

Artificial intelligence as a strategic resource for journalism entrepreneurship: perceptions of the entrepreneurial mindset and decision-making

La inteligencia artificial como aliada estratégica en el emprendimiento en periodismo: percepciones sobre la mentalidad emprendedora y la toma de decisiones

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ABSTRACT: Purpose. Artificial intelligence (AI) is redefining the dynamics of entrepreneurship in Journalism not only as a tool, but as a strategic ally in decision-making. **Methodology.** To address this transformation, the study adopts a mixed-methods design with an explanatory sequential structure. In the first qualitative phase, the perceptions of 13 experts from the journalistic, entrepreneurial, and academic fields across seven countries were explored in depth through semi-structured interviews. In the second, quantitative phase, a survey was conducted with 280 journalism and communication students in Spain ($n = 217$) and the United States ($n = 63$), with the aim of complementing and contrasting the initial findings from the students' perspective. **Results and conclusions.** The results converge on a central idea: AI can enhance entrepreneurial confidence by optimizing processes and reducing risks, although it cannot replace essential competencies such as emotional intelligence, critical thinking, or leadership. Despite its potential, excessive dependence on this technology may limit creativity and entrepreneurial vision, underscoring the need for balanced training that combines human and technological skills. In this regard, higher education plays a key role in the ethical and pedagogical integration of AI. **Original contributions.** This study offers a critical perspective on the impact of AI in entrepreneurship and raises questions about its integration in education, opening new lines of research on its role in fostering autonomy and creativity among future entrepreneurs.

Keywords: journalism; artificial intelligence; decision-making; entrepreneurial mindset; training; communication.

RESUMEN: Propósito. La inteligencia artificial (IA) está redefiniendo las dinámicas del emprendimiento en el ámbito periodístico, no solo como herramienta, sino como aliada estratégica en la toma de decisiones. **Metodología.** Para abordar esta transformación, el estudio adopta un diseño de método mixto con estructura secuencial explicativa. En una primera fase cualitativa, se exploraron en profundidad las percepciones de 13 expertos del ámbito periodístico, emprendedor y académico de siete países, a través de entrevistas semiestructuradas. En una segunda fase, cuantitativa se realizó una encuesta a 280 estudiantes de periodismo y comunicación en España (n = 217) y Estados Unidos (n = 63), con el fin de complementar y contrastar los hallazgos iniciales desde la perspectiva del estudiantado. **Resultados y conclusiones.** Los resultados convergen en una idea central: la IA puede reforzar la confianza emprendedora al optimizar procesos y reducir riesgos, aunque no sustituye competencias esenciales como la inteligencia emocional, el pensamiento crítico o el liderazgo. A pesar de su potencial, una dependencia excesiva puede limitar la creatividad y la visión emprendedora, lo que subraya la necesidad de una formación equilibrada que combine habilidades humanas y tecnológicas. La educación superior desempeña, en este sentido, un papel clave en la integración ética y pedagógica de la IA. **Aportes originales.** Este estudio ofrece una perspectiva crítica sobre el impacto de la IA en el emprendimiento y plantea interrogantes sobre su integración en la educación, abriendo nuevas líneas de investigación sobre su papel en el fomento de la autonomía y la creatividad entre los futuros emprendedores.

Palabras clave: periodismo; inteligencia artificial; toma de decisiones ; mentalidad emprendedora; formación; comunicación.

1. Introduction

Artificial Intelligence (AI) has revolutionized technology, in addition to the way we live and work. Although it is difficult to define this term (Collins *et al.*, 2021), which was coined in 1956 by John McCarthy. Nowadays, AI is creating new opportunities in multiple fields, especially regarding significant improvements in the business and entrepreneurial worlds by providing new perspectives on data analysis, automation, and innovation, which is highly useful for decision-making by entrepreneurs (Colson, 2019). Moreover, this trendy technology is affecting entrepreneurial practices as well, due to several reasons (Elia *et al.*, 2020).

First, the use of AI can help entrepreneurs identify opportunities (Shepherd & Majchrzak, 2022), even before their competitors. Applications such as Google Trends, along with other tools and software, are used to analyze social networks. Supported by AI, these instruments are able to observe, monitor, and compare data in real time which, together with machine learning, enables the study of patterns, the possibility of making predictions, and the opportunity to set new market trends. However, they offer an additional benefit that is important as well: knowledge regarding consumer behavior (Gera & Kumar, 2023). Such information is highly relevant, as it can also be used to identify the preferences of citizens. By monitoring this data, decision-making by entrepreneurs can be more effective than if it is performed only through intuition (Duan *et al.*, 2019).

With this in mind, AI algorithms and different techniques of predictive modeling or analysis can assist entrepreneurs in the task of anticipating situations in the future, taking action in time, and finding new opportunities. This is important regarding one particular problem related to entrepreneurship, which is uncertainty. The avoidance of uncertainty leads citizens to exploit opportunities in two ways: through entrepreneurship (Dasmit *et al.*, 2023); and through intrapreneurship (Liebregts *et al.*, 2025). The latter term is considered internal, or corporate entrepreneurship. In other words, this is an entrepreneurial opportunity for workers to innovate and add value to the company they work for (Rigtering *et al.*, 2019).

AI can also help to optimize internal processes and resources (Takyar, n.d.), as the automation of routine tasks partially frees up entrepreneurs' valuable time, which they can

devote to other activities that further the objective to be achieved. Moreover, in the current economic landscape efficiency is essential in order for a venture to be productive, profitable, and sustainable, although these tasks should always be supervised by humans. On the other hand, AI can also be useful for innovation and the promotion of creativity, as it generates ideas (Davenport *et al.*, 2020). In the field of communication and journalism, newsrooms and news organizations are implementing AI in the production and distribution of information (Lopezosa *et al.*, 2024; Sánchez-García *et al.*, 2023; Ufarte Ruiz & Murcia Verdú, 2018). These outlets also use AI for fact-checking aimed at improving their news verification processes and methodology (Sánchez Gonzales *et al.*, 2024), as well as carrying out professional routines, and even developing AI tools to perform some of their work (Tejedor Calvo *et al.*, 2025; Sánchez *et al.*, 2024).

Along with other key uses related to AI, these approaches are bringing about a change of attitude in the entrepreneurial mindset (Ughulu, 2025; Fossen *et al.*, 2024; Darwish *et al.*, 2020), and in the decision-making of many companies as a consequence (Giuggioli & Pellegrini, 2023). AI must be viewed as an ally of innovation by the organizational culture.

Therefore, AI is a useful assistant for innovation (Secundo *et al.*, 2025), which influences various aspects of business, including how startups and companies create added value (Verganti *et al.*, 2020), how they respond to the demands of users and customers (Mustak *et al.*, 2021), and how entrepreneurs make decisions. In addition to these positive aspects, it is also necessary to assess the future risks that might emerge with the evolution of AI.

Nevertheless, this new technology is not only attractive for entrepreneurs and their business decisions, but also for professors, researchers and academics, especially those engaged in a line of research or teaching focused on entrepreneurship. One example is the academic area of communication, where AI is still in its infancy, despite its importance for business organizations (Shin & Fu, 2024). Therefore, the present study aims to reveal how the experts and professors interviewed perceive the entrepreneurial mindset, not only to assist them in teaching this discipline, but also to increase knowledge regarding how AI can help the decision-making process of entrepreneurs. The research questions posed are as follows: What is the opinion of professors and experts regarding AI and entrepreneurship in journalism? How can AI contribute to the decision-making process? What aspects are taken into account in shaping an entrepreneurial mindset, and how important are these factors in implementing journalistic entrepreneurial initiatives? Finally, how does AI influence the entrepreneurial mindset at the university level?

