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Impacto de las competencias emprendedoras sobre la capacidad para crear y gestionar un negocio

(Impact of entrepreneurial competencies on the ability to create and manage a business)

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Resumen

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Las competencias para el emprendimiento, tema de relevancia actual, son un conjunto de capacidades (susceptibles de ser desarrolladas y entrenadas) que favorecen la creación y gestión de empresas. El objetivo de la presente investigación, de alcance descriptivo-correlacional, consistió en evaluar el impacto de un conjunto de competencias vinculadas al emprendimiento sobre la capacidad para crear y gestionar un negocio. Para ello, se aplicó el instrumento para la medición de competencias para el emprendimiento, que arroja información sobre seis factores, en una muestra no probabilística de 723 participantes, y posteriormente se evaluó el modelo reflectivo diseñado, mediante ecuaciones estructurales, con la técnica de mínimos cuadrados parciales. Los resultados muestran que las competencias Self-esteem and situational and risk control, Entrepreneurial information search, and Social network formation influyen de modo significativo sobre la variable dependiente en cuestión (el tamaño del efecto también fue significativo para los primeros dos factores), no así las competencias Knowledge of one's own capabilities and Positive attitude towards entrepreneurship. El modelo propuesto también posee relevancia predictiva. Estos resultados son de utilidad para aquellas organizaciones, tanto públicas como privadas, interesadas en el fomento al emprendimiento en general, y la capacitación de determinadas competencias, de modo específico.

Palabras clave: *Emprendimiento, Competencias emprendedoras, Creación y gestión de un negocio, Modelo de ecuaciones estructurales, Mínimos cuadrados parciales.*

Códigos JEL: L26, M13, C38



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Abstract

Entrepreneurial competencies, a topic of current relevance, are a set of abilities (which can be developed and trained) that foster the creation and management of businesses. The objective of this descriptive-correlational research was to evaluate the impact of a set of entrepreneurial competencies on the capacity to create and manage a business. To this end, an instrument measuring entrepreneurial competencies, which provides information on six factors, was administered to a nonprobability sample of 723 participants. Subsequently, the designed reflective model was evaluated using partial least squares structural equation modeling. The results show that the competencies Self-esteem and situational and risk control, Entrepreneurial information search, and Social network formation significantly influence the dependent variable (the effect size was also significant for the first two factors), while the competencies Knowledge of one's own capabilities and Positive attitude towards entrepreneurship do not. The proposed model also has predictive relevance. These results are helpful for public and private organizations interested in promoting entrepreneurship in general, and in developing specific competencies.

Key words: *Entrepreneurship, Entrepreneurial competencies, Business creation and management, Structural equation model, Partial least squares.*

JEL Codes: L26, M13, C38

Introduction

Entrepreneurship is a vital solution for developing economies, as it offers individuals and groups an alternative to generate income by creating businesses that offer products and/or services.

The theoretical framework of this work is based on this benefit to highlight the importance of this phenomenon, which has attracted the attention of public and private entities, particularly because of its connection to competencies. This connection, supported by the administrative, educational, and behavioral sciences, has led to numerous studies analyzing entrepreneurial competencies: qualities necessary for entrepreneurs to create, manage, and maintain a business.

The current study frames some fundamental aspects throughout the text, especially the relevance of studying entrepreneurship and entrepreneurial competencies, whose training (possible through educational programs that promote their strengthening) is of cardinal importance, as it enables an overview of the progress they promote and their effectiveness.

The existence of such training programs for developing these competencies underscores the need to establish guidelines for their impact on the relationships among variables. This premise underpins the objective of this research: to determine the degree of impact of a set of entrepreneurial competencies on the ability to create and manage a business, using structural equation modeling.

To achieve this objective, an instrument was used to measure six entrepreneurial competencies, including Business Creation and Entrepreneurial Management. The remaining competencies are: Entrepreneurial information search, Knowledge of one's own capabilities, Positive attitude towards entrepreneurship, Self-esteem and situational and risk control, and Social network formation. Based on this accumulated data, the research hypotheses are stated below:

- H1: Entrepreneurial information search has a positive and significant impact on business creation and entrepreneurial management.
- H2: Knowledge of one's own capabilities has a positive and significant impact on business creation and entrepreneurial management.
- H3: Positive attitude towards entrepreneurship has a positive and significant impact on business creation and entrepreneurial management.
- H4: Self-esteem and situational and risk control have a positive and significant impact on business creation and entrepreneurial management.
- H5: Social network formation has a positive and significant impact on business creation and entrepreneurial management.

