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The ideathon as an instrument for entrepreneurial education in university contexts

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ABSTRACT

The purpose of this study is to provide support for the use of ideathons as a useful tool in entrepreneurial education, enhancing the practical perspective of students and constituting a sound basis for generating collaborative ecosystems in universities. The objectives include exploring and describing the main steps and issues in organising this type of event. Considering the descriptive nature of the phenomenon and the first-hand information available, the case study approach has been used. To do so, a number of interviews have been conducted with high-level management positions with extensive experience in the university and in private companies. As a result, we provide a set of guidelines for organising and running successful ideathons in social sciences: (1) planning, (2) budgeting, (3) training, (4) running the competition, and (5) networking and benefits. A successful ideathon should help improve the reputation of the institution. Students can also increase their employability due to enhanced entrepreneurial skills and their interaction with real companies during the competition. Considering the scarcity of studies addressing ideathon, from a theoretical and empirical point of view, we offer a social sciences approach to idea-generation events, which have traditionally been covered from technical areas (IT domain).

1. Introduction

The importance of entrepreneurship lies in its crucial role in fostering countries' progress and growth (Banha, Coelho, & Flores, 2022; Nabi, Walmsley, Liñán, Akhtar, & Neame, 2018). Entrepreneurs think and behave in such a way that they are able to detect and exploit opportunities in their environment to introduce new ideas, products, processes, and organisational or marketing innovations (Carpenter & Wilson, 2022; Shane & Venkataraman, 2000). Thus, entrepreneurship-related skills are needed to develop businesses in the fourth industrial revolution (Banha et al., 2022) and to create financial, cultural, and social value for others (European Commission, 2019).

According to the European Entrepreneurship Competence Framework (EntreComp), an entrepreneurial mindset requires skills around generating ideas and taking advantage of opportunities (use of imagination, vision of the future, creativity, etc.); resources (self-awareness and efficacy, motivation, financial literacy, etc.); and actions (initiative, planning, management, collaboration, etc.)

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(European Commission, 2019). These entrepreneurial skills can be developed through entrepreneurial education and activities in higher education institutions, thus fostering economic growth (Carpenter & Wilson, 2022; European Commission, 2019; Ratten & Usmanij, 2021; Roncancio-Marin, Dentchev, Guerrero, & Diaz-Gonzalez, 2022). Moreover, the acquisition of certain entrepreneurial skills can enhance the employability of students (Igwe, Okolie, & Nwokoro, 2021; Li, Long, Jiang, Huang, Wang, & Huang, 2022; Santos-Jaén, Iglesias-Sánchez, & Jambrino-Maldonado, 2022). Thus, it is necessary that educators adjust their educational programs to the new entrepreneurial context (Bauman & Lucy, 2021).

Starting from the premise that practice-oriented entrepreneurial teaching pedagogies drive better learning results (Finch, Peacock, Lazdowski, & Hwang, 2015; Hahn, Minola, Van Gils, & Huybrechts, 2017), while enhancing satisfaction and engagement levels of students (Bakoush, 2022; Bell, 2015). This study is centred around the concept of hackathons. Participants in hackathons work in teams to develop a solution to a given problem (Flus & Hurst, 2021). However, hackathon events have been traditionally adopted in the IT domain of industry rather than in educational settings (Oyetade, Zuva, & Harmse, 2022; Serek, Zhaparov, Yoo, Talasbek, Kim, & Jin, 2020). There is scarcely any literature on hackathons in higher education settings. Rather, it is mostly oriented toward IT students (Endo, Fujihashi, & Kobayashi, 2018, 2020; Iwata, 2020).

However, there is a timid trend in addressing these types of events —also called ideathons— in the area of social sciences, particularly in business and management, as a tool to develop entrepreneurship-related skills (e.g., Pulyavina, Ritter, Sedova, & Taratukhin, 2022). An ideathon can be described as a co-creative activity, usually lasting one or two days, in which participants collaborate in teams to create new ideas, or to face up a given challenge (Endo, Fujihashi, & Kobayashi, 2020; Iwata, 2020; Pulyavina et al., 2022).

Thus, it could be said that an ideathon is a suitable tool for entrepreneurship education since it places a greater emphasis on the idea-generation process than hackathons (Sakiyama, Fujii, Kokuryo, & Kaihara, 2020). This is mostly due to the fact that ideathons require participants to employ a variety of divergent techniques, such as Brainstorming or Design Thinking, which fosters two important entrepreneurial competencies: creativity and innovation (e.g., Endo et al., 2018, 2020; Pulyavina et al., 2022).

Iwata (2020) describes the holding of different ideathons in cooperation with universities in Southeast Asia aimed at promoting information and communication technology-based solutions to address social issues in rural areas. On the other hand, Pulyavina et al. (2022) examine design thinking as a method of project-based education used in a university-level ideathon. Finally, Endo et al. (2020) explore the use of tablets by students when participating in ideathons.