1.1. Entrepreneurship using AI: the education perspective

Engaging in entrepreneurial activity with the help of artificial intelligence enhances the value of different processes and experiences through technological assistance (Hamdan *et al.*, 2021). Although various authors have theorized on the convergence of digital technology and entrepreneurship, calling it digital entrepreneurship (Nambisan, 2017), the term is constantly fluctuating (Wimelius *et al.*, 2023), due to its constant evolution and adaptation to new requirements in relation to traditional entrepreneurship. Other terms include technological entrepreneurship (Ferreira *et al.*, 2016; Bailetti, 2012), and digital technology entrepreneurship (Giones & Brem, 2017). The former is a combination of entrepreneurship and technology-based innovation (Ferreira *et al.*, 2016) which, thanks to its use by individuals, enables the creation and generation of value for companies (Bailetti, 2012). The second term, digital technology entrepreneurship (Giones & Brem, 2017: 47), is “focused on the identification and exploitation of opportunities based on scientific or technological knowledge through the creation of digital artefacts”.

Within the framework of the fourth technological revolution, with its opportunities and challenges (Shepherd & Majchrzak, 2022), the convergence of entrepreneurship and AI could be defined as the integration of intelligent systems with human teams, enabling more agile responses to the

challenges of value creation through innovation, as this allows actions to be tailored in order to optimize the processes involved in creating new business models. Nevertheless, it is necessary to continue developing the definition of AI entrepreneurship due to its ability to transform the current scenario.

It is difficult to understand how the entrepreneurial mindset works. Nor is a definition simple, because it has to do with metacognition (Haynie *et al.*, 2010), in addition to self-efficacy (Zhang & Chun, 2018), as well as educational and social experiences (Ousios & Kittler, 2018). According to Daspit *et al.* (2023), the entrepreneurial mindset involves cognitive processes that enable the individual to create value while taking into account the opportunities and constraints involved in making decisions, and simultaneously adapting with fortitude to uncertain and often complex conditions of poverty (Morris & Tucker, 2023).

Most of the studies related to entrepreneurial mindsets are multidisciplinary and have been conducted in Europe for the most part (mainly in Nordic countries), and in the USA (Daspit *et al.*, 2023). In the context of education, it has been addressed by several authors in other areas such as science and engineering (Martín-Lara *et al.*, 2019), yet no studies have been found regarding entrepreneurship in communication or journalism from the point of view of this research.

In previous lines of study, we have mentioned the use of AI in entrepreneurship, the entrepreneurial mindset, and decision-making, among others. Nevertheless, the key question is how future entrepreneurs can be educated to explore all the advantages, as well as the risks, of using AI when considering and implementing their initiatives? Undoubtedly, this is a complex task that instructors must undertake in order to provide the skills required by entrepreneurs and professionals that are in line with the new communicative and technological scenario. Moreover, they must also impart knowledge regarding the implications of AI on work processes (Chalmers *et al.*, 2021), as well as work routines, because these will influence whether entrepreneurs thrive in their organizations.

Although several studies have addressed the growing interest of including AI in education (Yu *et al.*, 2025; Tahir *et al.*, 2024; Zhang & Aslan, 2021), there has been scant research on how an entrepreneurial education can be enhanced through AI (Chen *et al.*, 2024; Sollosy & McInerney, 2022). This reflects a gap in the research regarding its potential. In the field of communication, research is still scarce and incipient. Salgado Arzuaga (2022) addresses the implications of AI for journalism education. Using a similar approach, Gómez-Diago (2022) focuses on research projects and teaching experiences involving data processing and content verification. Lopezosa *et al.* (2023) reflect on the incorporation of AI in higher education by analyzing how it can be journalistically integrated into the production and consumption of news by students. An example of this approach is provided by Cartes-Barroso *et al.* (2024), who have compiled several proposals from academics for updating the curriculum of journalism studies in order to include the teaching of technologies such as AI, yet none of the studies address research or teaching practices that include entrepreneurship.

In other words, teaching the practical application of AI to entrepreneurship is still limited. In the field of communication and journalism, several pedagogical initiatives related to the use of AI in entrepreneurship have been found. Through experiential learning, an entrepreneurial mindset can be fostered through the development of digital projects in real-life settings in order to prepare students and future journalists for the job market. Although this educational strategy has used various techniques for more than a decade, including design thinking, benchmarking, etc., they have only been working with AI for four years (LabProCom, 2024). However, in spite of the benefits of these initiatives, it is necessary to further develop these types of activities and training programs, which are focused on the use of AI in entrepreneurship within the curriculum and syllabi, as well as in the area of research, strategy, and pedagogical approaches toward entrepreneurship worldwide.

2. Objectives and hypotheses

By exploring the views of entrepreneurial experts and faculty from various universities worldwide, the overall objective of this research is to examine how these professionals perceive the importance of AI in journalism entrepreneurship, as well as training students to have an entrepreneurial mindset.

Therefore, the specific objectives of this study are as follows:

OB1. Analyze the training aimed at shaping an entrepreneurial mindset and its importance in the development of entrepreneurial projects in journalism by students.

OB2. Determine the degree of use of AI by professors and experts in entrepreneurship.

OB3. Examine how AI reinforces the decision-making of an entrepreneurial project, through interviews and a survey conducted among journalism and communication university students in Spain and the United States.

Thus, the present research is based on the following hypotheses:

H1. Instruction focused on shaping an entrepreneurial mindset enables behavioral patterns in students to be reinforced in order for them to be successful.

H2. AI is a tool used to assist and support the decision-making of entrepreneurs. It gives them confidence and reduces the risks involved in entrepreneurship.

The practical nature of this study lies in its contribution to the advancement of entrepreneurial research and activity involving artificial intelligence in the field of journalism and communication. First, the changes resulting from AI requires new theories regarding how the practice of seizing opportunities in entrepreneurship through the use of AI is perceived, bearing in mind previous research on digital entrepreneurship. Second, we have tried to emphasize the need for decision-making in entrepreneurship by disclosing the developments or changes taking place with the help of AI. Third, we have examined the training that focuses on shaping an entrepreneurial mindset in order to delve into the factors that influence the mentality of students.

3. Methodology

This study adopts a sequential explanatory mixed-methods research design (Creswell & Plano Clark, 2018), divided into two phases. The first, qualitative phase aimed to explore in depth the perceptions of experts regarding AI and entrepreneurial journalism. The second, quantitative phase was designed to measure and compare the prevalence of specific dimensions of the entrepreneurial mindset—identified as key in the qualitative phase—within a student sample.

This mixed-methods approach allows for a comparison between the perspectives of professionals and those of students, thus enriching the understanding of the phenomenon from a multi-actor and transnational perspective.

3.1. Phase 1: Expert Interviews

The first step of this study was to interview professors of journalism and experts in entrepreneurship and artificial intelligence. The authors chose to use the semi-structured interview method (Añorve Guillén, 1991), not only because it enables data collection, but also because it allows researchers to delve into other types of data that would otherwise be inaccessible. The interviews were conducted online and transcribed. According to Opara *et al.* (2023), this technique offers “unprecedented opportunities for qualitative research” (p. 561). First, it offers “the opportunity to reach groups that are difficult to access, either geographically or culturally” (p. 565). Second, it provides confidentiality due to the physical distance between interviewer and interviewee, as well as data security.

More than 20 international professionals were contacted. Participants selected through purposive sampling (n=13) were chosen to ensure diversity of profiles and relevance of their contributions to the subject under study, based on two criteria: teachers who are active in the classroom or expert lecturers who are in contact with students and who come from different countries (seven in total), including Spain, the USA, Puerto Rico, Cuba, Peru, Chile and Colombia. This geographical diversity responds to criteria of relevance and belonging for the object of study on educational contexts in communication and entrepreneurship. This cultural difference enriches the comparability of the results. Thus, the interviewees are professors in the field of journalism and communication (n=7; 4 men and 3 women) and experts in entrepreneurship (n=6: 3 men and 3 women). The sample size allowed for code saturation (Hennink *et al.*, 2016), ensuring depth and analytical richness for exploratory studies, such as those that seek to understand complex phenomena and generate transferable knowledge.