Theoretical Framework

Entrepreneurship involves the creation of a new business or company, with the purpose of becoming self-employed and generating income (Querejazu, 2020). This practice has proven useful, especially in developing economies (Contreras et al., 2017), to compensate for the lack of formal jobs and thus reduce unemployment rates.

These benefits have generated legitimate interest in entrepreneurship, not only in pragmatic terms (such as the promotion of activities linked to business creation by government and private bodies), but also in academic terms (such as research and formal analysis of its functioning and related categories).

Within the framework of research whose object of study has been entrepreneurship, the multifactorial quality of this construct has been emphasized; in other words, it has been conceived as the accumulation of various dimensions, which in several studies have been organized and addressed as competencies (Hinojosa et al., 2024; Pepple & Enuoh, 2020; Smirnov et al., 2023).

Thus, entrepreneurship has become a phenomenon susceptible to analysis not only by administrative sciences but also by behavioral and educational sciences, since its conception as competencies has favored such an approach. In this regard, it is important to note the multidimensional nature of competencies, traditionally framed as capabilities that involve procedural and attitudinal components, to which is added the degree of responsibility involved (Herrera, 2024).

Some studies, focused on the analysis of competencies for entrepreneurship, have identified certain variables as capabilities of this type, including knowledge, attitudes, and skills necessary for entrepreneurs to succeed in creating, managing, and maintaining their own businesses (Calanchez et al., 2022). Some of these variables are the following: attitude towards entrepreneurship (Blanco-Mesa et al., 2024; Correa & Aduna, 2012; Idrovo et al., 2020), risk-taking (Contreras et al., 2017; Correa & Aduna, 2012; Glackin & Phelan, 2020; Pepple & Enuoh, 2020; Ferreras-Garcia et al., 2021), self-efficacy (Glackin & Phelan, 2020; López-Núñez et al., 2022), self-esteem (Núñez, 2015), and network formation (Glackin & Phelan, 2020).

In addition to these factors, other approaches have highlighted the value of entrepreneurs' proactive attitude toward seeking information about entrepreneurship (Cooper et al., 1995; Orronsalo et al., 2022). Still others have demonstrated the implications of having a positive perception of one's own capabilities (Molokhina et al., 2021). Internal locus of control is another factor considered within the wide range of variables associated with entrepreneurship, which involves, among other aspects, the perception of a certain degree of situational control (Contreras et al., 2017; Correa & Aduna, 2012).

This set of competencies suggests that, within the field of entrepreneurship, in addition to the

creation of the business in question (the one that will represent the product and/or service to be offered), another set of variables involved in its management is also essential, understood as the activity to “getting things done by making the most of available resources (both human and material) via careful preparation, execution, and evaluation of plans and strategies”.

This last definition already implies a set of actions that can be developed through training. Therefore, the relevance of studying entrepreneurial competencies lies in their trainable nature: they can be developed through educational programs designed to foster, promote, and/or strengthen them. Some studies show positive results in the development of these competencies (Bernal-Guerrero and Cárdenas-Gutiérrez, 2021; Pepple and Enuoh, 2020; Peralta et al., 2024; Román-García and González, 2022).

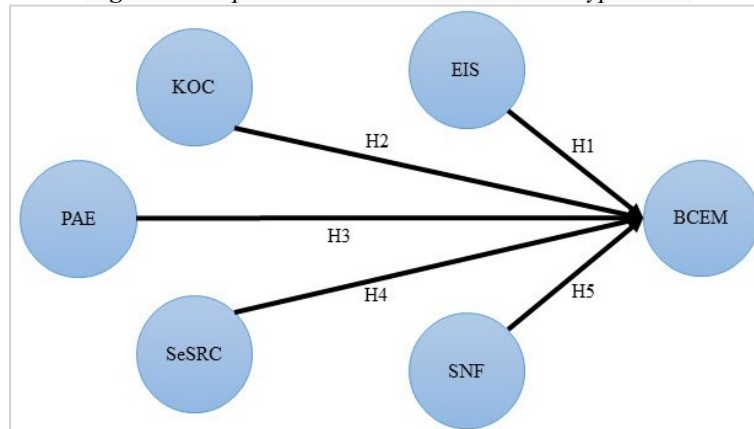
However, every educational process requires evaluative support that provides an overview of the existing influences on the relationship between variables; that is, the degree to which certain theoretically associated factors empirically impact one or more others. For this purpose, structural equation modeling allows us to understand these types of connections, since it “is a very useful technique for evaluating complex theoretical relationships between multiple variables” (Hair and Alamer, 2022, p. 1).