On this basis, the main goal of this study is to contribute to the literature to provide support for the use of ideathons as a useful tool in entrepreneurial education, enhancing the practical perspective of students and constituting a sound basis for generating collaborative ecosystems in universities. The specific objectives include exploring and describing the main steps and issues in organising this type of events. In order to do so, the case study approach has been used in this article. Accordingly, we present the following research questions:

RQ1. Is the use of ideathon as a tool for entrepreneurship education supported theoretically?

RQ2. What key actions should be taken to organize a successful ideathon event at a university?

The article is structured as follows. The next section provides a theoretical overview of the topic. In the "Materials and methods" section, we explain the data collection and qualitative method used. The following section addresses the results and, finally, conclusions are presented.

2. Theoretical framework

There is no full consensus in the academic literature on the definition of business entrepreneurship (Landström, Harirchi, & Åström, 2012; Leunbach, 2021). The study by Shane and Venkataraman (2000) has heavily influenced the development of the concept (Anand, Argade, Barkemeyer, & Salignac, 2021; Busenitz, Plummer, Klotz, Shahzad, & Rhoads, 2014). Shane and Venkataraman (2000, p. 219) define entrepreneurship in the following manner: "Entrepreneurship is a process that involves the discovery, evaluation, and exploitation of opportunities to introduce new products, services, processes, ways of organising, or markets".

These outputs may be generated within an open innovation ecosystem that promotes collaboration between different actors (Corrales-Garay, Mora-Valentín, & Ortiz-de-Urbina-Criado, 2019, Corrales-Garay, Mora-Valentín, Ortiz-de-Urbina-Criado, 2020, Corrales-Garay, Ortiz-de-Urbina-Criado, Mora-Valentín, 2020, 2022; Annosi, Martini, Marzi, Vignoli, & Parra, 2022; Sriram & Hungund, 2022). In this regard, authors such as Johannisson (2011, p. 137) conceptualise entrepreneurship from a collaborative perspective: "a creative and social/collective organising process that materializes in a venture". Other papers study entrepreneurship as a behaviour, a set of attitudes or mindset, focusing on entrepreneurship education (Ahmed, Chandran, & Klobas, 2017; Cui & Bell, 2022; Rauch & Hulsink, 2015). This reasoning is consistent with the definition of authors such as Oganisjana and Koke (2012, p. 77): "Entrepreneurship is defined as a dynamic system of individual's causally interrelated personality traits, motivation, cognition, needs, emotions, abilities, learning, skills and behaviour".

Higher education institutions can boost entrepreneurship education by becoming key actors in the creation of collaborative ecosystems (Bischoff, Volkmann, & Audretsch, 2018; Moroz, Hindle, & Anderson, 2010). Various studies highlight collaboration between different stakeholders, focusing on the triple helix model from Etzkowitz and Leydesdorff (2000) (university-industry-government) (e.g., Allahar & Sookram, 2019a; Belitski & Heron, 2017). Other authors such as Allahar and Sookram (2019b) apply the expanded quadruple helix model (university-industry-government-civil society) in this setting, which was formulated in previous studies (e.g., Carayannis & Campbell, 2009; Ranga & Etzkowitz, 2013). On the other hand, some studies analyse entrepreneurial ecosystems by examining the collaborative relationships between internal and external stakeholders in higher educational institutions (management

bodies, professors, students, student organisations, consultants, entrepreneurs …) (e.g., Bischoff et al., 2018; Secundo, Mele, Sansone, & Paolucci, 2020, Secundo, Mele, Del Vecchio, & Degennaro, 2021).

In recent years, the entrepreneurship education subject has grown in importance in university teaching (Ratten & Jones, 2021; Ratten & Usmanij, 2021; Shabbir, Batool, & Mahmood, 2022; Tiberius, Weyland, & Mahto, 2023). One of the reasons of this popularity is its capacity to link theory with practice (Ratten & Jones, 2021). In this regard, student learning on entrepreneurship education has been bolstered by two teaching methods: the theoretical approach and the practical approach (Neck, Greene, & Brush, 2014). Nevertheless, the theoretical approach has traditionally been more important in university teaching programmes (Szymanska, Sesti, Motley, & Puia, 2020). However, as Jackson (2020) determines, academic success may not imply greater workplace performance, as the traditional theoretical approach does not stimulate certain skills. Furthermore, the difficulty shown by some students in learning in theoretical classes should be noted (Cameselle & Gouveia, 2012).

For all of the above reasons, some business educational programs, combine the traditional theoretical approach with a practical one (Haneberg, Aaboen, & Williams Middleton, 2022). In this regard, higher education institutions are fostering experiential approaches related to business education (Bell, 2015; Farashahi & Tajeddin, 2018). Experiential learning has a direct impact on satisfaction and engagement levels of students (Bell, 2015; Singh, Doval, Kumar, & Khan, 2022). Farashahi and Tajeddin (2018) reinforce that idea presenting the learning outcomes of practical teaching methods as simulations or case studies over theoretical methods as lectures.