The interviews were prepared between March and May. Next, we contacted the participants by e-mail to provide them with information about the research, and to make sure that they understood the consent process, and whether or not they agreed to participate in the study (Jowett *et al.*, 2011). The interviews were conducted between May and the beginning of July 2024. This period was longer than usual due to the interviewees living in various geographical areas, which made the online data collection more complex and time-consuming. Finally, the responses were obtained from the professors and experts who appear in Table 1 (n=13).

Table 1. Professors and entrepreneurial experts interviewed.

Name	Position	University or company	Country
Jake Batsell	Professor of Business Journalism	Southern Methodist University	United States
Miguel Carvajal	Professor of Journalism	Miguel Hernández University	Spain
Germarilis Ruiz Galloza	Director of the Fab Lab, and a professor as well	Sacred Heart University	Puerto Rico
Katia Sánchez Martínez	Ambassador of Sembramedia, expert in entrepreneurship. Founder and Director of a digital communication agency	La Penúltima Casa [the next-to-last house]	Cuba
Mariane Bekker	General Partner	Progressive Ventures	United States
James Breiner	International entrepreneurial consultant, and a member of the executive board of Sembramedia.	Sembramedia	United States
Cheryl Edison	CEO, entrepreneurial advisor	U.S. Department of State	United States
Carolina L. Albornoz Falcón	Professor of Management of Journalistic Companies	National University of San Marcos	Perú
Claudia Lilibiana Bedoya Sandoval	Professor of entrepreneurship in communication - journalism	Santiago de Cali University	Colombia
Sudhir Kadam	Managing partner in a company, and a professor of innovation and strategy	FYDA Venture Partners, LLC	United States
Alexis Apablaza-Campos	Professor of Journalism and Advertising	UNIACC University	Chile
Alejandro Lopera	Assistant professor and lecturer to the Entrepreneurial Chair- (Journalism- Com-munication)	Pontifical Javeriana University and UNIMINUTO	Colombia
Miguel Martín	Entrepreneurial expert	SuperSkills Lab & Academy + World Business Angels Forum	Spain

Source: prepared by the authors.

Data was collected through open-ended questions that followed a relatively stable questioning sequence. Nevertheless, the interviewees had complete freedom to answer the questions however they saw fit, while considering the uniqueness of each situation (Wimmer & Dominick, 2013), in order to avoid interference with the answers given.

A semi-structured questionnaire was designed and divided into two blocks. The first referred to the use of AI by experts and professors of entrepreneurship, what kind of tools they use for teaching, and the frequency of use. In this regard, we also considered the importance of specific AI training for entrepreneurs and its usefulness in decision-making related to their business projects, including type, process, and stage, and for which projects it was not necessary or useful.

The second block focused on the need for training to shape an entrepreneurial mindset, and to what extent it could help students achieve the goals they set for their projects. It also addressed the importance of perseverance and an optimistic attitude, as well as the ability to mitigate the risk of facing challenges and recognizing opportunities that add value to their product or service. Likewise, the second block also addressed the ability to deal with empathy and failure as part of the learning process, in addition to identifying where AI can offer support to enhance these skills.

For the data collection, the text was coded and categorized into a database according to the research objectives, noting that English and Spanish were the languages of the interviewees. A deductive approach was used for the first round of coding and an inductive approach for the second. Due to the nature of the study, we used both open coding to identify relevant and conceptual segments of the text, and axial coding to reorganize and connect the codes and identify relationships and patterns. In both cases, we took into account the coding based on code families (Campbell *et al.*, 2013). The intercoder agreement between two researchers was applied in order to calculate the level of agreement and determine the degree of reliability of the text of the interviews. This was performed through the iterative process of unification (Krippendorff, 1995) of units of significance, and by using the proportion agreement method (Kurasaki, 2000) for the purpose of reducing coding errors. The figure of 94% was obtained in the second round, according to the reliability and concordance calculations (Campbell *et al.*, 2013), which were as follows: $PA = CA / (CA + CD) * 100$ where (PA) is percentage of agreement, (CA) is coder agreement, and (CD) is coder disagreement.

3.2. Phase 2: Student Survey

For this phase, a non-probability convenience sampling strategy was employed, resulting in the voluntary participation of 280 Journalism and communication students from Spain (n = 217) and the United States (n = 63). A confidence level of 95% was adopted, indicating that the results observed consistently reflect the trends of the population studied in the vast majority of repetitions of the study. With a sample size of 280 and assuming maximum variability ($p = 0.5$), the approximate margin of error is 5.86%, which ensures that inferences about student perceptions and attitudes are statistically sound and defensible, despite the non-probabilistic nature of the sample. It is important to note that the imbalance between the two subsamples constitutes a limitation of this study; therefore, the results should be interpreted in an exploratory manner. Data collection was conducted through an online CSAQ-type survey (Computer Self-Administered Questionnaire) (Cea d'Ancona, 2010), which ensured the accessibility of the instrument and facilitated participation. Anonymity, data reliability, and participant consent were guaranteed at all times.

The questionnaire administered to students was designed in accordance with methodological standards in social research (Bryman, 2016) and structured around three main categories of variables: sociodemographic, factual, and attitudinal.

The sociodemographic block served to characterize the student profile through questions related to age, gender, level of education, university of origin, and country. Factual

variables focused on capturing observable and verifiable situations: Does AI help you make decisions in your project? (coded as Yes = 1, No = 2, DK = 3, NR = 4). Multiple binary coding (1 = selected, 0 = not selected) was used for the following questions: What type of decisions? (strategic, tactical, operational, DK, other), In what decision-making process do you use AI? (intuitive, deliberative, DK, NR, other), In which stage of the decision-making process do you use AI? and For which type of decisions is AI not useful? (problem identification, information gathering, identification and analysis of alternatives, selection of the most appropriate option, evaluation).

Attitudinal variables, in turn, captured the respondents' personal perceptions and opinions regarding the entrepreneurial mindset. This section of the questionnaire consisted of nine items. Responses to the following questions were collected using a Likert-type scale: Do you think developing an entrepreneurial mindset can help achieve goals in a business initiative? (from always = 1 to never = 6), Can you accept failure as part of the learning process? (very frequently = 1 to don't know = 6), Do failures sometimes lead to positive long-term outcomes? (strongly agree = 1 to disagree = 5), Do you consider creative activities as learning opportunities? (always = 1 to never = 6), Do you easily identify new opportunities that add value to a product and can you influence others to adopt this approach? (always = 1 to never = 6), Do you consider yourself an empathetic person and often connect with people different from yourself? (always = 1 to never = 5), When facing difficult tasks, are you confident you will succeed? (always = 1 to never = 5), Are there situations in which it makes sense to collaborate with competitors or even adversaries by sharing resources and information? (strongly agree = 1 to disagree = 5). The question "Are you a proactive person?" was coded as a nominal categorical variable (Yes = 1, No = 2, DK = 3, NR = 4). The design of this section was informed by previous studies by (Wigner *et al.*, 2022; Sidhu *et al.*, 2016).