The analysis of the factors inherent to entrepreneurship and the relationships between them has already been carried out using structural equation modeling in various studies (Blanco-Mesa et al., 2024; Correa & Aduna, 2012; Idrovo et al., 2020). Specifically, regarding entrepreneurial competencies, some approaches have proposed models that allow for the visualization of the influence of certain variables on others:

Diez Farhat et al. (2021) reported the effect of a set of factors, including education and training in entrepreneurship, on the ability to create a new business. Ferreras-Garcia et al. (2021) analyzed the perceived levels of acquisition of various competencies related to entrepreneurship. Shir et al. (2019) examined the effect of entrepreneurship on well-being, accounting for psychological competence. Sundah et al. (2018) explored the influence of some entrepreneurial competencies on the tool known as the business model canvas.

The importance of these contributions, as already explained, lies in their role in understanding the extent to which variables associated with entrepreneurship influence the key actions of its dynamics: the creation and management of a business. The mention in previous lines of the extensive catalog of factors related to business creation indicates that this premise cannot be taken lightly, as possessing this knowledge enables determining which variables should be considered essential for its development and strengthening.

Figure 1. *Proposed theoretical model and its hypotheses*



Materials and methods

Type of research and scope

This research, of a non-experimental, cross-sectional type, is based on a quantitative approach and has a descriptive-correlational scope.

Sample

The total number of participants was 723, obtained through convenience sampling. Their characteristics are specified in Table 1. Some notes not included in that table are as follows: the municipalities in the State of Mexico with the most cases were Naucalpan de Juárez, Nezahualcóyotl, and Tlalnepantla (67, 51, and 33, respectively); the boroughs in Mexico City most frequently mentioned were Coyoacán, Iztapalapa, and Gustavo A. Madero (with 29, 28, and 24 cases, respectively). The Unemployed subcategory within the Occupation category includes 18 people who stated they were solely engaged in household chores.

Instrument

For data collection purposes, the Instrument for Measuring Entrepreneurial Competencies, designed and validated by Montufar Melo and González Videgaray (2025) in a Mexican population, was used. The instrument consists of 56 items with a Likert-type response format. It provides information on six subscales: Business Creation and Entrepreneurial Management (27 items), Entrepreneurial Information Search (12 items), Knowledge of One's Own Capabilities (7 items), Positive Attitude Towards Entrepreneurship (2 items), Self-Esteem and Situational and Risk Control (3 items), and Social Network Formation (5 items).

Procedure

Data collection was carried out during October, November, and December of 2025 and January of 2026 at the Faculty of Higher Studies Acatlán and at various locations in the municipalities of Nezahualcóyotl and Ixtapaluca, State of Mexico. Data was also collected at University City (Ciudad Universitaria), in the center of the Coyoacán borough, and in the esplanade of the Gustavo A. Madero borough, in Mexico City. The designated individual, who had received prior training, administered the questionnaires in person, verifying that participants were Mexican citizens of legal age, obtaining their informed consent, and addressing any questions or comments they may have.

Table 1. *Sample characteristics*

Age (years)	Residence	Gender	Education	Occupation
	State of Mexico: 448 (62%)		Middle-school: 12 (1.7%)	Student: 541 (74.8%)
Min: 18	Mexico City: 272 (37.5%)	Female: 334 (46.2%)	High-school: 497 (68.7%)	Employee: 98 (13.6%)
Max: 69	Querétaro: 2 (0.35%)	Male: 362 (50.1%)	Technical degree: 34 (4.7%)	Self-employed: 45 (6.2%)
Median: 26	Puebla: 1 (0.15%)	Unspecified: 27 (3.7%)	Bachelor's degree: 108 (14.9%)	Retired: 8 (1.1%)
Mode: 21			Postgraduate degree: 72 (10%)	Unemployed: 31 (4.3%)

Note. Percentages are approximate.