On this basis, the practical perspective that provides students with the tools and skills to face the challenges of a changing environment is increasingly held to be more important (Banha et al., 2022). In that sense, learning outcomes can be higher when it is implemented a practice-oriented entrepreneurial teaching pedagogy (Finch et al., 2015; Hahn et al., 2017; Lackéus, 2014). There are pedagogies, such as problem-based learning, which according to Savery (2006, p. 12): "empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem". In this regard, problem-based learning can improve problem solving skills while developing competences as teamwork or learning through experience (Desai & DeArmond, 2021; Morselli & Gorenc, 2022). Thus, the potential of this pedagogy for management education must be highlighted (Sherwood, 2004).

Hence, authors such as Szymanska et al. (2020) put forward hackathons as a suitable tool for implementing methodologies such as problem-based learning in higher education settings. According to Briscoe and Mulligan (2014), the term "hackathon" originates from combining the terms "hack" and "marathon". Flus and Hurst (2021, p. 1), in turn, define them as: "hackathons are short-term events at which participants work in small groups to ideate, develop and present a solution to a problem".

Holding hackathons is useful for driving the creation of business entrepreneurship ecosystems by fostering collaboration between different actors such as universities and the private sector (Kitsios & Kamariotou, 2018; Suominen, Halvari, & Jussila, 2019). These may lead to the co-creation of products and services by several actors (Toros et al., 2022). Although there is not a definitive set of characteristics that define hackathons as an event (Komssi, Pichlis, Raatikainen, Kindstrom, & Jarvinen, 2015), hackathons are centred around technical profiles, such as programmers or engineers in the IT domain (Flus & Hurst, 2021; Serek et al., 2020).

However, it has been noted that this tool is starting to be adapted to non-technical fields, such as the social sciences. In this regard, an emerging concept in businesses and universities is appearing, derived from the spirit of hackathons, which combines the terms "idea" and "marathon" to deliver what is known as an "ideathon" (Endo et al., 2020; Sakiyama et al., 2020). In that regard, an ideathon can be described as a co-creative activity, usually lasting one or two days, in which participants collaborate in teams to create new ideas, or to face up a given challenge (Endo et al., 2020; Iwata, 2020; Pulyavina et al., 2022).

Although hackathon and ideathon are usually established as similar concepts in the academic literature (Takagi, 2014; Yamada & Ebara, 2020), the ideathon method may have certain advantages versus hackathon methodology in relation to entrepreneurship education, as it is more focused on the idea generation process (Sakiyama et al., 2020), by using various divergent methods such as Brainstorming (e.g., Endo et al., 2018, 2020) or Design Thinking (e.g., Pulyavina et al., 2022), which promotes creativity and innovation. The process concludes by guiding ideas in a convergent approach (Sakiyama et al., 2020).

In addition to idea generation, participants must screen ideas for the challenge in order to assess them and select the best ones. The idea screening process entails selecting ideas for development and focusing the scarce resources on ideas that are considered promising (Sukhov, Sihvonen, Netz, Magnusson, & Olsson, 2021; Toubia & Florès, 2007). This is a complex task since the participants may need to think from multiple perspectives as well as rely on intuition, analysis, and sensemaking while dealing with uncertainty and the urge to be effective (Dziallas, 2020).

On this basis, ideathons can be meaningful to enhance entrepreneurial education, since creativity is contemplated as a key entrepreneurial skill (Hocenski, Sedlan-König, & Turjak, 2019; Peschl, Deng, & Larson, 2021). Likewise, hackathon approach is more centred in the product or service development (Sakiyama et al., 2020). In that sense, hackathons often pursue the viability of the generated digital prototype (Kamariotou & Kitsios, 2022; Kitsios & Kamariotou, 2023). Since the implementation of the idea is typically not a top priority in ideathon events, that component can be given as a hackathon advantage over ideathon.

However, it should be remarked the broad nature of the ideathon method in contrast to hackathon methodology, since hackathon is especially applied in the IT sector (e.g., Mahmoud, Dey, Nolte, Mockus, & Herbsleb, 2022; Oyetade et al., 2022). In that sense, given the more general focus of ideathons compared to hackathons, the methodology may be applicable across different participant profiles and disciplines (Sakiyama et al., 2020). Therefore, ideathon approach is more suitable to be applied in social sciences fields conforming a useful tool to enhance entrepreneurial education in a wide range of disciplines.

Nevertheless, as Sakiyama et al. (2020) state, there are few studies that focus on the idea-generating process in an event of this nature. In this regard, various studies use this methodology with university students, which shows its teaching potential (e.g., Endo et al., 2018, 2020; Iwata, 2020; Pulyavina et al., 2022). Students participating in the studies have a technical profile (IT domain) (e.g., Endo et al., 2018, 2020; Iwata, 2020) or are linked to social sciences (specifically business studies) (e.g., Pulyavina et al., 2022).