For statistical analysis, both descriptive and inferential techniques were applied using the Jamovi software. Descriptive analysis was used to determine the entrepreneurial profile of the sample. Regarding the perceived usefulness of AI in entrepreneurial decision-making, chi-square tests (χ^2) were applied to identify significant associations by country and gender, as well as differences in its application according to the type of decision, process, and the various stages of the decision-making process. In addition, the Mann-Whitney U test was used to compare the overall distribution of responses between Spanish and U.S. students regarding the importance attributed to the entrepreneurial mindset in achieving business goals, while chi-square tests (χ^2) were also used to detect differential frequency patterns by country and gender.

4. Results

4.1. Shaping an entrepreneurial mindset among students

In the journalism and communication sector, entrepreneurial education is seen as a pressing need in the current crisis scenario. The entire group of interviewees concurred with the idea that entrepreneurial training provides students with two key benefits. First, it allows them to discover the inner workings and needs of companies and businesses, thereby enabling the acquisition of skills that will enhance their curriculum vitae and academic training. This approach not only guides decision-making through the use of AI, but also encourages the creation of spaces where students can develop their potential in diverse areas. In addition, providing students with an entrepreneurial mindset allows them to stand out in an increasingly competitive and changing work environment, as it enables them to develop critical thinking and problem-solving skills, which are highly valued by today's employers.

To complement this insight, data were collected through a survey administered to Journalism and Communication students, which revealed the importance they attribute to

the entrepreneurial mindset as a tool for achieving business goals. In total, 88.5% of the students selected the options always, almost always, or often. By country, most students from Spain chose the most affirmative responses (always and almost always, 59.4%; often, 32.3%), while in the United States, although positive responses also predominate, a greater dispersion is observed: 22.2% answered occasionally, 20.6% often, 23.8% almost always, and 33.3% always. Although no statistically significant differences are observed in the overall distribution of responses (Mann–Whitney U, $p = 0.604$), the frequency analysis reveals a differentiated pattern by country ($\chi^2 = 16.6$, $df = 4$, $p = 0.002$), suggesting a possible influence of cultural context on how the entrepreneurial mindset is valued as a tool for achieving business goals. By gender, Spanish male students show a higher level of conviction: 91.3% selected one of the three responses indicating higher agreement (always, almost always, or often). Among American male students, this percentage drops to 75%. Spanish female students also show higher conviction than their American counterparts (93.8% compared to 78.9%). The remaining gender groups (transgender, non-binary, and others) cannot be compared due to the limited sample size.

Second, this type of training is essential for allowing students to create their own work spaces and sources of income, especially when the labor market does not meet their needs. These findings are supported by other studies such as that of Paniagua Rojano & Vera-Hernández (2021), who affirm that the future of journalism students lies in entrepreneurship. In this regard, some of the interviewees made the following assertions:

-“The job market for journalists and communication workers is becoming increasingly smaller, [...] Beyond just having an entrepreneurial mentality, it’s also necessary to reflect and learn together with the students in order to generate new business models that will keep their dreams alive” (A. Lopera, personal communication, 2024).

-“They should begin their journalism training with the assumption that they will work in digital media and that their media will almost surely be startups or the children and grandchildren of startups, which means they will be in a constant state of change, experimentation, pivoting, and innovation” (J. Breiner, Personal communication, 2024).

-“The need to have the opportunity and ability to produce their own work spaces and sources of income” (C. L. Albornoz Falcón, personal communication, 2024).

-“Entrepreneurial thinking can help students and early-career professionals stand out from their more passive peers” (J. Batsell, personal communication, 2024).

Therefore, instruction in entrepreneurship and AI should be one of the backbones of university education, not with the intention that everyone should become an entrepreneur, but to offer versatile knowledge that will empower students with the skills to cope with a fast-changing and unpredictable job market. Consequently, this approach emphasizes the usefulness of this type of education in promoting the concept of intrapreneurship, which is an attitude and skill that is highly valued and sought after by the most innovative companies, an example of which are startups. Professor Bedoya Sandoval explains the change observed in her students after they completed the training:

“Every semester, I see a change of perspective among the students, who acknowledge the incredible value of a project at the end of the entrepreneurial training, no matter how small and simple it might be. Also, I see how their way of looking at themselves as agents of change is transformed by their business ideas. In addition, based on the knowledge they gain, they believe they can assist in strengthening other proposals” (C. L. Bedoya Sandoval, personal communication, 2024).

Regarding the ability and attitude of the students, the interviewees believe they are generally persistent, optimistic, and creative, although they might experience certain fears and doubts at times. The participants also highlight the need for students to be adaptable, to have a leader on the project to guide the team, and the importance of being accompanied and motivated by a professor (table 2).

Table 2. Factors that influence the entrepreneurial mindset of students

Factor	Aspects pointed out by the experts
Fears and Barriers	<ul style="list-style-type: none"> -Fear of interacting with customers (they prefer indirect methods, such as surveys). -Tendency to perform superficial needs analyses (without a deep knowledge of the customer's problem). -Insecurity about their own entrepreneurial ability (the belief that they do not have what it takes to be an entrepreneur). -Fear of failure (influenced by a culture that values status and top performance). -Difficulty working on a team (preference for working alone and difficulty in finding committed partners). -Demotivation in projects with no quick return (commitment wanes when there are no immediate results).
Student skills	<ul style="list-style-type: none"> -Perseverance in facing challenges and coping with difficult situations. -Ability to adapt to new challenges. -Creativity to generate new ideas and find solutions. -Ability to recognize promising opportunities, depending on the level of knowledge of the industry involved. -Critical thinking and problem-solving skills, which are highly valued by employers. -Ability to create their own workspaces and generate sources of income when the market does not meet their needs. -Leadership: having a leader on the team is the key to success for the project.
Other Factor	<ul style="list-style-type: none"> -Instruction in entrepreneurship and AI enhances the curriculum vitae of the students, provides an understanding of the business world, and encourages the launch of new businesses. -Support from mentors and professors helps students overcome fears, in addition to guiding and motivating them in their projects.

Source: prepared by the authors.

According to Lopera (personal communication, 2024), one of the most stifling fears for students is the actual launch of a business and the direct relationship with customers. Nevertheless, the insecurity they sometimes experience is not a paralyzing factor. In fact, as Bedoya Sandoval explains, once the challenge of creating a project is overcome, the students face their fears and end up coming up with great initiatives:

“Every semester, during the entrepreneurship course, I see different points of view: the student who wants to explore, the one who has an idea but doesn't know what to do with it, and the one who says, 'I don't think I'll make a very good entrepreneur'. But in spite of this, without exception, everyone ends up developing their own project, or working on someone else's project they find useful, and this is transformative, because it manages to foster involvement, even in those who are most reluctant to face the subject” (C. L. Bedoya Sandoval, personal communication, 2024).

Likewise, nearly all the interviewees highlight the students' ability to face challenges and identify valuable opportunities, although the latter depends on their knowledge of the industry in which they operate. Teamwork is considered absolutely necessary for the success of projects, yet many students have still not mastered this skill:

“One of the biggest obstacles students encounter is forming a work team. It's difficult for them to work with others, because they tend to feel more comfortable doing everything on their own. Sometimes, the difficulty arises from trying to find partners who are willing to invest in projects that will not provide a return, or cash flow, in the short term. This means that the level of commitment they show at the beginning tends to wane after a couple of months” (A. Lopera, personal communication, 2024).

In this regard, the interviewees assert that some of the key elements for learning to work as a team are paramount, including the following: mentoring offered by the professors; clearly defining roles and responsibilities; active listening; emotional awareness; communication and interaction with other groups. They also point out that the attitude of team members can influence the success or failure of a project:

“If the team as a whole has the same fears, it’s impossible to make progress collectively. On the other hand, if there are one or two members who are proactive, it’s possible to resolve the shortcomings and inspire the rest of the group” (A. Apablaza-Campos, personal communication, 2024).