The data were captured in Excel, part of the Office 2016 suite, for descriptive analysis. Later, they were exported to SmartPLS 4 software for evaluation, following the steps recommended by Hair et al. (2017): reflective measurement model evaluation using the partial least squares (PLS) algorithm, internal model evaluation using the Bootstrapping technique with 5,000 subsamples, and finally, to obtain the predictive relevance of the model, the Blindfolding technique with 10 folds was used.

Results

The PLS algorithm enabled the evaluation of the external or measurement model. The first step in this evaluation was to determine the item loadings for each subscale and to establish the reliability indicators. This allowed for the refinement of the model in question, for which most of the items with a loading of less than 0.708 were eliminated, while retaining those that, although they also had a loading below that limit, were above 0.40 and did not affect the reliability or convergent validity values (Hair et al., 2017).

The second step, therefore, was to analyze the internal consistency values of the subscales. Table 2 includes not only the loadings resulting from the previous step, but also the coefficients

specific to this step. As shown, both the alpha coefficients and the composite reliability coefficients are greater than 0.70 in all cases.

Table 2. *Results of the evaluation of the adjusted external model*

Construct	Indicator	Loading	Communality	Internal consistency reliability		AVE
Entrepreneurial information search	EIS1	0.864	0.746	$\alpha=$	0.756	0.672
	EIS2	0.863	0.745	$\rho_{a=}$	0.782	
	EIS3	0.724	0.524	$\rho_{c=}$	0.859	
Knowledge of one's own capabilities	KOC1	0.814	0.663	$\alpha=$	0.822	0.584
	KOC2	0.766	0.587	$\rho_{a=}$	0.828	
	KOC3	0.712	0.507	$\rho_{c=}$	0.875	
	KOC4	0.798	0.637			
	KOC5	0.724	0.524			
Positive attitude towards entrepreneurship	PAE1	0.937	0.878	$\alpha=$	0.833	0.856
	PAE2	0.914	0.835	$\rho_{a=}$	0.846	
				$\rho_{c=}$	0.923	
Self-esteem and situational and risk control	SeSRC1	0.721	0.520			0.521
	SeSRC2	0.686	0.471			
	SeSRC3	0.698	0.487			
	SeSRC4	0.744	0.554	$\alpha=$	0.898	
	SeSRC5	0.763	0.582	$\rho_{a=}$	0.903	
	SeSRC6	0.748	0.560	$\rho_{c=}$	0.916	
	SeSRC7	0.778	0.605			
	SeSRC8	0.717	0.514			
	SeSRC10	0.683	0.466			
	SeSRC11	0.674	0.454			
	SNF1	0.690	0.476			
Social network formation	SNF2	0.772	0.596	$\alpha=$	0.847	0.566
	SNF3	0.787	0.619	$\rho_{a=}$	0.853	
	SNF4	0.746	0.557	$\rho_{c=}$	0.887	
	SNF5	0.748	0.560			
	SNF7	0.768	0.590			
	BCEM1	0.733	0.537			
	BCEM2	0.762	0.581			
Business Creation and Entrepreneurial Management	BCEM3	0.744	0.554			0.520
	BCEM4	0.756	0.572			
	BCEM5	0.757	0.573			
	BCEM6	0.736	0.542			
	BCEM7	0.735	0.540	$\alpha=$	0.938	
	BCEM8	0.735	0.540	$\rho_{a=}$	0.939	
	BCEM9	0.727	0.529	$\rho_{c=}$	0.945	
	BCEM11	0.704	0.496			
	BCEM12	0.714	0.510			
	BCEM13	0.660	0.436			
	BCEM17	0.717	0.514			
	BCEM19	0.670	0.449			
	BCEM21	0.698	0.487			
	BCEM22	0.684	0.468			

Note. Own work based on the results obtained in SmartPLS.

The third step involved assessing the model's convergent validity by calculating the average

variance extracted (AVE). Table 2 shows that all values are adequate, as they are above 0.50 (Sarstedt et al., 2021).

