurial profile of ITSON and UANL students (Facpya-Linares) shows that statistically significant differences were found ($t(763,406) = 24,479$; $p - value = 0.000$), with which it is observed that ITSON students thought they were more in agreement with practicing social, personal, business and management competencies ($\bar{X} = 3.9531$) than UANL students (Facpya-Linares) who were undecided ($\bar{X} = 2.8364$).

Tables 8 to 12 analyze whether or not there is a statistically significant difference according to the responses of the students of the ITSON vs the UANL (Facpya-Linares), in this regard in all cases a significant difference was observed in the responses of these two groups, noting in personal competencies the means of 3.8638 vs 2.8655 between the ITSON and UANL (Facpya-Linares) respectively; in the case of business competition, 4.0982 vs 2.6532 respectively; for management competence the mean was 3.9365 vs 2.9366 and for social competence it was 3.9047 vs 2.9161 respectively. Considering that these competencies guide an entrepreneurial profile, in this regard the perceptions of the students were 3.9531 vs 2.8364.

Some studies highlight the importance of universities to include entrepreneurship skills in their educational plans, since it is involved in the economic development of the regions, as well as the fulfillment of a desirable profile to obtain financing or economic support for the implementation or growth of businesses (Castillo et al., 2021; Santillán, Gaona, & Hernández, 2015).

Conclusions

Although universities have made efforts to equip students with the skills and competencies for entrepreneurship, the contribution of this research is to demonstrate, on the one hand, that the perception of the students under study about their entrepreneurial skills is below expectations, and on the other, there is a significant difference between the components of the entrepreneurial profile between students of the ITSON and the UANL (Facpya-Linares).

- In this regard, a difference was observed in the means of the responses of the groups studied and in the same way it was observed that there are significant differences in the perception of the entrepreneurial profile of the students, this is because the students of the Technological Institute of ITSON in most cases their responses were in numeral 4 which means “agree”, unlike the students of UANL (Facpya-Linares).
- There are studies in the field of entrepreneurship that allow us to know more about how universities could strengthen their entrepreneurship programs to achieve a better understanding of who and how a comprehensive structure would be to promote and evaluate entrepreneurship in students and the impact of the program on the business sector.
- The research invites those interested in improving entrepreneurship competencies in universities, to evaluate entrepreneurship programs over time, and to determine if the skills of students in the economic and administrative areas were strengthened at the end of the educational program, and thus verify if the objectives of universities in terms of entrepreneurship established in their guiding axes were launched and respond to society that it requires organizations with an entrepreneurial culture.
- Finally, in his study, Neri (2024) highlights the importance of consolidating a structure within universities that ensures the development of entrepreneurial skills, with mechanisms for monitoring and evaluating entrepreneurship, involving professors, students and the business sector or social organizations.

References

- ANFECA [National Association of Faculties and Schools of Accounting and Administration]. (2024). *History*. http://www.anfeca.unam.mx/quienes_historia_anfeca.php (accessed: 28.04.2024).
- Almanza, R., Calderón, P., & Vargas, J. (2017). Challenges of the entrepreneur in Mexico. *Journal of the Faculty of Economic and Business Sciences*, 17(1), 55-64.
- ANUIES [National Association of Universities and Institutions of Higher Education]. (2024). *Higher Education Institutions*. <http://www.anui.es.mx/anui/es/instituciones-de-educacion-superior/> (accessed: 08.05.2024).
- Cabana-Villca, R., Cortés-Castillo, I., Plaza-Pastén, D., Castillo-Vergara, M., & Alvarez-Marín, A. (2013). Analysis of potential and effective entrepreneurial capacities in students of higher education centers. *Journal of Technology Management & Innovation*, 8(1), 65-75.
DOI: 10.4067/S0718-27242013000100007
- Castillo, E. F., Reyes, C. E., Ayala, C. I., & Arroyo, E. M. (2021). Entrepreneurial profile scale in Peruvian university students. *Venezuelan Management Magazine*, 26(94), 840-856.
- Ibáñez, M. A. (2012). *Entrepreneurial attitudes of university students*. Measurement and proposals for action. Spain: Ediciones mensajero.