As far as dealing with failure is concerned, the interviewees agree that the acceptance of failure is an essential component of developing an entrepreneurial mindset. Similar to the findings of other research (Crespo Martínez *et al.*, 2022), the responses of the interviewees emphasize that low tolerance for failure is a growing challenge among younger generations today, who are influenced by a culture that values status and top performance. Apablaza-Campos mentions the need to accept mistakes as part of the entrepreneurial process:

“There’s a type of panic, or fear, of making a mistake in the social scenario, which is severely criticized in spaces like X/Twitter, but applauded in others such as LinkedIn, where the key is guidance and orientation” (A. Apablaza-Campos, personal communication, 2024).

Furthermore, the participants suggest that the attitude of the culture, parents, and teachers toward failure significantly influences students. Therefore, “Entrepreneurial professors and related programs should teach students that failure is an opportunity to learn and continuously improve” (M. Martín, personal communication, 2024). In this sense, there is consensus among the interviewees regarding the importance of guiding students toward understanding the positive side of failure as a tool for learning and continuous improvement.

In the survey conducted among 280 Communication and Journalism students, an overall consolidated entrepreneurial profile can be observed, albeit with variations across cultural contexts. U.S. students stand out particularly in dimensions such as proactivity, resilience in the face of adversity, openness to creativity training, and acceptance of failure. In contrast, Spanish students excel in empathy, self-confidence, and a strong willingness to collaborate in teams, even with potential competitors (table 3). While these differences are not significant across all indicators, they do reveal distinct approaches to the development of entrepreneurial competencies depending on the country.

Table 3. Entrepreneurial Profile of the Sample. Comparison between Spanish and U.S. Students

Indicator	Spain (Mean)	USA (Mean)	Interpretation ¹
Proactivity	1.52	1.41	U.S. students consider themselves more proactive than those from Spain.
Resilience in the face of adversity	2.21	2.02	Higher resilience in the U.S., although both are quite high.
Acceptance of failure	1.82	1.49	U.S. students show a more positive attitude toward failure as learning.
Openness to creativity training	1.81	1.48	U.S. students value creative activities more as learning opportunities.
Recognition of value opportunities	2.66	2.63	Very similar values; slight advantage for the U.S.
Empathy and connection with different people	1.82	1.89	Slightly greater empathy among Spanish students.
Self-confidence in difficult tasks	2.27	2.43	Greater self-confidence in Spain.
Teamwork even with competitors	2.18	2.30	Greater willingness in Spain to collaborate, even with competition.

Source: prepared by the authors.

¹ Inverted scale: 1 = stronger identification with the competence; higher values = weaker identification.

4.2. The use of AI by professors and experts

The vast majority of the experts and instructors interviewed claim to use AI every week, and some use it on a daily basis (table 4). Previous studies indicate that the use of this technology is now mastered by most university professors at the rate of 62.96%, according to Jiménez Ramírez et al. (2024)..

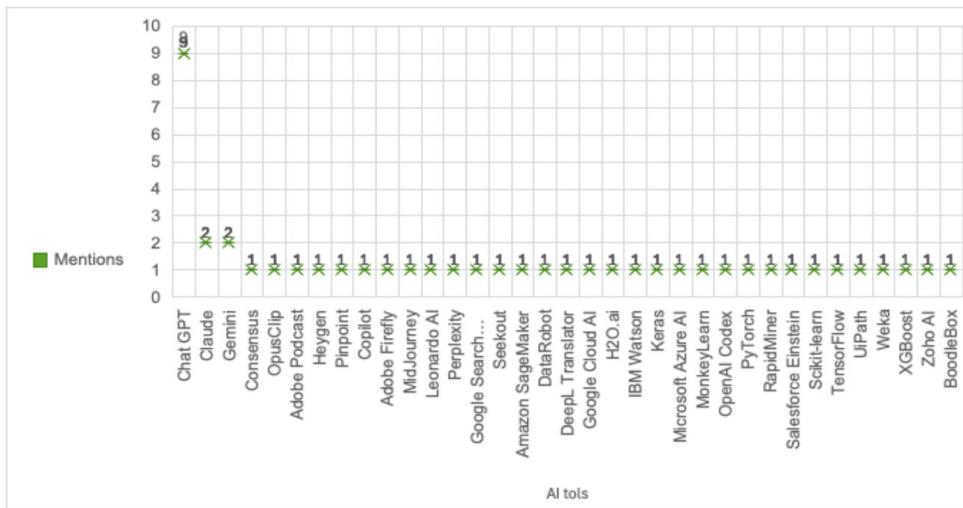
Table 4. Responses to the question “How often do you use AI tools?”

Interviewee	Daily	Several times a week	Occasionally	Don't answer
Miguel Carvajal	✓			
Katia Sánchez Martínez	✓			
Germarilis Ruiz Galloza			✓	
Carolina L. Albornoz Falcón		✓		
Claudia Liliana Bedoya Sandoval			✓	
Alexis Apablaza-Campos		✓		
Alejandro Lopera			✓	
Miguel Martín	✓			
Jake Batsell			✓	
Mariane Bekker	✓			
James Breiner				✓
Cheryl Edison	✓			
Sudhir Kadam	✓			

Source: prepared by the authors.

In fact, all the interviewees use ChatGPT, which is considered the star tool, in combination with specialized tools such as Consensus, Adobe Podcast, and Heygen (figure 1). Other standouts include creative and design tools such as Adobe Firefly, Gemini and MidJourney, as well as more general instruments such as Claude, Copilot and BoodleBox. Business professionals tend to use an even wider variety of advanced tools including Amazon SageMaker, DataRobot, IBM Watson, and Salesforce Einstein (figure 1). Many of these tools, which are typically used for content generation, creativity, design, data analysis, and increased productivity (appendix 1), are freemium or subscription-based; only 25% are free.

Figure 1. AI tools most frequently used by university professors and entrepreneurial experts

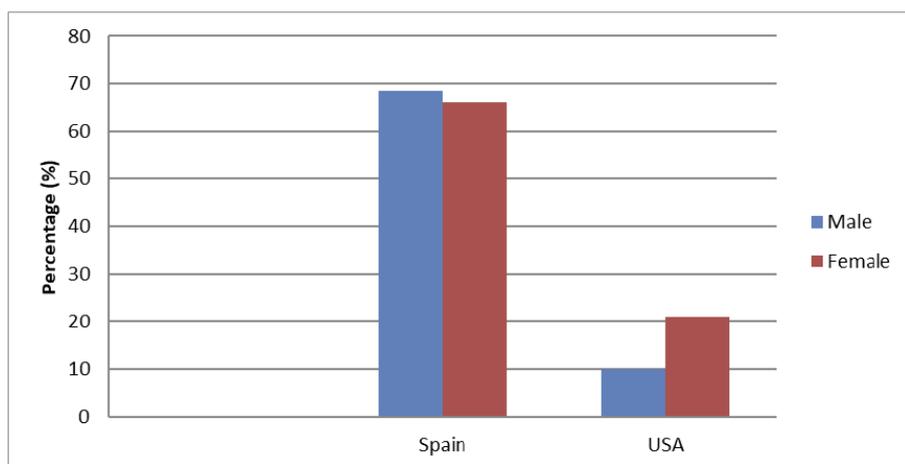


Source: prepared by the authors.

There is broad consensus among the interviewed professionals regarding the need for targeted AI training for students, given the numerous advantages this technology offers for entrepreneurship. This view is shared by the surveyed students: 53.9% consider AI to be useful for decision-making in the context of their entrepreneurial projects, reflecting a convergence between both perspectives on the strategic role of this technology in entrepreneurial education. By country, Spanish students are the most convinced, with 64.5% endorsing this view, while in the United States this proportion drops to 17.5%; in fact, the majority of U.S. students (63.5%) do not perceive this technology as useful for decision-making. In Spain, the proportion of students who share this opinion is 23% (figure 2). The rest either do not know or did not respond (12.4% in Spain and 19% in the U.S.). These differences between countries are statistically significant ($\chi^2 = 48.6$; $df = 3$; $p < .001$).