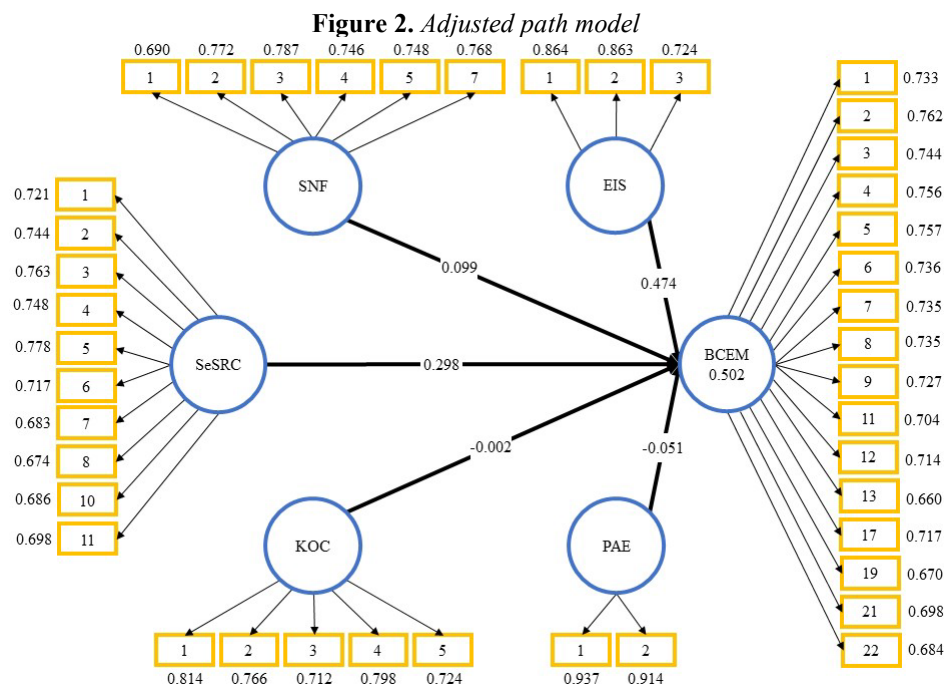
Finally, to assess the model's discriminant validity, Table 3 presents the Heterotrait-Monotrait Ratio (HTMT) matrix. Ideally, the correlations grouped there should have a maximum value of 0.85 to be considered good indicators of such validity (Henseler et al., 2015).

Table 3. Matrix Heterotrait-monotrait ratio (HTMT)

	BCEM	EIS	KOC	PAE	SNF	SeSRC
BCEM						
EIS	0.769					
KOC	0.582	0.647				
PAE	0.467	0.487	0.580			
SNF	0.601	0.651	0.774	0.707		
SeSRC	0.616	0.564	0.797	0.626	0.757	

Note. Own work based on the results obtained in SmartPLS.

Figure 2 shows the adjusted external model, prior to the evaluation of the internal model. Table 4 includes the results of this evaluation, starting with the Variance Inflation Factor (VIF), an indicator of the model's collinearity; as a general rule, values less than 3 are tolerated, indicating that the exogenous variables can be considered distinct from each other.



Note. Own work based on the results obtained in SmartPLS.

Regarding the analysis of trajectories, of the relationships prefigured beforehand, three were statistically significant (Entrepreneurial information search, Self-esteem and situational and risk control, and Social network formation on Business Creation and Entrepreneurial Management), which allowed acceptance of the research hypotheses H1, H4, and H5.

To determine the effect size of these relationships, the F^2 statistic was calculated. The values, also shown in Table 4, suggest that the effect of Entrepreneurial information search on Business Creation and Entrepreneurial Management is moderate. In contrast, the effects of Self-esteem, situational and risk control, and Social network formation on the same endogenous variable are relatively small (Cohen, 1988). In both cases, the effect sizes were significant, but not in the others.

Table 4. Resulting values from the structural model evaluation

	VIF	Path coefficients			f2 effect size		
		OS	Confidence interval	p-values	OS	Confidence interval	p-values
EIS → BCEM	1.495	0.474	[0.402-0.543]	0.000	0.302	[0.208-0.424]	0.000
KOC → BCEM	2.247	-0.002	[-0.084-0.090]	0.961	0.000	[0.000-0.009]	0.999
PAE → BCEM	1.587	-0.051	[-0.125-0.019]	0.163	0.003	[0.000-0.019]	0.536
SeSRC → BCEM	2.185	0.298	[0.212-0.382]	0.000	0.082	[0.040-0.142]	0.002
SNF → BCEM	2.344	0.099	[0.016-0.180]	0.018	0.008	[0.000-0.029]	0.272

Note. Own work based on the results obtained in SmartPLS. OS=Original sample.

Table 5 shows the values used to analyze the predictive relevance of the model. The coefficient of determination (R^2) was statistically significant. The Q^2 value, being greater than zero, indicates predictive relevance.

