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Entrepreneurial universities and intrapreneurship: A process model on the emergence of an intrapreneurial university

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ABSTRACT

With this paper we aim to provide a better understanding of the mechanisms that facilitate the emergence of an intrapreneurial university by considering a longitudinal, single case study. Our process model shows the specific mechanisms (i.e., enabling and supporting) that drive the transformation of scattered individual-level abilities (i.e., competencies, mindset and networks, playing as antecedents) into organizational intrapreneurial abilities, endowed within the university. Our study contributes to a growing stream of studies on intrapreneurial universities, exploring how universities internally anticipate, address and manage change, how they organize and orchestrate resources and competencies, thus showing intrapreneurial abilities. In terms of managerial implications we suggest university managers to take in consideration that entrepreneurial approaches should to be better promoted internally, by cultivating a culture of change, creativity and innovation, as well as fostering team-working activities.

1. Introduction

The role of universities in contemporary society has become multi-faceted (Belitski et al., 2019; Guerrero et al., 2016a; Perkmann et al., 2013) and encompasses teaching, research and increasing third mission activities (Grimaldi et al., 2011; Cunningham et al., 2022). Technology and knowledge transfer processes are central to the commercial exploitation and valorization of research results (Díez-Vial and Montoro-Sánchez, 2016), which are known as 'academic entrepreneurship' (Belitski et al., 2019; Perkmann et al., 2013). 'Academic entrepreneurship' pertains to those "entrepreneurial activities in which universities could be involved, including, but not limited to: patenting, licensing, creating new firms, facilitating technology transfer through incubators and science parks, and facilitating regional economic development" (Rothaermel et al., 2007, p. 2; see also, Grimaldi et al., 2011). The commercialization of academic knowledge requires building strong external partnerships with ecosystem stakeholders (Bekkers and Freitas, 2008; Miller et al., 2014), such as entrepreneurs, universities and local and national government, as well as private industry.

Research on academic entrepreneurship (Brenzitz and Feldman, 2012; Klofsten et al., 2019), defined as "the development of commercialization beyond the traditional focus upon the licensing of innovation to the creation of new ventures that involve the spinning-off of technology and

knowledge generated by universities" (Wright et al., 2007, p. vii), has investigated various aspects at different levels of analysis: at the organizational level, in terms of internal factors, knowledge transfer processes and overall impact (Markman et al., 2005; Guerrero et al., 2015; Guerrero and Urbano, 2019); at the environmental level, in terms of institutional factors, innovation ecosystems and emerging economies (Guerrero and Urbano, 2012; Brem and Radziwon, 2017; Dalmarco, Hulsink & Blois, 2018); and at the individual level, in terms of the characteristics and traits of academics and, more recently, in terms of the motivation of Knowledge Transfer Office (KTO) personnel (Perkmann et al., 2021; Pohle et al., 2022).

A parallel literature has introduced the notion of entrepreneurial universities (Guerrero and Urbano, 2012; Guerrero et al., 2016a,b), defined as entities that implement several strategies and new institutional configurations to work together with the government and industries, to facilitate the generation and exploitation of knowledge and technology (Leydesdorff and Meyer, 2003). Entrepreneurial universities, as drivers of innovation, are focused on their contribution to social development and economic growth (Schulte, 2004) and on generating impact.

Even if the new role of universities has attracted growing interest by scholars, there is still a lack of focus on what goes on inside universities, on how universities develop internal abilities and approaches

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that, eventually, make them good at academic entrepreneurship and as entrepreneurial universities. Environmental, organizational and individual factors come into play within universities in a unique way, reflecting their stories, values, cultures and idiosyncrasies, which all influence the emergence of academics' intrapreneurial behaviors. Yet we know little about how the intrapreneurial behavior of individuals within academic communities is practiced: how it becomes embedded in academic organizations, anchored into their processes, procedures and strategies, and how it generates potential for change, innovation and entrepreneurship at the organizational level, thus contributing to the emergence of intrapreneurial universities. Accordingly, this paper aims to address the following research question: *What are the mechanisms that facilitate the emergence of an intrapreneurial university?*

To explore this issue, we use the case of an Italian university (hereafter, the University), located in the northern part of Italy and one of the most prominent universities in the country. It is in the top 1% of universities in the world (QS [QS World University Ranking, 2022](#)). The University is a comprehensive, multicampus university with a strong reputation for supporting and fostering a culture of entrepreneurship, innovation and knowledge valorization. More specifically, we will analyze the establishment of the University's Entrepreneurship Club (hereafter, the Club), which has proved crucial for the development of organizational intrapreneurship at the University. Through our case study, we will build a process model for the creation of an intrapreneurial university.

Our study contributes to the literature on entrepreneurial universities ([Guerrero and Urbano, 2012](#)) by adopting an intrapreneurial focus. Specifically, we contribute to defining the notion of intrapreneurial university and provide a better understanding of how universities can internally develop intrapreneurial abilities. Our model shows specific individual-level antecedent conditions (i.e., competencies, mindset and networks), the mechanisms that enable and support entrepreneurship, and more general mechanisms in the process of generating an intrapreneurial university. In the final discussion, we hold that intrapreneurial abilities are important to generate innovation outcomes within research, education and the third mission – particularly for academic entrepreneurship outcomes, including spin-offs and licensing). With this focus on intrapreneurial universities, we contribute to the literature on entrepreneurial universities. Universities can be entrepreneurial even in the absence of intrapreneurial abilities. Though, we advance that such internal intrapreneurial abilities make entrepreneurial universities better at orchestrating resources, competencies and other contextual and environmental assets and at generating impact.

Our study paves the way for future research that could empirically address the relation that we hypothesize above, looking at the influence of intrapreneurial abilities on universities' performance/success in generating academic entrepreneurship outcomes. Future studies could go further in exploring how university intrapreneurial abilities influence universities' performance in generating innovative outcomes in all their missions.

2. Theoretical background

Our paper is grounded on two streams of literatures: entrepreneurial universities and intrapreneurship. By reviewing previous studies, we highlight that the literature is almost silent on the factors (e.g., behaviors, resources, competencies) that could support and nurture the development of intrapreneurial universities, and in turn entrepreneurial ones.

2.1. Universities and entrepreneurship: state of the art

Over the last 30 years we have witnessed an explosion of research looking at universities and their engagement strategies with entrepreneurship, encompassing studies on third-mission activities ([Compagno and Spigarelli, 2020; Laredo, 2007](#)), academic entrepreneurship

([Klofsten and Jones-Evans, 2000; Shane, 2004; Wright, 2014](#)), technology transfer and knowledge exchange and share ([Villani et al., 2017; Miller et al., 2018; Pohle et al., 2022](#)), and academic engagement ([Perkman et al., 2021](#)). This rich scientific production has looked at universities and entrepreneurship at different levels of analysis: environmental, organizational, and individual.

2.1.1. Environmental level

Universities act as open systems: they assimilate knowledge from the outside, elaborate, transform, and produce it, and finally give it back to the environment again. In this cycle, their activities are affected by technological evolution, social and cultural dynamics, and economic factors, as well as political and legal changes ([Guerrero et al., 2006](#)). On top of these external trends, environmental dimensions also include physical characteristics of the local context (ecosystems) in which universities operate, which are key to explaining their performance. Players of such ecosystems (e.g., banks, universities, research centers, agencies for TT, business angels, incubators, coworking spaces, venture capitalists, etc.) are influenced by and, at the same time, affect universities' entrepreneurial behaviors ([Niosi, 2006; Link and Scott, 2005](#)). These actors can influence entrepreneurial universities from different perspectives (reflecting their interests) and to different degrees. For instance, investors are interested in scouting ideas with market potential and likely to scale up; incubators, co-working, and other agencies operating in the early stages of entrepreneurial projects might be driven by a public logic to mitigate market inefficiencies, as well as by private interests in identifying and supporting initiatives that are likely to buy their services.

2.1.2. Organizational level

The decisions that universities make in response to external challenges – based on internal resources and competencies – are captured by entrepreneurial strategies, and by organizational design. Strategy has to do with the definition of 'entrepreneurial' goals, design of activities and long-term guidance. Thus, for example, KTO at universities can be seen as an important support mechanism in the process of creation of university spin-offs ([Guerrero and Urbano, 2012](#)). Organizational design has to do with two main activities: designing actions in support of entrepreneurship that align with the strategy; and orchestrating resources to meet the strategic goals through the implementation of specific actions. Orchestration ([Baert et al., 2016](#)) accounts for choices in relation to resource acquisition (internal vs. external), alliances, openness, networks of relations, incentive structures and opportunities. Moreover, the organizational climate in the work context results crucial in supporting and promoting academic entrepreneurship and engagement: "individuals are more likely to participate if they are trained at institutions that had accepted the new initiative and been active in technology transfer" ([Bercovitz and Feldman, 2008](#), p. 69). Incentive systems are therefore an important component of organizational design ([Sørensen and Fassiotto, 2011](#)). They should target different internal audiences, including students, academic community, as well as professionals.