When disaggregated by gender, it is observed that in Spain both men and women report a high proportion of affirmative responses: 68.5% of male and 66.1% of female students consider AI useful in this domain. Conversely, in the United States, these figures decrease significantly, especially among men, of whom only 10% believe AI is helpful, compared to 21.1% of women. In this group, there is also a higher proportion of negative responses (55.3%) compared to their Spanish counterparts (25.9%). The U.S. male group also stands out with 75% negative responses, in contrast to 16.3% among Spanish men. Other gender identities (transgender, non-binary, other) show very low frequencies, preventing generalizable conclusions. The gender-based differences observed are statistically significant ($\chi^2 = 48.6$; $df = 3$; $p < .001$).

Figure 2. Perceived usefulness of AI in decision-making: differences by country and gender.



Source: prepared by the authors.

However, this positive perception contrasts with the reality of the current educational offer; some of the experts consulted point to a deficit of specific and advanced training programs, a shortage mentioned in previous research, which shows a total absence of AI content in the undergraduate and graduate curricula of journalism and communication degrees (Mullo López et al., 2024). In a similar vein, Wahl & Münch (2022) point out that entrepreneurial training programs focus on general concepts, ignoring specific knowledge related to the management of Industry 4.0 technology.

In this regard, Katia Sánchez Martínez explains how the availability of specific training does not match the pace at which this technology is advancing: “There is very little training in this regard. Also, new tools are emerging, and it’s becoming increasingly complicated to discriminate between them” (K. Sánchez Martínez, personal communication, 2024).

Regarding the training content of entrepreneurship and the use of technology, referring in this case to AI applied to the classroom, Alejandro Lopera criticizes its lack of depth:

“This kind of training tends to stick to the basics [...] I’ve always thought it would be much more interesting to search for alliances with professors and students of engineering that would allow AI-based projects to be specifically designed to automate processes in producing content, but beyond simply writing text or generating an image. For example, I was thinking of something similar to the BBC laboratory, where fast translation tools are developed for graphic designers and text” (A. Lopera, personal communication, 2024).

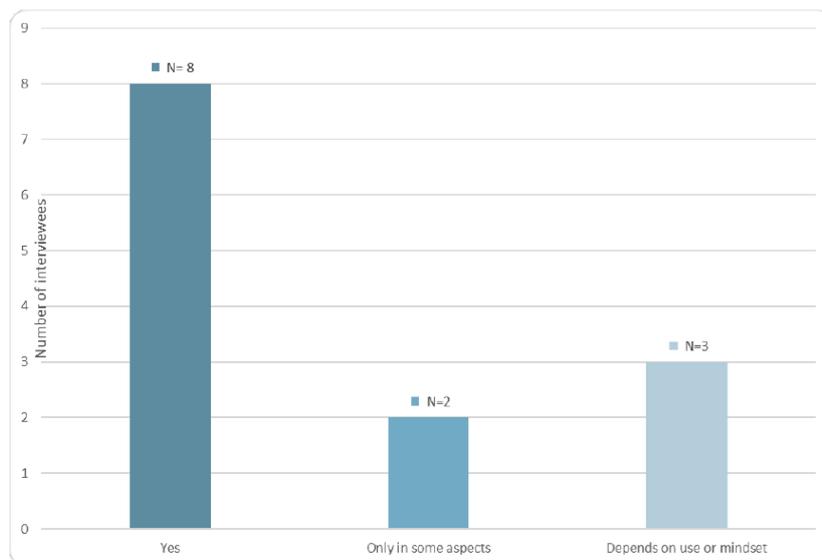
Another concern expressed by the interviewees is the way in which copyrights are undermined when using AI tools, which feed on content created by others. In this sense, Germarilis Ruiz Galloza (personal communication, 2024) highlights critical thinking as one of the skills needed to interact with AI. In her view, it can prevent entrepreneurs from limiting themselves only to what technology gives them. In this regard, the study by Lopezosa *et al.* (2023) echoes the importance of using AI in a conscientious way, pointing out that its content should be approached from a viewpoint that is ethical, accurate, and transparent, while taking into account both its benefits and possible drawbacks.

Finally, another potential use of AI identified in the interviews is the research advantage it offers, which did not even exist some years ago. For all the reasons outlined above, AI training has now become a necessity. According to Bell & Bell (2023), those who do not have the ability to use this technology will be at a disadvantage in the professional realm, both in terms of entrepreneurship and employment.

4.3. AI as a tool for entrepreneurs

The interviewees identified eight stages of project management in which AI can be highly useful: ideation, conceptualization, planning, day-to-day management, prototyping, validation of an idea, analysis of the external environment, and identifying problems and opportunities (table 5). Thus, the role of AI varies according to each stage: a) in ideation and conceptualization, it helps to structure ideas, analyze trends, and define business models; b) in planning and day-to-day management, it optimizes task organization, market research, marketing strategies, and financial forecasting; c) in prototyping and validation, it accelerates product development and testing, thereby reducing costs and errors; d) and, for analyzing the external environment and identifying opportunities, it helps to monitor markets, forecast economic trends, and find investors or strategic allies. The assertions made by the experts clearly indicate that AI has become a fundamental support tool throughout the entire entrepreneurial cycle, from the conception of the idea to its consolidation and growth (figure 3).

Figure 3. Responses to the question “Do you think AI could help an entrepreneur in the decision-making process of their project?”



Source: prepared by the authors.

For their part, the surveyed students emphasize the use of this technology in the early stages of decision-making. In both countries, the most prominent use is in the information-gathering stage, although it is more prevalent in Spain (72.4%) than in the United States (54%). A significant use is also reported for the identification and analysis of alternatives (Spain: 54.4%; U.S.: 52.4%). On the other hand, American students rely more heavily than their Spanish counterparts on AI for problem detection (38.1% vs. 18.4%). In both of these stages, statistically significant differences were observed: information gathering = $\chi^2 = 7.61$; $p = .006$; problem detection = $\chi^2 = 10.7$; $p = .001$. In the remaining stages—identification and analysis of alternatives, selection of the most appropriate option (Spain = 22.6%, US = 17.5%), and evaluation (Spain = 15.7%, US = 22.2%)—the percentages are more moderate and similar, with no statistically significant differences found.

Table 5. Interviewees' opinions on the stages where AI can provide support

Interviewee	Ideation	Conceptualization	Planning	Day-to-day Management	Prototyping	Validation	External Environment Analysis	Problem & Opportunity Identification
Miguel Carvajal	✓		✓	✓			✓	
Germarilis Ruiz Galloza					✓	✓	✓	✓
Katia Sánchez Martínez		✓	✓	✓			✓	
Miguel Martín	✓	✓		✓	✓	✓		✓
Carolina L. Albornoz Falcón							✓	✓
Claudia Liliana Bedoya Sandoval			✓			✓	✓	✓
Alexis Apablaza-Campos			✓	✓				
Alejandro Lopera				✓			✓	✓
Jake Batsell		✓	✓				✓	
Mariane Bekker	✓			✓		✓		✓
James Breiner				✓		✓	✓	
Cheryl Edison			✓	✓	✓		✓	✓
Sudhir Kadam				✓		✓	✓	✓

Source: prepared by the authors.

A study by González Mosquera (2024) also confirms the usefulness of AI in project creation and management, yet this author limits its use to only some of these phases, which include ideation, analysis of the external environment, and problem identification. Moreover, this researcher points out its usefulness as a key tool for designing business models that are more viable and adaptive, thereby offering added value to customers.