Table 5. Coefficients of determination (R^2) and Q^2 indicators

	R^2	p-values	Q^2
BCEM	0.502	0.000	0.490

Note. Own work based on the results obtained in SmartPLS.

Discussion and Conclusions

The results obtained are consistent with those reported by studies such as Contreras et al. (2017), Correa and Aduna (2012), Glackin and Phelan (2020), Pepple and Enuoh (2020), and Ferreras-Garcia et al. (2021), regarding the relevance of the risk factor in the field of entrepreneurship. Similarly, they are consistent with self-esteem (Núñez, 2015) and internal locus of control (Contreras et al., 2017; Correa & Aduna, 2012). In the present study, the latent variable "Self-esteem and situational and risk control" encompassed indicators of these factors, and its impact on the endogenous variable (Business Creation and Entrepreneurial Management) was evident; the effect size, although small, was also significant.

Another finding that echoed previous studies concerned the search for information about entrepreneurship, as reported by Cooper et al. (1995) and Orrensaló et al. (2022). Its influence on the creation and management of a business also stood out, as the effect was moderate yet significant.

The variable corresponding to the formation of networks, previously identified by Glackin and Phelan (2020), although it did not have a significant effect size, its impact on the endogenous variable was significant, allowing the assertion that the relational component of entrepreneurship is relevant in the creation and management of the entrepreneurship that is intended to be carried out, or the business or businesses to be undertaken.

These findings highlight the dominance of self-esteem, risk management, and situational control over the creation and maintenance of a business. Paying special attention to fostering and strengthening these competencies would not be unproductive; on the contrary, it would have practical implications for the two key aspects of any entrepreneurial venture: its creation and its management.

Secondly, the importance of seeking information on entrepreneurship should not be underestimated. In the present model, this variable proved notably influential, suggesting that it broadens understanding of self-employment and thus offers a better chance of anticipating certain events and obstacles, enabling more effective solutions and approaches.

Third, the value of the community and relational aspects of entrepreneurship also stands out, particularly through the factor linked to the formation of social networks. Since starting a business involves the commercialization, on a small or large scale, of a product or service, establishing relationships to promote it is inherent. Furthermore, networking is also relevant for forging alliances or, at the very least, maintaining contacts that provide the entrepreneur with sources of knowledge regarding the market, the competition, and positioning strategies, among other related issues.

However, this study has some limitations that should be considered; understanding and addressing them will strengthen and make future contributions more robust. This group of adolescents focuses primarily on the characteristics of the sample. For subsequent studies, it might be advisable to increase its size and include participants from other Mexican states. In the current research, their area of residence was primarily urban and suburban, located in the central region of the country. For these reasons, the inclusion of residents from rural areas, located in both the southern and northern regions, would help obtain more extensive and comprehensive information on the variables analyzed.

Furthermore, in this case, data were provided for six entrepreneurial competencies (one as a dependent variable and the remaining five as independent variables). For future lines of research, the inclusion of other competencies that can impact the ability to create and manage one's own business should not be omitted, so that their degree of influence on this and other variables can be visualized and linked.

Based on the above, it is possible to conclude that entrepreneurship is currently a crucial tool for generating income through self-employment, especially in developing economies. Its analysis, as a multifactorial phenomenon and construct, has garnered significant attention in both applied and academic fields, enabling in-depth analysis that has revealed the importance of studying it in conjunction with competencies, which are capabilities that encompass skills, attitudes, and responsibilities.

Entrepreneurial competencies, being trainable qualities, can be enhanced through educational programs. Evaluating the relationships between these competencies is fundamental to understanding which factors have a significant impact on their development, thereby increasing the likelihood of success in creating and managing new businesses. For this reason, the need for models that represent the relationship between these variables is more than evident.

Strengthening these variables, which can ultimately be considered as tools, can contribute to the advancement of the study and practice of entrepreneurship, promoting a sustainable and effective business culture.

Based on these foundations, a structural model was formed, whose components operationalize actions linked to a set of competencies for entrepreneurship, three of which decisively and significantly influence the ability to create and manage a business: Entrepreneurial information search, Self-esteem and situational and risk control, and Social network formation.

These data support the premise that entrepreneurship has vast potential to transform economic realities, which is why both educational and governmental entities must promote the development of competencies associated with its operation and establish mechanisms to evaluate the relationships among these variables, which respond to the context and current reality.

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