- INEGI [National Institute of Statistics, Geography and Informatics]. (2020a). *Sociodemographic Panorama of Nuevo León. Population and Housing Census 2020*. http://internet.contenidos.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/702825197926.pdf (accessed: 17.06.2024).
- INEGI [National Institute of Statistics, Geography and Informatics]. (2020b). *Sociodemographic Panorama of Sonora. Population and Housing Census 2020*. https://www.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/702825197995.pdf (accessed: 17.06.2024).
- Karimi, S., Biemans, H., Lans, T., Arasti, Z., Chizari, M., & Mulder, M. (2011, September). Application of structural equation modelling to assess the impact of entrepreneurial characteristics on students' entrepreneurial intentions. W: H. Fulford (Eds.), *Proceedings of ECIE 2011. The 6th European Conference on Entrepreneurship and Innovation* (p. 954-967), Robert Gordon University.
- Leyva, A. B., Alcántara, J. R., Espejel, J. E., & Coronado, M. A. (2019). Training of the entrepreneurial profile in higher education at the University of Sonora, Mexico. *School of Business Administration Magazine EAN*, 86, 115-132.
- Lin, S., De-Pablos-Herederó, C., Montes Botella, J.L., & Lin-Lian, C. (2022). Entrepreneurial intention of Chinese students studying at Universities in the Community of Madrid. *Sustainability*, 14(9), 5475. DOI: 10.3390/su14095475
- Ministry of Public Education. (2023). Bulletin number 32. <https://www.gob.mx/sep/es/articulos/boletin-32-matricula-nacional-de-nivel-superior-alcanza-5-2-millones-de-estudiantes-sep?idiom=es#:~:text=El%20subsecretario%20de%20Educaci%C3%B3n%20Superior,inscritos%20al%20presente%20ciclo%20escolar> (accessed: 28.04.2024).
- Neri, J. C. (2024). Public Universities in Mexico: Analysis of entrepreneurship. *Developmental Problems*, 55(216), 141-167. DOI: 10.22201/iiec.20078951e.2024.216.70026
- Paz, A. I., Harris, J., & Franco, F. (2016). Social responsibility management shared with the social entrepreneur in joint ventures in the oil sector. *Económicas CUC*, 37(2), 47-68. DOI: 10.17981/econcuc.37.2.2016.03
- Paz, A. I., Salóm, J. A., García, J., & Suárez, H. B. (2020). Entrepreneurial profile in Venezuelan University Education. *Magazine of Social Sciences (Ve)*, 26(1), 161-173.
- Rodrigo-Ararcón, J., Parra-Requena, G., & García-Villaverde, P. M. (2014). Effectiveness of entrepreneurial orientation: The role of social capital and capabilities. *European Research on Management and Business Economics*, 20, 131-139. DOI: 10.1016/j.iedee.2013.09.002
- Santillán, R., Gaona, E., & Hernández, N. A. (2015). The profile of the entrepreneur supported by private equity/venture capital funds in Mexico. *Accounting and Administration*, 60(1), 149-174. DOI: 10.1016/j.cya.2015.08.011
- Valdivia-Velasco, M., Coronado-Guzán, G., & Argüelles-Dávila, A. (2019). Entrepreneurship in Mexican Public Universities: A bibliometric study. *Venezuelan Management Magazine*, 2, 431-448.
- Vásquez, C. (2017). Education for Entrepreneurship at the University. *Management Studies*, 2, 121-147.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5, 171-180.

Authors' Contribution: María Elvira López Parra – 55%; María Margarita Carrera Sánchez – 45%.

Conflict of Interest: No conflict of interest of the authors.

Acknowledgements and Financial Disclosure: No funding was required for the development of the article. We thank the Technological Institute of Sonora and the Autonomous University of Nuevo León for the application of the instrument to their students.

PROFIL PRZEDSIĘBIORCZY STUDENTÓW. WYNIK ANALIZY PORÓWNAWCZEJ DWÓCH UCZELNI

Streszczenie: Brak szans jest wyzwaniem, z którym muszą się zmierzyć instytucje rządowe, społeczeństwo i uczelnie, zwłaszcza te ostatnie, ponieważ ich wizją jest kształcenie specjalistów zdolnych wejść na rynek pracy i przekształcić swoje otoczenie. W Meksyku instytucje szkolnictwa wyższego promują przedsiębiorczość w swoich programach edukacyjnych jako podłoże dla przedsiębiorców, które pozwala im rozwijać umiejętności w zakresie przedsiębiorczości, a tym samym skutecznie wchodzić na rynek pracy. Celem artykułu i przedstawionego w nim badania jest sprawdzenie, czy istnieje znacząca różnica między składnikami profilu przedsiębiorczości studentów programów biznesowych Instytutu Technologicznego w Sonora i Uniwersytetu Autonomicznego w Nuevo León (Facypa-Linares). Metodę badawczą zastosowano w przypadku dwóch różnych uniwersytetów, które w programie studiów mają zajęcia z przedsiębiorczości lub szkolenia biznesowego. Uniwersytety to Instytut Technologiczny w Sonora i Uniwersytet Autonomiczny w Nuevo León na Wydziale Rachunkowości Publicznej i Administracji. Próba liczyła odpowiednio 320 i 447 studentów kierunków biznesowych. Do pomiaru profilu przedsiębiorczości zastosowano ankietę. Do określenia istotności zastosowano test t-Studenta dla prób niezależnych. Jeśli chodzi o analizę rzetelności kwestionariusza, odnotowano alfa Cronbacha wynoszącą 0,942. Wyniki pokazały, że istnieje istotna różnica pomiędzy średnimi składowymi profilu przedsiębiorczego studentów kierunków biznesowych obu uczelni. Zaobserwowano, że w Instytucie Technologicznym w Sonora studenci mają większą percepcję profilu przedsiębiorczości w porównaniu z percepcją studentów Uniwersytetu Autonomicznego w Nuevo León, którzy byli bardziej niezdecydowani w swoich odpowiedziach.

Słowa kluczowe: umiejętności biznesowe, profil przedsiębiorczości, przedsiębiorczość, umiejętności w zakresie przedsiębiorczości, umiejętności zarządzania, umiejętności osobiste, umiejętności społeczne

Articles published in the journal are made available under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International Public License. Certain rights reserved for the Czestochowa University of Technology.