Despite a certain number of academic articles providing a theoretical basis for the hackathon concept/methodology in university settings (e.g., Islind & Norström, 2020; Kienzler & Fontanesi, 2017; Mtsweni & Abdullah, 2015; Vivanco-Galván, Castillo-Malla, & Jiménez-Gaona, 2018; Wilson, Bender, & DeChants, 2019), a lack of theoretical support has been identified for the ideathon concept/methodology in this field with the consequent limitations that this poses for the establishment of a robust theoretical framework. In this regard, although there are several conference papers that provide an overview of the ideathon concept/methodology (e.g., Akahoshi et al., 2020; Endo et al., 2018; Hourcade et al., 2013; Ono, Ikkatai, & Enoto, 2017; Pulyavina et al., 2022; Sakiyama et al., 2020; Yamada & Ebara, 2020), the lack of academic articles studying it must be highlighted, with the exception of Endo et al. (2020) and Iwata (2020). Therefore, there is a significant gap to be bridged by the academic literature in this field of study.

3. Materials and methods

3.1. Sampling procedure and data collection

In order to achieve the main purpose of this study, an in-depth analysis has been conducted of the "Ideathon de Innovación Sostenible" (Sustainable Innovation Ideathon) event organised by the UNION Campus student union at the Rey Juan Carlos University (hereinafter URJC). Three key factors influenced the choice of this sample. Firstly, the relevance the university holds in the university industry. URJC stands in the Young University Rankings 2022 amongst the 400 best universities in the world that are 50 years old or younger (Times Higher Education, 2022). In the Community of Madrid, it is the second-fastest growing university in the field of research (CRUE, 2022). In the World University Rankings 2022–23 (CWUR) it is placed 936th (CWUR, 2022). In the Webometrics Ranking of World Universities 2022 it comes 774th (Webometrics, 2022). Its position at 251–300 in the global QS Graduate Employability Rankings 2022 is noteworthy (QS Top Universities, 2022). Secondly, Spain is a country that has suffered drastically from the health and economic consequences of the COVID-19 pandemic and the current political and economic instability (ECDC, 2022). Lastly, the UNION Campus student union and the URJC display a proactive attitude in meeting the United Nations (hereinafter UN) Sustainable Development Goals (hereinafter SDGs) by promoting a form of sustainable entrepreneurship within the framework of the 2030 Agenda and they also planned the activity in a competitive manner (United Nations, 2023).

The sample for this study consists of a public university in Madrid (URJC) with over 55,000 students and over 2000 Spanish and international teaching staff. The research featured the collaboration of the UNION Campus student union, the Vice-Chancellor's Office

Table 1
Stages of the case study approach.

Stages
Profile
Review of Literature (Web of Science and Scopus)
Sample selection
Event: Ideathon de Innovación Sostenible
Rey Juan Carlos University
UNION Campus
Ilunion
U4impact
Ecodicta
Hoop Carpool
Red Bull Basement
SocialPreneurs
Units of analysis
Vice-Chancellor's Office for Innovation, Transfer, and Business Relationships (URJC): 1 person
Vice-Chancellor's Office for Planning and Strategy (URJC): 1 person
Green Office (URJC): 1 person
Social Council (URJC): 1 person
Staff (UNION Campus): 5 people
Mentors (UNION Campus): 10 people
Professors (URJC): 31
Students (URJC): 124
Members of Ilunion, U4impact, Ecodicta, Hoop Carpool, Red Bull Basement, and SocialPreneurs as a panel of judges: 11 people
Total, participants: 180
Information gathering
19 semi-structured interviews: Vice-Chancellors, Staff, and Mentors
7 unstructured interviews: participating private companies
150 questionnaires: URJC professors and students
Internal and external documents (Principle of triangulation)
Information transcription
Data records and classification: (1) internal documents, (2) external documents,
(3) interviews, (4) questionnaires, and (5) field notes
Results and conclusions
Conformity with the results of the analysis
Conclusions, in conjunction with literature and professional implications

for Innovation, Transfer, and Business Relationships, the Vice-Chancellor's Office for Planning and Strategy, the Green Office, and the Social Council, all of which are representative bodies at URJC. Representatives from private companies, such as Ilunion, U4impact, Ecodicta, Hoop Carpool, Red Bull Basement, and SocialPreneurs (see Table 1) also participated. All these companies have pledged to work towards both promoting the vocation for sustainable innovation and meeting the various targets of the 2030 Agenda facing the current business landscape.

Following Rodríguez-Sánchez, Ortiz-de-Urbina-Criado, and Mora-Valentín (2020), stages of the case study approach are presented in Table 1.

The case study method has been applied in this article due to the descriptive character of the phenomenon, the breadth of the literature, and the availability of first-hand knowledge. Merriam (1998) asserts that the case study method in qualitative research enables a greater comprehension of a particular social issue. Inductive qualitative research in the study of the content of interview records is often regarded as a method of creating better theories for practice in contrast to the quantitative theory-testing empirical technique (Pieterse, 2020). The in-depth interview method is particularly helpful when "there is a concern for understanding how things happen and how they are related, rather than just measuring the relationship between variables," according to Ahmad and Ali (2003, p. 2). Additionally, it is pertinent whenever a professional procedure is being understood, resolved, or improved (Villar-real-Larrinaga & Landeta-Rodríguez, 2010).

The respondents were picked based on their knowledge, to explore their perspectives on their interactions with the key players in the holding of a sustainable entrepreneurial activity intended to solve issues within the UN SDG framework. Top-level executives and managers were chosen for interviews using the purposive sampling method (Sangpikul & Kim, 2009), given their high status in the information hierarchy and the fact that they are all in charge of making high-level company decisions (Kruesi, Kim, & Hemmington, 2017).