2.1.3. Individual level

Individuals are the engine of innovative and entrepreneurial processes ([Clarysse et al., 2011](#)). Based on their competencies, traits and networks, they continuously connect themselves with other sources of knowledge, produce new knowledge every day, and interact and socialize with others ([Bercovitz and Feldman, 2008; Stuart and Ding, 2006](#)). For universities wanting to support entrepreneurship, individuals to care about include: scientists and researchers producing knowledge and research results; students generating new entrepreneurial ideas; KTO personnel having the knowledge to connect scientists with the outside and create the organizational conditions for entrepreneurship to happen. The literature has addressed scientists' engagement in academic entrepreneurship from different perspectives. In general, the degree of

scientists' cumulated expertise and know-how can explain the likelihood of their engagement (Allen et al., 2007). The life-cycle model of the scientist implies that *ceteris paribus*, a scientist's reputation should play a role in the decision to commercialize (Audretsch and Aldridge, 2009).

As for students, the challenges for universities is to have their students engaged in a continuous and structured way. This can be done by investing in actions supporting entrepreneurship, and in teaching activities that stimulate students' creativity and leverage their innovative potential. Many universities are investing in training their students in the so-called soft skills, so as to complement the vertical background that is offered by traditional curricula, with horizontal and transversal competencies in order to stimulate an entrepreneurial mindset, a positive orientation toward change, as well as individuals' confidence in governing uncertainty and risk. This is particularly important within specialized and vertical curricula. The aim is to promote heterogeneity and inter-disciplinarity to maximize the chances that new knowledge will be co-created and shared.

As for KTO professionals, the ultimate success of entrepreneurial strategies of universities depends to a great extent on KTO personnel. They act as boundary-spanners and need to be able to reach different audiences. On the one hand, they need to understand the potential of technologies and inventions from different disciplines; they should be continuously connected within the internal research community to be knowledgeable about research activities and results that could generate external impact. On the other hand, KTO personnel need to reach external communities, speak the market language, understand market dynamics, and grasp end-users' needs to continuously generate opportunities for commercializing science and research outputs. Balancing the internal and external perspectives might not be easy (Pohle et al., 2022).

Among individuals, members of the governance, heads of departments, and other influential faculties too, play a key role. Regardless of organizational design (following strategic and policy decisions), the attention that these influential people pay to entrepreneurship and innovation is relevant for its legitimization and for generating consensus and engaging the entire academic community. However, motivating and engaging the entire academic community toward an entrepreneurial mindset represents a continuous challenge (Guerrero and Urbano, 2012), due to the different approaches and goals that characterize different groups. In the same vein, the development of internal capabilities that can support entrepreneurial behaviors across different groups and levels poses many challenges (Guerrero, Heaton & Urbano, 2021).

2.2. The puzzle between entrepreneurial and intrapreneurial universities

2.2.1. Entrepreneurial universities and intrapreneurship

In defining entrepreneurial universities Guerrero and Urbano (2012) identify two main 'conditioning' dimensions: a) environmental factors and b) internal factors. The former refers to 'contextual' organizational characteristics and include: the organization and governance structure of universities (i.e., internal management structures, decision-making mechanisms, and leadership functions), a range of support measures developed within the universities to support new firm creation, entrepreneurship education programs, exchange programs and collaboration strategies between university and industry, reward systems, etc. The internal factors, instead, include resources and capabilities that are needed for entrepreneurial universities to be in place, like: leaders with strong management capabilities and leadership traits in the governance more in general, academics as critical human resources for the development of educational quality and generation of innovation in research, financial resources, social capital, networks, alliances, etc.

The internal factors highlight the importance of accessing resources and indirectly point to the importance of locations in which universities are settled (Dalmarco et al., 2018). Entrepreneurial universities are more likely to emerge in ecosystems favoring access to critical expertise, networks and knowledge (Saxenian, 1994).

These 'conditioning' dimensions favor the emergence of entrepreneurial universities, as entities that implement several strategies and new institutional configuration to work together with the government and industries to facilitate the generation and exploitation of knowledge and technology (Leydesdorff and Meyer 2003). Entrepreneurial universities are focused on their contribution to social development and economic growth (Schulte, 2004) and on generating impact.

Nevertheless, we find that studies within the overarching notion of entrepreneurial universities did not pay attention to how different factors described above (i.e., environmental/contextual and internal resource/competence/network-based) come together internally and how they are internally orchestrated to generate innovative outcomes. In this respect, we think there is a strong need to understand how universities can create internal intrapreneurial abilities, which are required to lead change through innovation and entrepreneurial activities.

The notion of intrapreneurship within universities – with some notable exceptions (Guerrero et al., 2021) – has been poorly addressed by extant studies. The same notion has received better attention from scholars looking at corporate settings and private companies (Audretsch et al., 2021; Corbett et al., 2013). Intrapreneurship is defined as "*the process whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization*" (Sharma and Chrisman, 1999, p. 18). In other words, it is "*entrepreneurship within existing organizations*" (Antoncic and Hisrich, 2001, p. 496). Thus, intrapreneurship consists of taking advantage of a new opportunity and creating economic value within the company itself (Pinchot, 1985), or more generally, it relates to the generation of new possibilities for business growth and improvement (Drucker, 1987). Whereas entrepreneurship is about taking risks in initiating and managing activities that will have an *external* impact, intrapreneurship is entrepreneurial activity carried out *within* an organization, through a process of employees seeking out opportunities (Stevenson and Jarillo, 1990) by doing new things (Vesper, 1990; Bosma et al., 2013; Antoncic and Hisrich, 2001). Intrapreneurship has a multidimensional structure, encompassing dimensions such as risk-taking, innovativeness, proactivity and competitive energy (Felicio et al., 2012).

Although intrapreneurship has started to receive growing attention in the literature (Nicholson et al., 2016; Kearney and Meynhardt, 2016), there is confusion around the theoretical approaches and terminologies used to define it. Intrapreneurship is often associated with corporate entrepreneurship. However, while the latter is an organizational-level 'concept', intrapreneurship develops from an individual perspective (Wakkee et al., 2010; Moriano et al., 2014; Åmo and Kolvereid, 2005; Rigtering and Weitzel, 2013; Sinha and Srivastava, 2013). In this sense, the intrapreneur is the employee who recognizes opportunities and develops innovations (Hernández-Perlines et al., 2022; Camelo et al., 2012). Intrapreneurial capabilities are understood as "*higher-level competencies that determine that entrepreneurial organizations will be able to improve/transform their routines into entrepreneurial actions to integrate, build, and reconfigure internal/external resources*" to address different kinds of challenges (Guerrero et al., 2021, p. 4). Accordingly, intrapreneurs are those individuals who have the ability to scout out, identify, absorb and integrate external opportunities so as to generate organizational value.

As change is a necessary ingredient for achieving sustained competitiveness and growth, organizations have started to recognize intrapreneurial employees as an important source of entrepreneurial activities (Rothaermel et al., 2007). Indeed, employees can enhance an organization's competencies and performance by establishing the knowledge base needed for innovation and entrepreneurship (Alpkan et al., 2010), even with limited or no involvement from management (Kacperczyk, 2012). There is wide acknowledgment of the potential that employees' self-initiated intrapreneurial behaviors have for building an innovative and creative culture (bottom-up approach).

Existing research has explored both the antecedents and

consequences of intrapreneurial behaviors within firms. Environmental conditions, such as technological opportunities, dynamism, industry growth and demand for new products, and organizational conditions, such as job design and organizational behavior characteristics, have been considered key antecedents of intrapreneurship (Antoncic and Hisrich, 2001). For example, Neessen et al. (2019) showed that both social norms and employee characteristics significantly affect intrapreneurship. Parker et al. (2010) explained that intrapreneurship is determined by proactive work behavior. In terms of consequences, instead, innovation, success and survival, and value creation have been identified as the most important deriving from intrapreneurship (Hernández-Perlines et al., 2022). For example, Ireland et al. (2003) provided a model showing that one consequence of intrapreneurship is the ability to create wealth. Audretsch et al. (2021) found that labor mobility can act as both an antecedent to and a consequence of organizations' intrapreneurial activities.