Likewise, Giuggioli & Pellegrini (2023) argue that this technology has a positive impact on entrepreneurial activity in four ways: it allows entrepreneurs to create new opportunities; it enables them to make better forecasts, which leads to improved decision-making; it helps them improve the performance of their companies; and it enhances education and research, which accelerates the entire entrepreneurial process.

According to the interviewees, one of the most remarkable features of these tools is the massive amount of data they are able to store. Professor Claudia Liliana Bedoya Sandoval explains it this way:

“AI is a huge repository of data, and the entrepreneur relies on this factual information to make decisions. However, it is important to point out that entrepreneurs do not use AI equations, and the history of each entrepreneur is completely unique, precisely because of the decisions that have to be made [...] Personally, I believe entrepreneurship without the use of technology is very complicated, because nowadays, AI is a resource that allows us to forecast and identify certain scenarios that have an impact on decision-making” (C. L. Bedoya Sandoval, personal communication, 2024).

Furthermore, continuing the topic of managing entrepreneurial projects, automation is mentioned as one of the advantages of this technology.

This is summarized by Professor Miguel Carvajal:

“It can be a type of assistant that organizes, structures, and carries out less crucial tasks, but it is always overseen by the entrepreneur” (M. Carvajal, personal communication, 2024).

For his part, Professor Jake Batsell explains how this technology has helped many of his students in the early stages of their ventures:

“Some of my students have found AI useful when brainstorming names for their projects, and for creating images for their pitch decks” (J. Batsell, personal communication, 2024).

Some participants even see AI as a suitable resource for seeking advice related to carrying out and implementing a project, searching for partners and new market niches, understanding the specific business environment involved, and even finding new and useful areas where entrepreneurs can operate.

“Artificial intelligence can provide a lot of data about areas in which entrepreneurs can be trained, but it can also strengthen their projects by locating boosters, economic accelerators, and angel investors, because it's not always easy to find that information, nor for interested parties to easily find you as an entrepreneur” (C. L. Bedoya Sandoval, personal communication, 2024).

Nevertheless, despite the foregoing, AI cannot do everything. The interviewees agree that this technology is not able to carry out tasks involving human relations such as personnel management, relationships with clients, financial issues specific to each project, legal issues, and ethical judgments.

Likewise, the surveyed students also identify certain limitations in the use of AI in decision-making. In both countries, the selection of the most appropriate option is perceived as the least useful stage in which to employ this technology (41.9% in Spain and 49.2% in the United States). Furthermore, U.S. students show greater skepticism than their Spanish counterparts in the stages of information gathering (30.2% versus 12.9%) and analysis of alternatives (27% versus 14.7%). Conversely, in the Spanish case, AI is perceived as less useful for problem detection (39.6% compared to 25.4%). Finally, 32.7% of Spanish students and 22.2% of U.S. students consider it not useful for the evaluation stage.

In this regard, Professor Alexis Apablaza-Campos clarifies how generative AI should be used to obtain results:

“I'm not going to ask Chat GPT, or any other generative AI tool, if I should increase a budget line item for a specific area. These tools respond to the data they have, and have been fed, so they don't have enough knowledge of business management to offer a sound opinion. It's different if I feed the AI tool with multiple data, analyses, or other types of information, and then request conclusions based on the data introduced to support my decision-making” (A. Apablaza-Campos, personal communication, 2024).

Direct interaction with clients and partners still has significant value, because in Lopera's opinion (personal communication, 2024), “nothing replaces the insight obtained from this interaction”. The same situation occurs with issues linked to creativity, and with tasks that require subjective analysis such as artistic appraisal or, at another level, “the chemistry involved in choosing the team and key talent for an entrepreneurial project” (M. Martín, personal communication, 2024).

4.4. The influence of AI on the entrepreneurial mentality

According to those interviewed, AI has a significant impact on the entrepreneurial mindset: it acts as a tool to assist and support entrepreneurs' decision-making, provides greater confidence, and reduces perceived risks. Thus, AI's ability to optimize, analyze, manage, generate data helps in overcoming barriers such as insecurity about the entrepreneurs' own ability, lack of training, need for support and advice, and their difficulty in assessing ideas. Specifically, AI reinforces key skills such as leadership, creativity, problem-solving, and the ability to identify beneficial opportunities. Moreover, it enables the optimization of essential processes, such as developing a business plan, data management, and the identification of market needs, thereby significantly reducing uncertainty at all stages and processes of the venture (Table 6).

The survey results show that AI is particularly useful for strategic planning, with a higher adoption rate in Spain (57.6%) than in the United States (38.1%), a statistically significant difference ($\chi^2 = 7.46$; $p = .006$). In the U.S., the most selected option is operational decisions (39.7%), although the percentage of Spanish students using AI for this type of decision is slightly higher (41.5%). Similarly, for tactical decisions, the number of Spanish students is also higher (37.8% vs. 30.2%). Regarding cognitive processes, Spanish students mainly use AI in intuitive processes (44.7%) compared to 20.6% of U.S. students—a statistically significant difference ($\chi^2 = 11.9$; $p < .001$). In contrast, in the U.S., deliberative use is more common (31.7% vs. 36.9% in Spain).

Table 6. The impact of using AI on the entrepreneurial mindset

Factors that influence the entrepreneurial mindset	Decisions to delegate to AI	Expected impact of using AI
Creativity and idea generation	Support in developing the business plan and generating original names and creative images	Enhances creativity, reinforces confidence by generating original and structured proposals, and reduces risk by differentiating the project in the market.
Problem resolution	Data management, analysis, and visualization.	Provides security in data-driven decision-making, thereby reducing risk associated with a lack of knowledge.
Ability to recognize beneficial opportunities	Content creation, market research, marketing plans, and sales promotions. Identifying unmet needs, market niches, and errors involved in this process.	Generates confidence by identifying accurate trends and improving the project's positioning strategy. Optimizes the appraisal of business opportunities, thereby strengthening confidence by reducing strategic errors and ensuring more effective approaches.
Accompaniment and support from mentors/professors	Advice and support.	Provides continuous support that increases confidence in making complex decisions, and it fosters hands-on learning for the entrepreneur.
Perseverance in the face of challenges and uncertainty	Information extraction.	Reduces the risk associated with a lack of key information needed to advance in the project.
Insecurity about one's own entrepreneurial ability	Ideation, conceptualization, prototyping, validation of the idea, planning and day-to-day management of routine tasks.	Helps structure ideas and manage tasks in a clear and efficient way, thereby lessening insecurity in the early stages of entrepreneurship.

Superficial validations	Testing and consulting.	Minimizes uncertainty through the objective validation of ideas and strategies, which enables more informed decision-making.
Training and support for developing strategies	SWOT Analysis.	Provides structured analysis to identify strengths, weaknesses, opportunities, and threats, which reduces strategic risk.
Leadership	SWOT analysis and help in attracting investment.	Increases security by preparing solid, data-driven arguments to convince investors, and improves risk perception by identifying weaknesses and threats in advance

Source: prepared by the authors.

Therefore, not only does AI improve the execution of technical tasks, but it also has a positive influence on developing a strong entrepreneurial mindset. However, there are some issues where AI is not helpful, such as interacting with customers, dealing with failure and demotivation, mastering the ability to work in teams, and developing the ability to generate employment and sources of income.

5. Discussion and conclusions

Artificial intelligence is clearly providing new opportunities in the field of entrepreneurship. Receiving training in AI for its practical application not only fosters improved decision-making for the entrepreneurial mindset, but it also promotes an entrepreneurial education that has been evolving along with the business environment, both of which must keep pace with technological progress (Vecchiarini *et al.*, 2024). Advancement in AI is also expected to continue, which is a highly useful tool for entrepreneurs (Giuggioli & Pellegrini, 2023). In this regard, universities must take the lead in providing students with an entrepreneurial mentality in order to prepare them to face the challenges and needs that are emerging in today's society which had ethical implications as well.