Since the number of interviews and informants was not predetermined at the outset of the study, it was decided to use a method known as "theoretical saturation" to establish the appropriate quantity. Evidence was gathered through semi-structured and un-structured interviews that started with broad open-ended questions, progressed to focused and directed questions as the interviews went on, and then included follow-up contact with interviewees in order to encourage open dialogue (Manuj & Mentzer, 2008; Morrison, Haley, Sheehan, & Taylor, 2002). According to Yin (1998), interviews proceeded until "theoretical saturation" was reached, in other words, until it appeared that informants had not disclosed any new information. Twelve interviews, according to Strauss and Corbin (1998), satisfy the eight or fewer informants required for theoretical saturation in qualitative research.

The interview respondents were all in high-level management positions and had extensive experience in the university and in their private companies. The interviews were conducted with figures in five high-level management positions in the University: Vice Chancellor's Office for Innovation, Transfer, and Business Relationships, Vice-Chancellor's Office for Planning and Strategy, Green Office, and Social Council. Secondly, interviews were conducted with ten representative members of the UNION Campus student union. We also held seven in-depth unstructured interviews with executives from the various private firms. The diversity in the backgrounds of the informants, both in terms of their position in the organisational structure and in the department, has resulted in different perspectives, which has enriched the analysis and the implications of the research. The interviews, which lasted on average between one and one and a half hours, were conducted in person.

As a complement to the interviews, we participated in the preparation of the event, in the training sessions given by mentors, and in all the activities that took place during the ideathon. In the final stage of the competition, before the winners were announced and the prizes presented, a survey was distributed by QR code for all participating professors and students to complete. Finally, to fulfil the principle of triangulation in the collection of information, we accessed internal documents. Consequently, we triangulated the study to ensure internal validity and minimize possible bias when drawing conclusions (Breitmayer, Ayres, & Knafl, 1993).

3.2. Data analysis

All interviews were conducted in Spanish and were recorded and fully transcribed. Once the research team became familiar with the texts and their interpretations, all interviews were translated into English. The qualitative data collected was analysed through a content analysis assisted by the software programme ATLAS.ti. This software enables the systematization of the findings according to categories and subcategories illustrated through conceptual networks (Friese, 2018). The phases in which the analysis is carried out in ATLAS.ti are planning of the research, preparation of the collected information, exploratory analysis of the data, construction, and analysis of the coding, writing up the analysis, visualisation, and presentation of the results section of the work (Varguillas, 2006).

Consequently, we generated an initial set of categories based on the theoretical framework and the interview guidelines. The transcribed interviews were then entered into the software to arrange data into value codes. To do this, we grouped quotes repeated in a patterned manner to generate codes. The next step involved grouping the interrelated codes under the pre-established categories before determining the definitive categories and codes. Finally, to contrast the independent interpretations of the research team and confirm relationships between codes and categories, we held various team meetings.

After this process, five main category themes emerged on the management of the ideathon: planning, budget, training, running the competition, networking and benefits. These codes or categories were, in turn, linked to the codes concerning the various areas of coordination.

4. Results

The various actors involved in managing and running the "I Ideathon de Innovación Sostenible" at URJC have experience in the

different stages depicted in Fig. 1 in which critical success factors are present. Information was collected from the interviews, direct observation, review of internal and external documents, and the surveys and analysed to put forward a model of best practice that may help manage the factors identified as ideathon success factors.

4.1. Planning

The first stage started with the decision of the topic the ideathon competition would be based on. After analysing the current business, social, economic, and university landscape, it was decided that the teams would compete to provide the best solutions to sustainability-linked problems. Under this general goal, the Vice-Chancellor's Office for Planning and Strategy highlighted the firm commitment to making URJC a leading entrepreneurship university, continuing to improve the university's position in different national and international rankings, and promoting the image of URJC as "The Professional Skills University".

Over several meetings with the Vice Chancellor's Office for Innovation, Transfer, and Business Relationships consensus was reached on holding the competition at the Fuenlabrada Campus. This decision was made due to its close location to the Business Incubator that URJC works with in Móstoles and the support from the campus management in providing the various spaces required: eight rooms for the various teams to work on the various challenges, a lecture hall where the opening event, speeches, presentations to the panel of judges and the attending public, closing event, and awards ceremony could be held, and an outdoor space where different fun activities, break and networking activities, such as, for example, meals and coffee breaks could be held.

UNION Campus staff, in conjunction with URJC teaching staff in various working sessions after the inscription period closed, were tasked with organising the personnel required to run the competition. There were 124 entrants who were divided into teams of four, for a total of 31 teams. Each team was led by a URJC teacher. In turn, 10 UNION Campus mentors were tasked with supervising the performance of the teams, synchronising the set time periods, providing the necessary materials, and solving any potential problems.