2.2.2. Intrapreneurial abilities for intrapreneurial universities

Although there is general agreement on the benefits brought to organizations by intrapreneurial behaviors, public-sector organizations, including education institutions (Valka et al., 2020; Guerrero et al., 2021), have somehow been ignored by intrapreneurship research. However, if one agrees that public-sector intrapreneurship might differ from private-sector intrapreneurship in terms of the '*observable behaviors that are due to the different institutional environment* (e.g., *lack of competition, intolerance of failure or difficulty of perceiving demand*)' (Leyden, 2016, p. 559) in which public-sector employees operate, then studies on how intrapreneurial behaviors are stimulated in universities – nurturing innovation, creativity and entrepreneurship – are required (Valka et al., 2020).

Universities are peculiar organizations that remain focused on the core activities of teaching and research (Guerrero et al., 2021), thus defining their actions, investing their resources, and exploiting their capabilities accordingly. The public nature of many universities puts them at a far remove from profit logic – as their political and social objectives take precedence – and their funding status, though taxpayers, makes them subject to public scrutiny, and requires transparency in decision-making and consensus among interest groups. Moreover, university regulations are characterized by procedural rigidity and bureaucracy in many countries. Accordingly, formal and inflexible rules (Pohle et al., 2022) may create difficult conditions for the establishment and diffusion of intrapreneurial capabilities (Guerrero et al., 2021) inside public universities, among civil servants who feel they require legitimacy, authorization and political support within the organization (Bartlett and Dibben, 2002).

Yet, in the specific case of educational institutions, Boon et al.'s (2013) exploratory work points to the importance of individual intrapreneurial behaviors, such as proactivity, innovativeness and risk-taking (Valka et al., 2020), to address change. Universities, like other public educational institutions, are continuously challenged by the external context and environmental dynamics, including technological and economic evolution, and cultural and social changes. The changing demands of the labor force (i.e., new competencies, new abilities, better interactions with industry, smart and digital approaches to learning and working) require them to evolve – not to mention the expectations related to the Third Mission, for universities to engage better in fostering technology and knowledge transfer and to contribute to societal growth, wellness, and progress (Compagnucci and Spigarelli, 2020). The likelihood of a university progressing is very much dependent on its ability to cope with these dynamic patterns of evolution and requires internal, individual and organizational, abilities to manage and anticipate change, and to orchestrate the factors underpinning the notion of entrepreneurial universities (in consideration of both contextual and internal factors).

While there is no consensus on a unique definition of intrapreneurial universities, we see these internal abilities to manage, lead and

implement change as central to the notion of intrapreneurial universities. We refer to them as 'intrapreneurial abilities'. They are key for universities to generate innovation outcomes within research, education and/or third mission activities (including academic entrepreneurship output like spin-offs, patents, licenses, etc.).

Some studies have pointed out the need to develop intrapreneurial capabilities (Klofsten et al., 2021), but most of them remain silent on how such abilities are developed. The dynamic capabilities framework has emerged as a useful framework for facilitating intrapreneurship (Guerrero et al., 2021; Honig and Samuelsson, 2021), however, we still do not have an understanding of *the process through which* intrapreneurial abilities emerge and develop within universities, thus turning them into intrapreneurial universities. We see the notion of 'intrapreneurial university' as a broader concept than the 'entrepreneurial university' one, which is more focused on outcomes deliberately designed within the third mission domain, more related to the commercialization and, generally speaking, to the valorization of academic knowledge. Intrapreneurial universities build on the availability of internal intrapreneurial abilities meant to leverage change and generate innovative outcomes across all universities' missions.

3. Methods

To address our research question, we used an inductive longitudinal case study (Eisenhardt 1989; Langley 1999) of an Entrepreneurship Club established at a leading entrepreneurial Italian university. Qualitative research is particularly recommended in the case of complex phenomena when the boundaries between the phenomenon and the context are unclear (Yin, 2003; Gehman et al., 2018). Intrapreneurship represents such a kind of phenomenon in a unique manner, being a multidimensional concept (Felício et al., 2012) that combines individual capabilities, organizational and environmental conditions, and employee characteristics (Antoncic and Hisrich, 2000; Neessen et al., 2019). The richness of qualitative data and the flexibility of the semi-structured interviews will enable us to go in-depth in the case study investigating the internal dynamics of interactions (Graebner et al., 2012). As we sought to understand what facilitates the emergence of an intrapreneurial university, we adopted an exploratory stance and traced the evolution of our case study organization for 30 months to identify the evolution of the process, the key features that characterized each phase and the effects that those aspects had on the establishment of organizational intrapreneurial ability.

3.1. The case study

The Club represents a key entrepreneurial activity promoted within the University. In November 2015, new governance at the University designed a brand-new strategy for supporting academic entrepreneurship. The Club was designed to raise awareness of this new strategy within the scientific community and foster their engagement. The University is a clear example of entrepreneurial university, being it among the leading universities in Italy for what concerns knowledge transfer and entrepreneurial activities. It counts a very structured third mission division, with a growing trend of personnel involved.¹

The initial promotor of the Club was the Rector's Delegate for Entrepreneurship. Starting in 2016, she worked closely with a 'restricted group' of people to define the implementation of the University's strategy for entrepreneurship and to create the Club. She inspired and worked on the development of the Club until 2018. The restricted group included the Rector's Delegate, the Head of the Research and Technology Transfer Administrative Division, administrative staff from different

¹ The University's Knowledge Transfer Office is considered among the five most successful in Italy in terms of outcomes (<https://netval.it/doc/rapporto-o-netval-2018/>).

areas – selected for their expertise in entrepreneurship – and some students from the Students' Association for Start-uppers.

The Club's first event, in 2016, consisted of a brainstorming session in which more than 140 members defined the Club's name, logo, goals and purpose. The event that officially kick-started the Club's activities took place on January 26, 2017. The Club events included three different activities: learning moments, inspirational talks and think-tank activities. The learning moments and inspirational talks aimed at fostering an entrepreneurial culture that Club members could spread throughout the University.

The think-tank activities were designed to promote proactive engagement among Club members, creating four working groups (*Cantieri*) coordinated by an 'extended group' in charge of leading, inspiring, and coordinating. The restricted group created the extended group by selecting academics based on three specific characteristics: (1) their knowledge as researchers of entrepreneurship and technology transfer, (2) their experience as academic entrepreneurs and/or (3) their entrepreneurial mindset. The think-tank activities aimed to co-design actions to support entrepreneurship in different directions and domains, leveraging the heterogeneity of the large academic community with scientists from 32 departments. The think-tank activities started with the brainstorming event, at which the four main themes to work on were selected. During 2017, four self-selected groups of Club members, coordinated by the extended group, designed four intrapreneurial projects that were presented to the Rector and the Rector's Delegate Council by the end of the year. Starting in 2018, the University's administrative staff took the lead and implemented those projects. Although after 2017 most of the think-tank activities ceased, the Club remained active, disseminating the learnings and inspirational talks across the University's different campuses to expand their reach and impact. These activities continued after 2018; however, for our analysis, as will be explained in the section below, we have covered the activities up to the last event of 2018.

3.2. Data collection

To analyze our case, we combined archival data and formal and informal interviews following case study analysis recommendations (e.g., Eisenhardt 1989). Data collection occurred in 2022 and early 2023. We collected all the archival data produced by the organization (e.g., minutes, agendas, PowerPoint presentations, mail exchanges, surveys) from different sources, including: the Rector's Delegate for Entrepreneurship during Club activities, key actors from the technical administrative staff, and the university archive. Furthermore, we looked for articles and press releases in local newspapers. We collected 1051 pages of documents and 237 responses to surveys and internal forms. The surveys and internal forms were filled in by people participating in the Club, in order to catch their opinions about the Club's meetings and activities, as well as their intention to participate in the next Club's activities. The archival data collected allowed us to reconstruct precisely what took place from 2016 to 2020, who attended which events and what outputs were produced. In doing so, we iterated between data and theory (Glaser and Strauss, 1967) and started to look for insights regarding the intrapreneurial characteristics informed by the literature. We used the information collected in an instrumental bracketing analysis that allowed us to map the phases of the Club's creation (Langley, 1999).

The archival data helped us to recognize the critical actors involved in each phase. To validate and improve our understanding of the information we collected through the archival data, we started interviewing – formally and informally – members of the restricted group. We used the data collected and the snowball technique to identify other key informants from the restricted group and the extended group. Furthermore, we interviewed a professor whose significant contributions to the Club's development were highlighted by all the other informants, although he only participated in a few Club events. We conducted 10

interviews (a total of 547 min) that allowed us to triangulate what happened from the early days of the Club's design (2016) to the impact the Club generated until 2022. We especially focused on how the involvement into the Club happened, the perception and expectation about the Club's activities and results, the interviewees' role and capabilities, and the impact generated by the Club on the University. In Fig. 1 we report our data sources.