This study has revealed that the combination of entrepreneurial skills and the strategic use of AI has the potential to prepare students to face today's challenges. We have confirmed that this technology can also become a personal assistant to the entrepreneur, giving them confidence and reducing entrepreneurial risk (H2). However, AI is still a tool whose effectiveness is restricted to the technical realm, as it cannot replace key human skills such as emotional management, ethical contemplation, and financial skills, which remain inherent to human beings and crucial in any entrepreneurial context.

In general terms, a consolidated entrepreneurial profile can be observed among journalism and communication students, albeit with nuances. U.S. students display higher levels of proactivity, resilience, and openness to creative training, which points to a mindset oriented toward risk and personal innovation. In contrast, Spanish students stand out for their self-confidence, empathy, and orientation toward collaboration, which may be linked to a more collective culture of entrepreneurship. Thus, the entrepreneurial mindset is shaped by sociocultural values, educational experiences, and personal perceptions (Patrício & Ferreira, 2024).

The interviewees confirm the prevalence of this entrepreneurial profile in the classroom, with students demonstrating resilience, optimism, and creativity when undertaking projects; however, they also agree that fear and self-doubt are recurrent obstacles when facing this challenge. By acting as a strategic assistant, AI reduces these insecurities in several ways. First, through the automation and optimization of complex tasks such as data analysis, strategic planning, and idea validation, students feel that they have greater control over the entrepreneurial process, which significantly alleviates the anxiety associated with uncertainty. Second, access to tools that provide clear and well-founded information allows student entrepreneurs to make more confident decisions based on reason. However, there are aspects of the entrepreneurial mentality

that cannot be assisted by AI, such as the ability to interact with customers, deal with failure and demotivation, develop teamwork competence, and generate employment and sources of income. These skills are essential for entrepreneurship, yet they inherently depend on human experience and support through training.

In this regard, the majority of surveyed students consider that developing an entrepreneurial mindset is key to achieving business objectives, although Spanish students show greater conviction in this regard. The differences between both countries highlight the influence of cultural context on the perception of entrepreneurship as a formative process.

Regarding the usefulness of AI for decision-making, perceptions vary geographically. While 64.5% of Spanish students consider AI to be useful for this purpose, 63.5% of students in the United States believe it is not, with male students being the majority. These differences are statistically significant and reflect cultural attitudes toward technology; the data suggest greater familiarity and normalization of AI in the Spanish context, as opposed to a more critical or skeptical stance in the U.S.

In terms of application, Spanish students mainly use AI in strategic decision-making, intuitive processes, and in the stages of information gathering and identifying/analyzing alternatives. In contrast, U.S. students tend to use it more for operational decisions first, followed by strategic ones, in deliberative processes, and in early stages such as information gathering, alternative analysis, and also problem detection. This difference is relevant because it suggests that in Spain, AI is viewed as a tool for planning and creativity, while in the United States its use is more associated with practical or problem-solving tasks. Likewise, skepticism toward AI also varies: both countries agree that it is not useful for select the appropriate option, but while in Spain it is perceived as less useful during the problem detection and evaluation stages, in the United States distrust centers on the information-gathering and alternative-analysis stages. This reinforces the idea that the value attributed to AI also depends on the cultural framework in which it is embedded.

Despite the benefits offered by integrating AI into business management and decision-making, previous research has warned of the danger of excessive reliance on these systems, which could result in a reduction of entrepreneurial vision and creativity (Shepherd & Majchrzak, 2022). The interviewees expressed concern in this regard, citing instruction in critical thinking as a key tool for mitigating the possible side effects of AI dependence.

In fact, one of the shortcomings most frequently emphasized by professors and experts in the field is the lack of advanced AI training in educational and entrepreneurial programs. Such programs must ensure not only technical mastery, but an ethical and strategic understanding of its implementation as well. In the current labor market, this training deficit could exacerbate unequal access to employment and entrepreneurial opportunities, especially if we consider that the future of journalism students is largely connected to entrepreneurship. This was stated by several experts, which makes the integration of technological and entrepreneurial skills in educational programs even more urgent. Without such preparation, students run the risk of relying exclusively on technology (Morales-García *et al.*, 2024; Rojas Marín *et al.*, 2024), yet without understanding its limitations or consequences.

Likewise, nowadays it is crucial to continue strengthening fundamental entrepreneurial skills, such as tenacity and the ability to deal with failure, as well as fostering teamwork and receiving support from mentors, all of which are essential elements for promoting innovation and successful projects. Therefore, as we indicated in the first hypothesis of this study (H1), shaping an entrepreneurial mindset in the classroom will help strengthen behavior patterns in students that will assist them in achieving success.

However, it should be clarified that AI tools alone cannot reinforce the entrepreneurial skills students need if there is no specific instruction aimed at shaping an entrepreneurial mindset through a combination of mentoring, teamwork dynamics, and hands-on training. Once this learning is acquired, these tools will help at multiple stages of the entrepreneurial process,

including ideation, conceptualization, planning, prototyping, and idea validation. However, at no time can AI replace the human ability of entrepreneurs to make ethical decisions or lead teams in complex situations.

This study contributes to the body of literature by offering a specific and discerning view of the impact of AI on the entrepreneurial mindset of journalism and communication students. We have provided a framework for both academics and educational program designers, and we have extended the discussion to how AI and entrepreneurship training can be effectively integrated into the university curricula. However, some thought-provoking questions have emerged from this study, which could very well lead to future lines of research: What training strategies can be implemented in order to develop an ethical and discerning comprehension of these tools? How can we prevent future entrepreneurs from becoming passive users of technology, rather than strategic agents who use AI as a complement to their own entrepreneurial vision?

Although the findings of this research might be considered important for making more beneficial use of AI in the entrepreneurial process, there are certain limitations that should be mentioned. First, the research has focused mainly on a specific academic context, so it might not be possible to extrapolate the results generally to other educational situations or specific business sectors. Furthermore, although the potential of AI for decision-making has been confirmed, its impact on students' career success over time would need to be examined. Finally, future research might benefit from incorporating mixed methodologies and international case studies, the purpose of which would be to broaden the field of research related to integrating AI into the management of entrepreneurial projects.

6. Contributions

Roles	Author 1	Author 2	Author 3
Conceptualization	x	x	
Formal analysis	x		x
Fundraising	x		
Project management	x		
Investigation	x	x	
Methodology	x		
Data processing	x		x
Resources	x	x	x
Software			x
Supervision	x	x	
Validation	x		x
Visualization of results			x
Writing – original draft	x	x	x
Writing – review and editing	x	x	x

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Appendix 1
 Categorization of AI tools based on functionality

Use	Tools
Generation and analysis of textual content	-ChatGPT
	-Claude
	-Consensus
	-Copilot
	-Otter.ai
	-Perplexity
	-Pinpoint
	-Google search overviews
	-DeepL Translator
Creativity and visual design	- Adobe Firefly
	- Mid Journey
	- Gemini
	- LeonardoAI
	- Adobe Podcast
	- Heygen
Creativity and visual design	- Amazon SageMaker
	- DataRobot
	- Google Cloud AI
	- H2O.ai
	- IBM Watson
	- Microsoft Azure AI
	- MonkeyLearn
	- RapidMiner
	- Salesforce Einstein
	- Scikit-learn
	- TensorFlow
	- XGBoost
	- Keras
	- PyTorch
	- UiPath
- Weka	
- Zoho AI	
Productivity and automation	- BoodleBox
	- Seekout

Source: prepared by the authors.