UNION Campus staff were tasked with communication, promotion, and the coordination of the roles of the 11 private company representatives who would form the panel of judges appointed to rule on which of the proposed business ideas were the best. After studying three alternative lengths, stages, and the availability of spaces, the programme was set as shown in Table 2.

4.2. Budget

The second critical success factor in running the ideathon is the budget. In this area, a key factor was the different meetings held by the organisers (UNION Campus staff and URJC teachers) with the different URJC managerial bodies in supporting all the necessary proposed activities.

Consumable material, such as pens, sticky notes, roller banners, and printed materials for the challenges, was negotiated with the Vice Chancellor's Office for Innovation, Transfer, and Business Relationships, which was able to supply a total of €579.95. The substantial contribution made by this vice-chancellor's office must be noted, as it actively participated on the task of contacting the private companies participating in the event.

The Green Office supported the event by providing €2000 to feed the participants. The vegan burger company, Fantastic V, mode a noteworthy contribution with the provision of the various meals to all the participants. The involvement of this vegan food company met the main requirement of the Green Office, which had to operate and act as a sustainable company.

Communications, advertising, marketing, merchandising, and on-campus auxiliary staff support was offered by the Vice-Chancellor's Office for Planning and Strategy. Furthermore, there was a financial contribution to support and broaden coverage on the social media from both student unions and URJC. The total amount provided was €700.

Finally, the Social Council was responsible for financing the €3000 that was awarded to the five most innovative and sustainable projects as prizes. It should be stated that the prizes were not given as cash. They took the form of different training courses and seminars for the winners that all concerned sustainability and meeting the SDGs. For example, two types of courses were given as prizes: 1) Courses on communication skills for entrepreneurs, and 2) a course on social entrepreneurship.

These prizes and budget characteristics met the goal of raising interest in entering the competition. Additionally, during the course

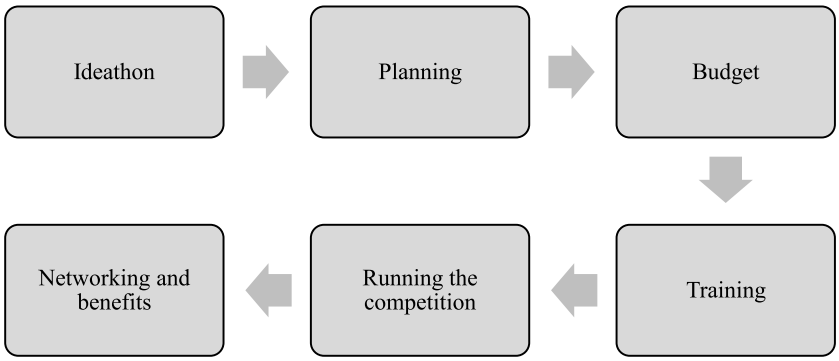

Fig. 1. Stages of the "I Ideathon de Innovación Sostenible" at URJC.

Table 2
Programme of the "I Ideathon de Innovación Sostenible" at URJC.

Day	Methodology	Estimated length in minutes	Schedule
Friday (04/22/2022)	Participant gathering	15	15:45–16:00
	Team forming	15	16:00–16:15
	Team member networking	30	16:15–16:45
	Challenge explanation	45	16:45–17:30
	Massive Transformative Purpose setting	15	17:30–17:45
	Persona map	15	17:45–18:00
	Design thinking	45	18:00–18:45
	Client profile	30	18:45–19:15
	Value map	15	19:15–19:30
	Prototype display	30	19:30–20:00
	Close, cocktail party, and networking	60	20:00–21:00
Saturday (04/23/2022)	Participant gathering	15	10:00–10:15
	Business Model Canvas	45	10:15–11:00
	Exo Model	45	11:00–11:45
	Break - coffee break	30	11:45–12:15
	Preparation presentations	90	12:15–13:45
	Lunch	75	13:45–15:00
	Presentations	60	15:00–16:00
	Finalist selection	30	16:00–16:30
	Preparation finalist presentations	30	16:30–17:00
	Final presentations	60	17:00–18:00
	Judge deliberation	30	18:00–18:30
	Awards ceremony and close	30	18:30–19:00

of the competition, participants were incentivised to work hard, get involved, and be as competitive as possible.

The Vice-Chancellor's Office for Innovation, Transfer, and Business Relationships highlighted the ability of the organisers to attract the best student talent from both URJC and beyond, which is key in enhancing URJC's outreach programme and reputation. These actions were all taken under the overarching idea of becoming a leading university in SDG attainment and positioning itself as "The Professional Skills University". The full budget is detailed in Table 3.

4.3. Training

The training stage delivered by UNION Campus staff and mentors was split into three substages. URJC teachers who were going to lead the teams were first trained. Prior to the start of the competition, all participating teams were given training so that they understood the challenges and methodologies. Lastly, a training session was held with the members of the private companies so that they were aware of the method and assessment criteria for the projects.