3.3. Data analysis

We investigated the Club's creation, development, and impact through an in-depth case study analysis (Eisenhardt, 1989; Yin, 2013). We started by collecting and categorizing all the archival data. We analysed these through a bracketing analysis (Langley, 1999), identifying the main phases of our case study and the key actors to interview. We conducted 10 interviews that allowed us to validate our bracketing analysis. Next, we proceeded with a grounded theory analysis (Charmaz, 2006) to explore emerging patterns in the archival data and the interviews. We identified and grouped the initial concepts into categories using an open coding strategy (Van Maanen, 1979). The objective at this stage was to observe how the process evolved during the different phases identified in the bracketing analysis. After we reached data saturation and no additional first-order code was identified, we went back and forth between the data and the current literature to develop higher-level abstraction codes, until we identified six aggregate dimensions that became the basis for the theoretical model (Gioia et al., 2013).

3.3.1. Bracketing analysis

Our analysis started with temporal bracketing aimed at identifying a series of discrete but connected phases (Langley, 1999) through which we could explain the evolution of the Club. This was done through detailed scrutiny of the archival material, simultaneously triangulated with the initial interviews we conducted. We ensured that each temporal phase had internal consistency and continuity in terms of its main actions and functions. A discontinuity in activities or functions indicated that the phase needed to be differentiated from the previous one. Thus, these temporally bracketed phases became our central unit of analysis, as this enabled '*the explicit examination of how actions of one period led to changes in the context that will affect action in subsequent periods*' (Langley, 1999, p. 703).

We identified three distinct chronological stages that characterized the evolution of the Club: a preliminary phase that involved defining the goals and form of the Club (i.e. 'the Club as an idea', from 2016 to 2017), a second phase in which the participants were able to ideate, design and propose intrapreneurial projects to the governance (i.e. 'the Club as project development', from 2017 to 2018) and a third phase in which the Club's activities focused on inspirational and educational events to foster an entrepreneurial culture inside the University (i.e. 'the Club as entrepreneurial culture', from 2018 onwards). Also, within the third phase, projects designed by Club members during the second phase started to be implemented inside the University. We show in Fig. 2 a graphical timeline of key events and in Fig. 3 the detail of the activities undertaken during the years sampled.

Since our interest is in exploring the factors that can transform individual-level intrapreneurial abilities into organizational-level intrapreneurial abilities, our analysis covers the initial activities of the Club, from the early stages of brainstorming to the diffusion of the activities across all the University's campuses (i.e., the three phases described above). Therefore, we covered the activities of the Club from 2016 to the end of 2018. Also, we accounted for the externalities generated by the Club as reported by our informants up to the end of 2022. We validated our temporal bracketing and foci with our informants when conducting the interviews. Their identification of a 'successful initiative', despite their ignorance of the subsequent output's implementation (i.e., what happened after 2018), confirmed our intuition: analyzing the activities and functions of the Club in detail during

Interviews			
Formal Interviews (8)			
Restricted Group	Director C – The Head of Administrative Research and Technology Transfer Division during the Club's activities	48 minutes	
Extended Group	Students C & O – Student founders of the Students Association for Start-uppers	44 minutes	
Expert	Staff P – Member of the technical administrative staff that helped the Rector's Delegate in 2016 and 2017	52 minutes	
Extended Group	Professors G, M, R, L – Coordinators of the working groups	173 minutes	
Expert	Professor F – A professor invited to participate in the early stage of the brainstorming	38 minutes	
Informal interviews (2)			
Restricted Group	Rector's Delegate for Entrepreneurship during the Club's activities	192 minutes	
		Total	547 minutes
Archival Data			
Documents			
	Agenda	23 pages	
	Newspaper articles and press releases	9 pages	
	Slides	925 pages	
	Club and entrepreneurial strategy descriptions and thoughts	33 pages	
	Images (photos)	2 pages	
Mail			
	Mail exchanges and invitations	11 pages	
Minutes			
	Text files	37 pages	
	Spreadsheet	9 pages	
	Images (schemes)	2 pages	
		Total 1,051 pages	
Surveys and internal forms			
	Surveys	100 respondents	
	Internal forms	137 respondents	
		Total	237 respondents

Fig. 1. Data sources.

the first three years (2016–2018) helped us to shed light on the factors that enable the transformation of individual-level intrapreneurial abilities to the organizational level.

3.3.2. Grounded theory analysis

After the initial temporal bracketing, we followed a grounded theory approach in the data analysis that started with an open coding strategy (Van Maanen, 1979), by identifying initial concepts in the data and grouping them into categories (open coding), using in-vivo (Strauss and Corbin, 1990) or first-order (Van Maanen, 1979) codes, when available, or descriptive phrases to capture the essence of the events. Two authors worked together to code the data. When they reached a consensus, they shared the initial codes with the other co-authors, discussing and theorizing preliminary findings. Following axial coding techniques, the authors started to search for relationships among the categories to identify higher-order themes. The coding process resulted in an iterative process

characterized by several data analysis steps. Going back and forth between the data and the literature, we developed higher-level abstraction codes representing the aggregate dimensions to build our theoretical model (Gioia et al., 2013).

Fig. 4 details our coding scheme and aggregate theoretical dimensions. For instance, in the in-vivo code, we coded the Club members' desire to contribute and the governance's invitation to contribute as 'It was your occasion to contribute!'. We coded the decision-making freedom perceived and provided as 'Decision-making autonomy'. We then grouped both these codes into the first-order code 'Empowerment and ownership'. Furthermore, we coded the production of merchandising and the Club's strategy to provide a shared identity as 'The Club provided a shared identity, involving all the campuses of the University and gifting ad hoc gadget'. We coded the members' perception of being in a group and having a role in it as 'Members felt they shared this experience as a group, that they had a role in the Club'. We then grouped

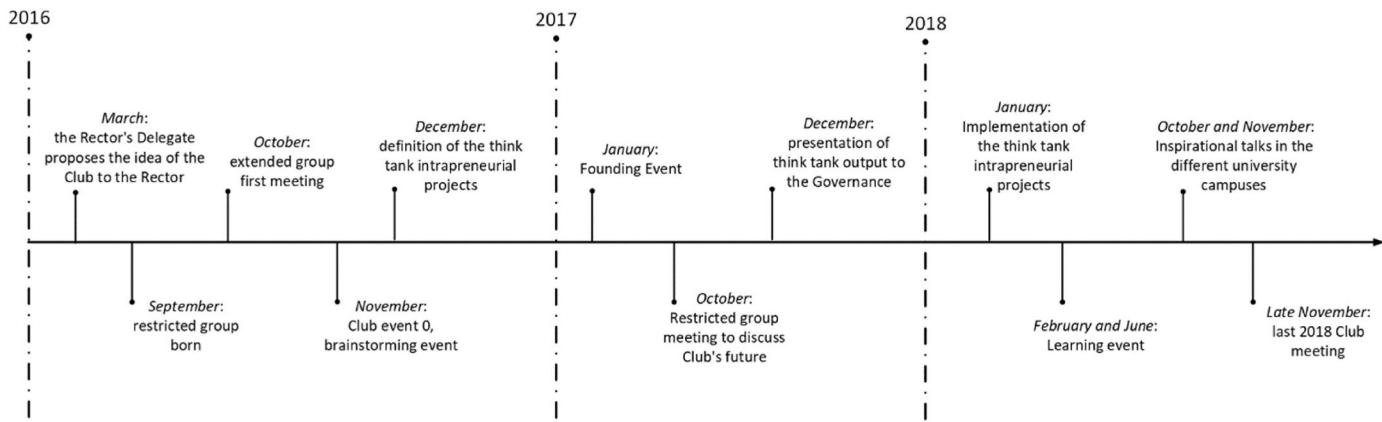


Fig. 2. Timeline of events.

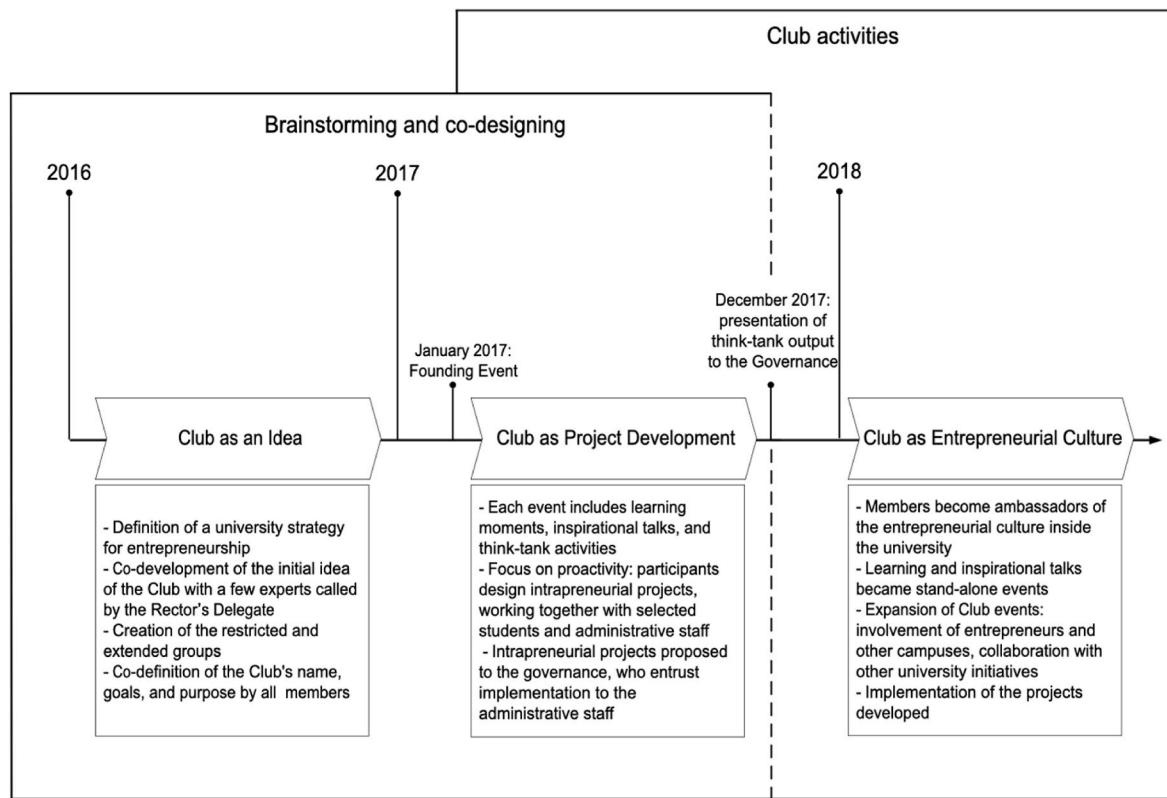


Fig. 3. Bracketing analysis phases.

both these codes into the first-order code 'Shared sense of belonging'. Lastly, we concluded that the first-order codes 'Empowerment and ownership' and 'Shared sense of belonging' referred to an aggregate dimension related to the idea of 'Establishing a community'. We present our data structure in Fig. 4 (see Fig. 5).

4. Findings

The presentation of our findings is organized in two main sections. The first focuses on the *antecedent conditions* that, on the one hand, made the launch of the Club possible, and, on the other hand, contributed enormously to the subsequent establishment of an organizational intrapreneurial ability at the University. The second section, instead, looks at the Club more specifically and is divided into two parts: (1) the *enabling mechanisms* and (2) the *supporting mechanisms*. The enabling

mechanisms represent the unlocking conditions that were central to 'initiating' the Club's activities, and the supporting mechanisms account for the conditions that were key to 'maintaining' the activities during the Club's life cycle. The two mechanisms will be discussed following a description of the Club's evolution, from the brainstorming and co-designing phase to the activities stage. We believe this is the best way to present our findings, as the Club's evolution does not present clear separate phases, and the overlap between stages would probably affect the clarity and effectiveness of the events themselves.

4.1. Antecedent conditions

The antecedent conditions refer to those factors that were already present before the Club was initiated; they did not depend on the Club's activities but were key to establishing an organizational intrapreneurial

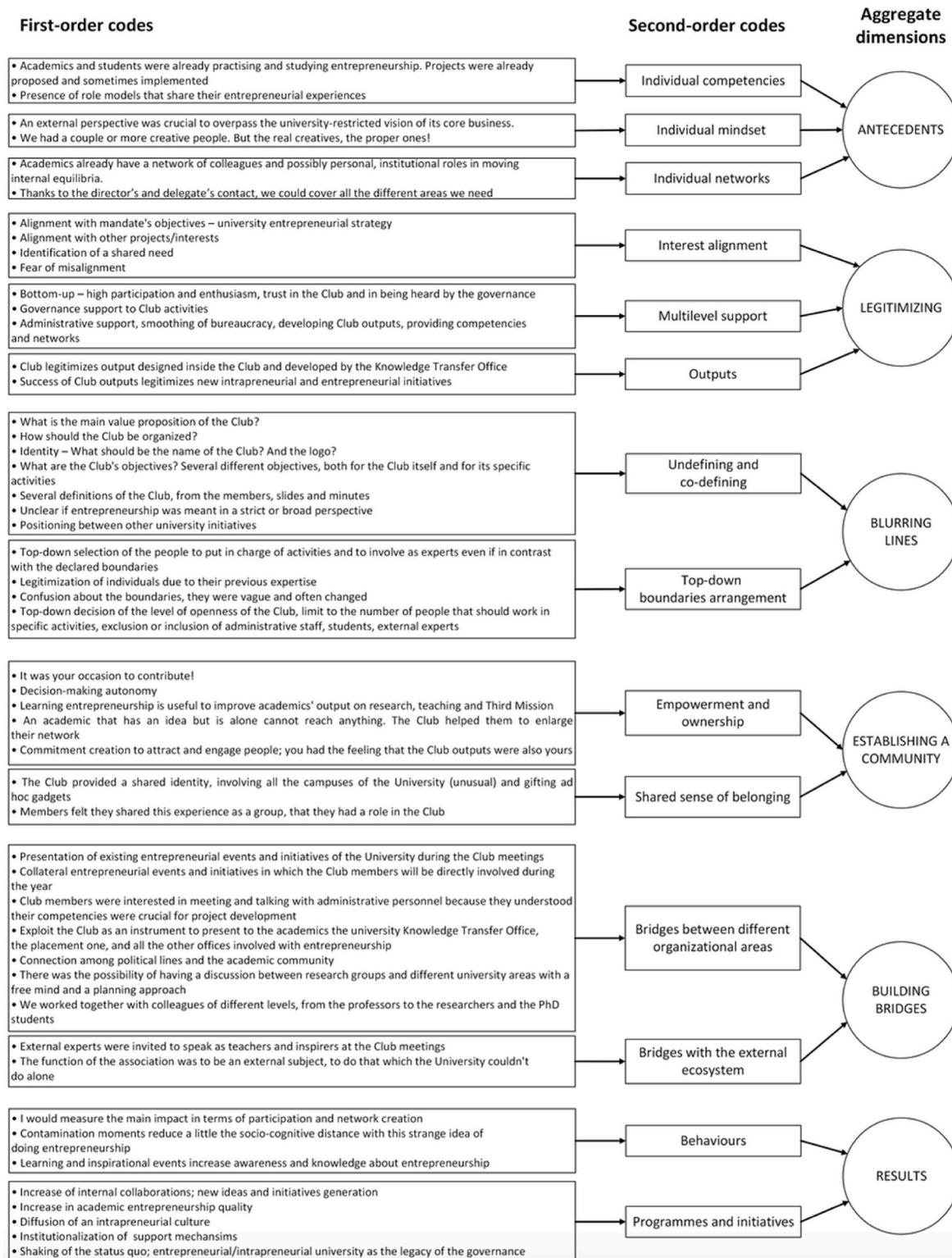


Fig. 4. Data structure.

ability at the university level. In other words, they could be described as dormant capabilities at the individual level that were leveraged by the Club to establish an intrapreneurial ability at the organizational level. The antecedent conditions refer to individual-level characteristics that made some academics key players before and after the Club's launch.

4.1.1. Antecedents at the individual level: competencies, mindset, networks

A couple of years before the launch of the Club, exploratory lines of research and programs funded by the European Union (e.g., Erasmus+ projects, European Research Council Proof of Concept Grants) and addressing some of the topics that would become central to the Club (e.g. proof of concept, soft skills) started to proliferate. Also, since 2000, more structured initiatives by Italian universities in support of the