Firstly, we analyse the training provided to team leaders. This training was structured around the different activities and methodologies that the teams would use:

- Massive Transformative Purpose (MTP), in which the business idea and purpose is created. To do so, a social challenge and the goods or services to be offered need to be identified. To achieve the goal four stages are suggested: identifying the social challenge that there is a desire to solve, understanding the audience we want to have an impact on, writing down the three most motivating aspects to address in the challenge, and ranking them from 1 to 10 in terms of impact.
- Persona Map, in which the aim is to segment the target audience. Emphasis is given to the need to gather current information on the target client, the current behaviour of the target client, the target client's goals, and what solution they can be offered.
- Design Thinking as a means of identifying problems and proposing possible solutions by using a divergent approach. First, the challenge must be separated from its different constituent problems, then these are categorised based on their relation to the topic, and possible solutions proposed.

Table 3
Budget for the "I Ideathon de Innovación Sostenible" at URJC.

Item	Units	Price
Pens	150	€75
Printed material	180	€54
Sticky notes	44,550	€300.95
Roller banner	4	€150
Merchandise	200	€500
Catering	180	€2000
Advertising	1	€200
Prizes	5	€3000
Total		*€6279.95*

- Client Profile. This section is an in-depth analysis of the characteristics of the target client. It includes the effort the client has to make to get and use the product or make the most of it.
- Value map. This is an in-depth analysis of the project. Emphasis is placed on the analysis of the added value that can be provided to the client by successful implementation.
- Business Model Canvas. This is the point at which to draw together and synthesise all the ideas presented in the previous sections. The aim is to establish the architecture of the business model based on the business canvas model template formulated by Osterwalder and Pigneur (2010). The nine building blocks of the Business Model Canvas are value proposition, customer segments, customer relationships, channels, key partners, key activities, key resources, cost structure, and revenue streams.
- Exo Model. In this final model the architecture of so-called exponential organisations (ExO) is summarised. These are characterised by widespread use of new technology. This complements the business model architecture previously set out in the Business Model Canvas. The starting point is the previously created MTP, which is used to define 10 attributes. The 10 attributes are grouped into SCALE (external characteristics) and IDEAS (everything within the company). It comprises the following elements: staff on demand, community and crowd, algorithms, leveraged assets, and engagement (SCALE), interfaces, dashboards, experimentation, autonomy, and social technologies (IDEAS).

Secondly, during the training given to the different teams, the competition programme was explained to them, as well as the different stages they were to face on the way to selecting the winners, the uses of the materials provided, the dynamic of each activity, the scoring criteria, and the responsibilities of the team leaders and mentors.

Lastly, the training provided to the panel of judges of staff from private companies was aimed at making them aware of the most important criteria when selecting the best business ideas on display. These criteria had a close interest in the idea of sustainable solutions in addressing current problems, the viability of implementing the ideas, contingency plans for such an unstable social and business landscape as we find today, and the ways of securing the necessary financing to implement the ideas.

4.4. Running the competition

On the day of the competition, the participants were given welcome packs with information leaflets and merchandise. The first step was to give the teams training and assign facilitators (URJC professors) and mentors (UNION Campus staff) to each team. After all the participants were organised, the programme for the sessions and the competition was explained to them and they were informed of the scoring criteria the panel of judges would use. Lastly, the possible prizes for the winners were presented. An especially important aspect was explaining that the topic of the business ideas had to be related to one of the following categories:

- How to promote the circular economy and waste reduction?

This section contained the ideas of the new economic and social system that seeks to produce goods and services by making good use of resources and reducing the consumption of raw materials, water, and energy sources. This section targeted ideas on preventing plastic waste in public spaces. Given that creating zero waste is an almost impossible challenge, a model must be put forward to manage waste and use it to create a circular economy idea. Furthermore, proposals that helped to separate organic waste, packaging, paper/cardboard, and include their respective management, were of special interest.

- How to achieve zero food waste?

Actions aimed at raising awareness of more sustainable habits were sought. A key part was highlighting the work of the companies that supply this food, in the search for ideas that would help them balance real supply and demand. Another business option was improving supply chains, designing systems that allow for food to be reused, and, lastly, searching for options that make use of the waste that has already been generated.

- How to promote the wellbeing of the university community?

The task of raising awareness in the university community is very important in improving wellbeing on campuses and public spaces. Encouraging its members to take actions that promote sustainable and healthy eating, promoting a change in habits in the community on and off campus, and creating an observatory to share good experiences were all included.

- How to promote the use of clean energy in public spaces?

Rethinking energy, electricity, and gas consumption. Furthermore, it is important to invest in resources to retrofit facilities, buildings, cafeterias, laboratories, and libraries and make them into exemplary sustainable energy infrastructure. Supplier relationships were also included in this point, with an effort to promote working with suppliers who excel at attending to all these factors.

- How to better use water resources?

Play and sports facilities, with green spaces, need action plans for better use of water resource. Encouragement had to be given to

responsible consumption, making use of rainwater, and, lastly, engaging the whole university community in responsible consumption habits.

Once all the business projects were set within these five categories, a first round of presentations to three-person panels of judges assigned to each section was held. The best projects were the following:

- Optimize: a second-hand shop selling school supplies and other items that students use during their time at university. These materials are usually expensive and are sometimes only used for one subject or for a short period of time.
- Cycla: end-to-end management of food waste at the university. Using food to make compost that can be reused in the upkeep of the green spaces of the facilities.
- Zero waste: an application for exchanging objects that people have stopped using and, perhaps, can be used by someone else who does have a present need for them.