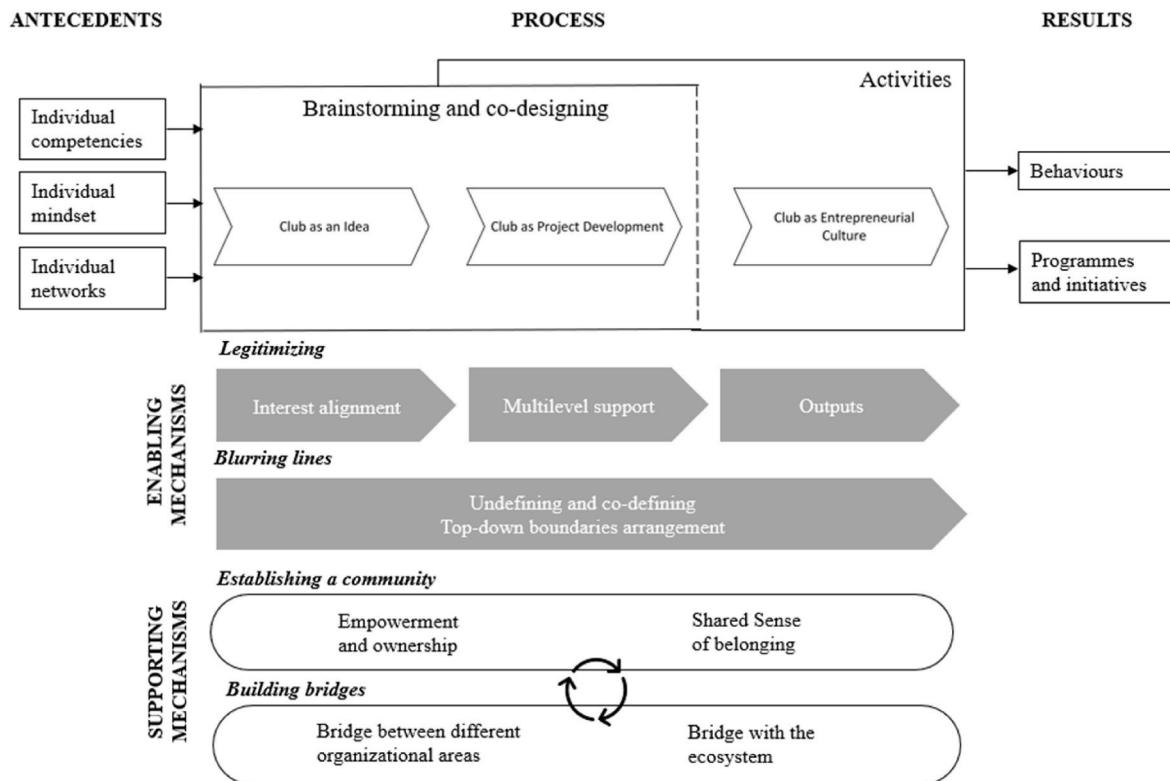


Fig. 5. A process model showing the establishment of an intrapreneurial university.

valorization of research results (e.g., the establishment of KTOs, internal regulations on the matter of intellectual property management, spin-offs, contract research) were more widely diffused throughout the nation. These initiatives inspired scientists in the academic community who were already endowed with a creative and innovative mindset, and sparked curiosity within universities in the domain of entrepreneurship. The emergence of entrepreneurial approaches in the Italian academic context nurtured the entrepreneurial attitude of some scientists, thus contributing to the emergence of an entrepreneurial mindset at the University. The words of a professor, reported below, are a clear example of this:

[For] a while – more than ten years now – I've started to transform academic research into business ideas. More than 10 years ago I co-founded an academic spin-off in nano/biotechnology, which a few years later won the regional competition [name of the competition]. I'm currently the CEO of a spin-off I co-founded with the University. (Professor P)

Moreover, in the period immediately before the launch of the Club, a subset of the most entrepreneurial people at the University started to search for novel financial tools to commercialize their research-based innovations. Accordingly, even though only a few academics were familiar with the existence of ad hoc mechanisms for financing early-stage, research-based university technologies, it was only when the Club started to discuss the idea of proof-of-concept (PoC) funding more widely that some people from the University's academic community were prepared to embrace this new tool and to act as catalysts. At the time of the Club's launch, there was only one university in Italy working on its own internal PoC mechanisms. A couple of years later, a new PoC funding line emerged at the University as one of the outputs of the Club's four think-tank groups.

Overall, researchers were getting more and more aware of the importance of third mission activities, and the need of a 'space' and resources allocated for it:

Being constructively involved in three missions for [University] faculty is not a small thing, because departments are getting smaller and the things they engage with are many. We should think of a strategy for this as well (and convey as much as possible of the third mission to students?). (Survey Feedback, Brainstorming Event)

Along this line, due to increasing attention being given to student entrepreneurship worldwide, some professors started to create small networks (alongside students), which a few years later revolved around the activities of the Club. This was the case for an event intended for start-uppers – which was ideated by few students within the University, with the support of a small group of professors – that some years later became (and still is) one of the most relevant events for young start-uppers at the national level. Indeed, since this event started to attract a lot of attention, the University decided to invest in it to make it more institutional, and promoted it with 'the Uni style' (as one of the founders reported). The people who started the event became part of the restricted group that brainstormed the Club.

Similarly, and simultaneously, another small group of academics endowed with strong entrepreneurial capabilities conceived another initiative intended to generate entrepreneurial impact. The initiative focused on stimulating PhDs' potential to create valuable spin-off ideas. Although individual efforts were made to get the University to embrace the new idea institutionally, this never happened. Nevertheless, the initial group who started the initiative finally handed the format (and the related knowledge it produced) over to an external foundation that developed it further. The idea also continued to circulate in-house at the University, and some years later – in 2018 – it emerged in the form of a proposal that a think-tank within the Club presented to the governance. Only then did the University finally launch an institutional program to foster PhDs' skills under the format of a 'Winter School for Creativity and Entrepreneurship'. As noted by a couple of students:

That was not the first project ever for a community [inside the University]. It came after the one for student start-uppers. So, they knew that there was a successful case before. (Students C & O)

Again, the small group who started the PhD initiative then became part of the restricted group that brainstormed the Club.

In addition, several scientists endowed with an entrepreneurial mindset used to interact with external companies and other players in the ecosystem (e.g., business angels, banks, agencies and foundations supporting innovation). For example, they recognized that University alumni could represent a key asset to leverage the entrepreneurial potential of the University: “*we cannot overnight become Silicon Valley, we have to set a timeline and achievable goals - example: in the ‘alumni table’ there was a lot of talk about how to bring alumni and current students together to promote entrepreneurship*” (Survey Feedback, Brainstorming Event). These and other personal connections turned out to be key to the Club’s first steps.

All of these factors (mindset, competencies and networks) remained dormant at the university level for a while, but allowed for the development of individual competencies and abilities that were key to the launch and legitimization of the Club, as well as to the establishment of proactivity, innovativeness and risk-taking behaviors within the University.

As the above examples suggest, these antecedent conditions, initially brought into the University by a few academics, prepared the ground for the launch of the Club, and afterwards acted as catalysts for the diffusion of an entrepreneurial mindset within the organization. As expressed in the quote below:

An initiative [...] can rely on a network of colleagues and possible institutional positions that can actually shift the balance inside [the University] structure. (Students’ Association for Start-uppers)

4.2. The Club initiative

Although the Club was officially launched at the beginning of 2017, through a public event, the idea behind it began to be discussed within the University a year before. Right after its launch, the Club was characterized by three types of activities: (1) think-tank meetings, (2) inspirational talks and (3) learning events. The think-tank meetings lasted for approximately one year and ended with the four think-tank groups (*Cantieri*) presenting the output of their work to the governance at the end of 2017. The inspirational talks and learning events also continued in 2018 and in the years afterwards. While all three activities had important outcomes, the way in which they came into place and the externalities they generated changed across the Club’s life cycle. This is why the two temporal phases (Fig. 3) are not completely separated, but rather overlap for some activities and events.

The Club will be presented below according to the two types of mechanisms that we have identified (i.e., the enabling and supporting mechanisms). We map their temporal evolution, and in each phase we focus on the facts and events that were key to making the Club a catalyst for the creation and diffusion of a mindset more oriented towards proactivity, innovativeness and risk-taking.

4.2.1. The enabling mechanisms

Enabling mechanisms refer to those factors that were key to initiating and spreading the activities of the Club. They can be divided into *legitimizing* and *blurring lines*. The former includes *interest alignment*, multilevel support and outputs, and the latter includes co-defining/undefining and top-down boundary arrangements.

4.2.1.1. Legitimizing. The legitimization of the Club took different forms throughout the Club’s development. In the first phase (2016), before the Club was officially launched at the beginning of 2017, we observed a gradual convergence of interests at different levels within the University. Greater attention was paid to entrepreneurial activities by a few academics, and this sparked the curiosity of people who were eager to know more about these activities. The newly appointed Rector (who

started in November 2015) – an engineer who was very active in collaborations with external institutions and very close to the industrial sector – wanted to give a new imprinting to the University governance, in order to detach from the previous strategy. Sensing the emerging interest in matters of entrepreneurship and innovation (within the University community and also from outside), and driven by the desire to initiate a new deal and move away from the previous governance’s old-style behavior, he appointed from the very beginning a Delegate for Entrepreneurship and endowed her with almost ‘infinite power’, according to one of our informants. It was the first time in the history of the University that a delegate for entrepreneurship had been appointed, with the vision to create the conditions for a genuinely entrepreneurial university to emerge, building on the growing internal interest and the stimuli from the vibrant external ecosystem. An *alignment of interests* between the top (governance) and the bottom (academic community) started to emerge and take concrete shape, coming to fruition when the idea of the Club began to be brainstormed and discussed. As we read in an introductory document:

[The Club has] two goals: a) collect proposals/ideas to be implemented inside our university; b) help the University to implement its entrepreneurial strategy. (Introductory document to present the idea of the Club to the extended group)

The development of a brand-new strategy in support of entrepreneurship also made it easier for the administrative staff to adhere to and support the entrepreneurial activities that were starting to emerge. Thus, from the very beginning the idea of the Club was discussed in an open and friendly way by those interested in the topic, thanks to the support that it was openly granted by the governance and to the feeling that there was a convergence of many different interests. As a person from the administrative staff said:

There was no conflict to take on the activities to build the Club because she [the Rector’s Delegate] had an infinite mandate from the Rector to carry out this activity. So, we were extra-facilitated. (Staff P)

In the next phase of the Club’s life cycle (2017–2018) – from its official launch at the beginning of 2017 – when the formal activities of the Club began, the alignment of interests observed in the previous stage turned into real multilevel support. At the governance level, the Rector continued to feed the Club by participating in almost all the main events, providing the institutional stamp of approval, legitimization, and visibility. He conferred high-level approval on the initiative by being present at the kick-off meeting (2017) and by participating in the first year’s events, by providing comments and feedback to the working groups. Also, the Delegate for Entrepreneurship was personally present at all the meetings, actively participating and signing all the emails sent to Club participants.

The Club started to obtain official support at the level of the administrative staff as well. Technicians and people from different administrative offices decided to participate in the think-tank (*Cantieri*) groups, with the role of facilitating the entry of professors into the Club, initiating them into the Club’s activities and creating relationships between them and the governance. In this respect, their presence boosted the Club’s development both conceptually and procedurally: on the one hand they contributed ideas, and on the other hand they allowed timely and efficient bureaucratic procedures to make the Club effective. As a person from the administrative staff stated:

Moreover, the Head of the Technology Transfer Division provided us with the possibility to create everything necessary for the Club, giving us all we needed in terms of people, resources, etc. (Staff P)

The support from the administrative staff was critical, and without it the initiative would probably have failed. As a professor involved in the Club said:

Both the things are important [the administrative and political support] in order to have a successful initiative. Both of them must be there. You need support at one and the other level, for sure; if you miss just one, you will fail. (Professor F)

The Club's support increased as many academic professors started to get involved in different activities. The initial curiosity of some professors, inspired by the brainstorming and co-designing activities, turned incrementally into a feeling of engagement and formal support for the Club. As one informant said:

It is exciting that someone like me, who didn't understand business matters at all, day by day has started feeling completely involved in the group; you know, the wish to learn something, some values, and transform them into something else. This is what interests me most! [...] I feel a protagonist among many others, and I like my role here [in the Club]. (Professor L)

The Club's legitimization process was finalized (after 2018) through the implementation of most of the results produced by the Club. All our informants agreed that many of the concrete outputs implemented by the four think-tank groups, as a result of the Club's activities, would have appeared on the University's agenda sooner or later, but their growing interest in the Club was partly driven by a desire to be directly involved in and responsible for the emergence of the Club's outputs. They felt privileged to act as lead designers and users of preliminary outcomes. As a couple of professors explained:

The University would have had the output [the PoC] anyhow even without the Club. However, I think that the Club contributed to accelerating the process. Maybe for ensuring that the University would become one of the first to develop it. (Professor M)

I suspect that there are some outputs, let's say, that would have been realized anyway. I mean, we didn't invent the PoC. People were talking about it. It was a matter of resources. It was something to do, and it found a huge push, a huge legitimization from the Club's work. (Professor G)

The legitimization of the Club through its outputs was possible not only thanks to the recognition that the results received from the governance (e.g. they were formally included in the University's strategic plan), but also for the effective implementation they experienced afterwards. Also, the administrative staff who were involved in most of the Club's activities from the very beginning, during the execution phase, invested in the implementation of the Club's outcomes with energy and enthusiasm to maximize its success and effectiveness. This was the case for PoC, which was ideated in a think-tank group in which the KTO personnel (administrative staff) actively participated. The same KTO personnel who took part in the design and ideation of PoC were eventually involved in its implementation. Another example is the soft skills program, which was similarly the outcome of one of the four think-tank groups and was presented to the governance at the end of 2017. This transversal project – which did not depend on any department in particular, but on the central administration – would have encountered many barriers to its implementation without the Club's legitimization, and the significant boost it received in the implementation phase was certainly due to its emergence 'from within' the academic community of the Club.

4.2.1.2. Blurring lines. The second set of conditions that enabled the Club's development and the subsequent full engagement of the academic community were the initial *undefined* of the Club's goals and the *blurring of boundaries assigned* to the Club (2016), mostly decided top-down by the Delegate for Entrepreneurship, and on an ad hoc basis. However, these aspects created some confusion among participants at different moments. The loosely organized brainstorming event, for example, created some doubts about its effectiveness, though it was very participated:

I believe that the participatory model is effective as long as we address the factors that may hinder the achievement of the University's third mission goals. (Survey Feedback, Brainstorming Event)

Although defining the Club's central idea was on the strategic agenda since the first brainstorming meeting (2016), our informants reported that different and often contradictory goals were assigned to the Club. Some people understood the Club mainly as an 'education initiative' – that is, a place where professors could acquire new knowledge to then transfer to their students. Others considered the Club as an initiative to support 'business creation', by pulling together some relevant but dispersed competencies at the University. Still others conceived of the Club as an opportunity to 'create an internal community', publicly recognized, which could engage with the local ecosystem for establishing entrepreneurial abilities, intercepting relevant initiatives and disseminating academic knowledge to external audiences. The description of the Club was purposefully drafted in very general terms:

The actions within this area are intended to spread the entrepreneurial culture within the University and raise awareness, among students and faculty members, that entrepreneurship is desirable and feasible. (Academic entrepreneurship brochure)

To create a multidisciplinary network of internal competencies to support business creation. (Introductory description of the Club for the brainstorming event)

The undefined (i.e., never precisely giving a direction) of goals then shifted into the *undefined* of the Club's identity (from 2017 onwards). Our informants reported feeling puzzled about the think-tank activities. Most of them did not have a clear idea about what they were expected to deliver within these groups and about their contributions, and this feeling was exacerbated by the fact that they had no idea who was invited to participate in the groups and why. Participation in the Club, for some academics who were very influential in topics related to entrepreneurship (because they were educators, because they had created their own spin-offs or because they had active collaborations with companies), was relayed (to both professors and administrative people) through a direct invitation made via personal contacts managed directly by the Delegate for Entrepreneurship. To advertise every event, an institutional invitation was sent by the Delegate, calling for participation and targeting the entire community. However, given the open and voluntary nature of the Club, it could happen that the individuals who attended one meeting were different from those who attended another one. Also, like a snowball effect, the initial base gradually expanded to continuously include newcomers. As one informant said:

[The Delegate for Entrepreneurship] and the governance had a quite precise idea of the Club's mission, but they did not diffuse it. The ideas were less clear regarding the deployment, meaning how to transform this mission into activities to achieve specific results. (Director C)

The purposeful undefined of the Club's idea, together with the blurring of its boundaries, made the Club a space that was very much oriented towards innovative and creative behaviors. Indeed, no one felt left excluded from the Club, and everyone could provide suggestions, ideas, and prospects for the Club's development, without feeling like a fish out of water. The Club's goals and identity changed several times according to what was most desirable at specific moments, and also according to the stakeholders at hand. Interestingly, the academic community was called upon to provide definitions of the Club's goals, therefore leaving space for their co-definition and co-design. We read in one email:

In the attached document, you will find a first brief description of the project 'Entrepreneurship Club'. Its contents are, naturally, temporary (as the name): we will work together for their development and definition. (Invitation email to the brainstorming event)

The undefined of the goals, identity, and boundaries – which in

theory could undermine any new initiative due to a lack of focus and clear goals – actually became a key driver in the Club's fostering of proactivity, innovativeness, and creativity. Participants felt they could contribute their ideas without fear of being judged. A clear focus and identity would have included some and excluded others, would have inhibited the participation of those people distant from that identity and could have induced a lack of interest and disengagement in some people. As specified by one person:

The diversity of participants in terms of origins and experiences creates some incomprehension, and this is a symptom that there is an unclear understanding of the Club's field of interest: some people focused more on activities related to business collaborations (such as research grants, etc.), others on spin-offs, start-ups or entrepreneurship more in general. (Survey Feedback, Brainstorming Event)

Taking advantage of blurring the boundaries was very effective in the sense that the governance – and especially the Delegate for Entrepreneurship – could leverage on the heterogeneous competencies and interests that could be activated at specific moments, with the aim of generating a culture that was supportive to innovation and would be spread across the entire University. As one informant explained:

[This was] a bit of healthy organizational opportunism. Saying, if I onboard people on the boat, maybe I can make noise, increase the dissemination. I have more arms that row in the same direction – thus, more contributions, intelligent contributions, experiences. (Director C)

4.2.2. The supporting mechanisms

The supporting mechanisms were those factors that were key to maintaining the Club's activities and spreading them throughout the larger academic community. Two mechanisms can be identified: *establishing a community* and *building bridges*. The construction of a community is expressed at the beginning by *empowerment and ownership* and later by a *shared sense of belonging*, building bridges, instead, includes building bridges between different organizational areas and extend them to building bridges to the external ecosystem.