These projects advanced to the final round where they competed in the lecture hall to find the winning project of the "I Ideathon de Innovación Sostenible".

4.5. Networking and benefits

After the end of the competition, analysis of how it was run and in-depth study of the information gathered from the different sources revealed the following benefits.

Participants were highly satisfied with the running of the competition and the lessons they learned. A 1-to-10 rating scale survey distributed to entrants had 74 respondents. An average score of 8.43 was given to the importance of the UNION Campus mentors and the URJC teaching facilitators and the support they offered in carrying out the project. They gave a score of 7.79 on average to the training they received and its relevance. Lastly, with regard to future events, when asked if they would recommend their family members, classmates, or friends take part in future editions, they returned a score of 8.78. These data are an early indicator that the competition was run successfully and that participants have found benefits that they can use in academic and professional settings.

The organisation's reputation has also benefited. Entrepreneurship is a factor that is worked on greatly in universities currently. Competitor universities to URJC, such as the University Carlos III or the Complutense University of Madrid, have already held ideathon competitions, which yielded a similar dynamic to that observed at URJC. Having a competition in which students develop their creativity in solving social challenges under the goal of launching new ways of doing business attracts national and international university talent.

The competition helps improve employability indexes for URJC students. The business support and collaboration it has received from start-ups and larger firms, such as Ilunion, U4impact, Ecodicta, Hoop Carpool, Red Bull Basement, and SocialPreneurs, makes it more likely for the top university talent to be recruited and hired to start their professional careers in these organisations.

Supporting the SDGs and the 2030 Agenda. Sustainability is a highly relevant issue in the current social, business, and university landscape and all activities that promote attainment of these goals have a significant impact. Society and the Spanish and international governments are focusing their efforts on helping achieve the SDGs, which means that directly participating as a university in this drive will have a positive impact. Furthermore, the challenges set for the participating teams are initiatives included in URJC's Strategic Plan 2020–2025, which was drawn up by the Vice-Chancellor's Office for Planning and Strategy (Rey Juan Carlos University, 2022).

With regard to entrepreneurship, the most recent data indicate that Spain has a youth unemployment level of 30,1%, which is being exacerbated by the economic consequences of the COVID-19 pandemic and the current political instability (Ministry of Labour and Social Economy, 2022). Entering the labour market in the search for employment is a difficult task. For that reason, URJC seeks to provide students with the skills and tools that will enable them to innovate and become entrepreneurs.

University-business ties and engagement are being promoted. Contact is ongoing with a large number of businesses who have collaborated on the "I Ideathon de Innovación Sostenible" at URJC and the good results have seen them satisfied and willing to take part in similar future activities.

5. Conclusions

The main goal of this study is to provide support for the use of ideathons as a tool in entrepreneurial education at universities. Considering the scarcity of studies addressing ideathons, from a theoretical and empirical point of view, we offer a social sciences approach to idea-generation events, which have traditionally been covered from IT domain. We hope this helps capture a high degree of attention from the academic community.

For practitioners, we have provided a set of guidelines for organising and running successful ideathons in social sciences. Five stages to effectively hold this type of events are presented: (1) planning, (2) budgeting, (3) training, (4) running the competition, and (5) networking and benefits.

Planning concerns the selection of the topic or problem requiring a solution. This problem or situation must be real and taken from the social, economic, or environmental landscape and aligned with the mission and goals of the higher education institution. It is also crucial to involve internal and external actors (departments, students, companies) in organising and publicising the event. Budgeting is also crucial for projecting credibility and ensuring financial support from the university and other actors, which includes the prizes.

Training for the staff is fundamental to the success of the ideathon. Team leaders, who play a facilitating role, should be trained in the different techniques to be applied, so they can guide students during the event. In a management and business setting, potential

methods to be used can include Massive Transformative Purposes, Persona Maps, Design Thinking, Client Profiles, Value Maps, and Business Model Canvases. The jury must also be briefly trained, mostly on the assessment criteria to be used when evaluating the projects addressing the targeted goals (originality and feasibility). All these steps are necessary for the activity to run successfully.

After the activity, organisers must gather information from different sources to evaluate the success of the event. A successful ideathon should help improve the reputation of the institution, thus attracting national and international university talent. Students can also increase their employability due to enhanced entrepreneurial skills, as well as their interaction with real companies during the competition.

This study must be interpreted with caution due to the limitations inherent in its qualitative methodological design. This method helps understand the phenomenon under study in a particular context -business and management-, thus it cannot be extrapolated to other areas of the social sciences. In addition, another limitation lies in the fact that only one experience is analysed. Finally, as in any other research work, it raises new questions that allow us to further broaden the utility of ideathons in other areas of the social sciences.

Authors statement

Authors declare that they have contributed equally to a collaborative and collective process in conducting this research and in the authorship of this manuscript.

Declaration of competing interest

None.

Data availability

The authors do not have permission to share data.

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