4.2.2.1. Establishing a community. The Club acted as a fundamental driver in the construction of a wider academic community brought together by similar interests in entrepreneurial activities and opportunities. The alignment of interests between very different people (e.g. among academics and administrative staff, and among academics from different disciplines) and the possibility to contribute personal ideas and proposals to the Club were strongly supported by the *sense of empowerment and ownership* that people felt from the very beginning of the initiative (2017). The freedom to operate and create things from scratch fostered a results-oriented mindset that motivated the people involved in the think-tank groups to look for other relationships that could help them develop and grow ideas. Two people reported:

We felt very much even [...] owner or [...] it's not that there is only one person responsible, 'engaged' in the thing. (Staff C)

You felt that those few things the Club produced were also yours [...] You felt you were the protagonist. Everyone was talking; we were giving everyone the floor. (Professor L)

The feeling of 'taking home' new competencies, learning new things that could improve research and exploring additional funding opportunities motivated many academics to participate and to build interdisciplinary connections, as well as connections with the administrative staff. The social and horizontal components of the Club, embodied in the participants' positive feelings of expanding their networks and contributing to the development of something 'out of the box' was also extremely empowering for people from the administrative offices. As the following quotes illustrate:

The positive thing was that people appreciated the initiative. It was nice [...] like feeling at home. The opportunity to have direct contact with academics and be on the same level. There are brainstorming moments where you feel that you can build the future. I remember people from other offices coming to the think-tank activities after their working hours. There was this enthusiasm effect [...] sharing, building up and sharing again. (Director C)

The working session proved interesting because the 'heterogeneous' backgrounds, thanks to time constraints, found a spontaneous way to come together, and effectively define shared purposes. The informality of this moment then allowed us to call upon the totality of their resources. (Survey Feedback, Brainstorming Event)

The empowerment and ownership component, very much present at the launch of the Club, took the shape of a shared sense of belonging, as soon as the Club activities started to be differentiated, extended and opened up to a wider internal community, and even to the outside (2018 onwards). The formalization and legitimization at different levels of the Club's activities made those who had participated from the very beginning very proud of the results and recognition they achieved. They wanted to be recognized as members of the Club, and they started to share their formal affiliation to the Club. Leveraging on the legitimization and interest received from many levels within the University, the governance took the opportunity to reinforce this *shared sense of belonging* even further by building a clear brand and identity for the Club: cups and T-shirts were designed, produced, and distributed within the Club to strengthen affiliation and reinforce the feeling of identification.

Talking, taking a break, celebrating the Club's birthday, attending the inspirational talks, calling young people to participate [...] Well, do you understand? That thing. That is pure public engagement. That is engagement. It is community engagement. It is extremely important, do you know? To take the community with you. (Professor L)

It is an incredible message within the University, we are not used to it! Feeling such a sense of belonging, a collective identification with a kind of organization. This is pretty unusual in a university because everyone looks at her own research, projects, etc. What a synergy here! I'm sure, this has been the factor that prevented the initiative [the Club] from failing. (Staff P)

I've met/seen a lot of people with whom it's good to share the "experience [University's name]" (i.e., a good chunk of life ...). (Survey Feedback, Brainstorming Event)

To feed and spread this feeling even more, the governance also decided to organize Club events on the University's other three campuses (different sites within the same region). This led in 2018 to some Club initiatives being geographically distributed across all the campuses.

In sum, the community was seen as an important resource that the faculty was eager creating and feeding:

It would be appropriate to make a link available to all participants with the name, location, and email of all other participants. This [Club] community within a [University] community is a valuable resource that should be shared to the fullest. (Survey Feedback, Brainstorming Event)

4.2.2.2. Building bridges. The Club had an unprecedented ability to build connections and bridges among people who had never been in contact before. This happened in the initial phase (2016–2017) by creating *internal bridges between different departments* and between administrative people and academics. The Club attracted professors and administrative staff with similar motivational drivers. As explained by a technician who participated in the think-tank activities:

This is quite unusual in a university, because everyone is usually connected to her own community of reference. The possibility to speak with different souls within our university – that, you know, is big – represents the plus of the Club. (Staff P)

Similarly, all the professors acknowledged the participation of the administrative staff in the think-tank activities as something peculiar and fundamental:

I have seen the participation of the administrative staff as an important plus [...] it was very helpful in getting to know each other. We often miss this contact, but administrative offices are actually the engine of many initiatives. (Professor M)

The involvement of the whole university in its various competencies seems to me very appreciable. Initiatives of this kind in other cases have been the preserve of small groups, with a somewhat technical outlook. (Survey Feedback, Brainstorming Event)

New ties were also made between the academic affiliates of the Club and the governance, who could more easily share their new strategic lines through the Club and receive wide-ranging feedback. In a similar way, part of the Club's academic community could more easily get in contact and communicate (during Club events) with the Rector, the Delegate and other members of the governance who attended. Thus, the Club was seen as a tool for some voices to be heard bottom-up and top-down. On the administrative side, managers and employees perceived the Club as an opportunity to present themselves and their activities (this was the case for professionals within the KTO and Job Placement Office), raise awareness about their work, collect up-to-date information about academics' research activities and stay informed about the strategic projects and policy decisions within the University, and to get to know and experiment novelties, particularly in relation to the entrepreneurship strategy. Thus, for example, cross-contamination eased the patenting process and even sparked new interactions between the KTO and would-be entrepreneurs with a spin-off idea. The same happened within the academic community.

Here there was a little bit of the newish thing, from my perspective, the opportunity to interact with colleagues. Well, colleagues at different levels, no? From professors and researchers to PhD candidates. (Professor M)

Beyond the significance of the meeting, opportunities to get to know and communicate with colleagues from other departments are always stimulating even if rare. (Survey Feedback, Brainstorming Event)

Very nice to have met colleagues from physics, focused on teaching methods, from economics, and from veterinary sciences, colleagues we difficulty could have met on other occasions so 'apt to spark'. (Survey Feedback Brainstorming Event)

In the second phase of the Club (i.e., 2018), when the activities became more formalized, the think-tank activities (which very much characterized the first phase) made way for inspirational talks and learning events, a more open-minded attitude spread and *bridges to the external ecosystem* were also built. The sense of belonging the participants felt was key for unlocking personal external connections and bringing others into the Club, with the aim of enlarging and enriching the community. The attraction of professionals and key actors from the Region, especially from the entrepreneurial ecosystem, allowed the Club to build a more robust base and an external orientation. The inspirational talks were a great conduit for this. A professor reported:

I remember epochal seminars. Amazing! We called them inspirational talks. People from a different world come and give a speech, something very distant from our vision [...] this is the amazing aspect! And that kind of stuff leaves an impact at the end of the day. Those things inspired me a lot. (Professor L)

Through the Club it was also possible to establish relationships with

potential investors (some of whom were invited to give inspirational speeches). They were also key to spreading the Club's ideas through word of mouth. Thus, venture capitalists were increasingly attracted to the Club and sought relationships (outside the Club) with scientists to finance their market-oriented and innovative research. Once bridges were built, the positive effects for entrepreneurial opportunities increased exponentially, paving the way for long-term impact.

4.3. A model explaining the establishment of an intrapreneurial university

The Club initiative defined some key mechanisms that together are able to explain the establishment of an intrapreneurial university. Indeed, the mechanisms unlocked by the Club enabled and triggered the transformation of scattered individual intrapreneurial behaviors into an organizational intrapreneurial ability. We present below our model of an intrapreneurial university, and the outcomes leading to the establishment of an intrapreneurial organization.

The *antecedent factors* are the pre-existent conditions that facilitated the acceptance of a novel initiative (i.e., the Club) in a traditional organization (i.e., a bureaucratic, conservative, public university). Although the intrapreneurial approach (i.e., competencies, mindset and networks) embodied in a few academics was seen early on as unusual and not central to the University's strategies, later it was key to spreading – even in hidden ways – new interests, entrepreneurial goals and connections. As such, it created a fertile environment for the Club to be received with enthusiasm and curiosity, by administrative personnel as well as academics, which sped up the bureaucratic procedures for its creation.

After the Club was launched, we distinguish two phases characterized by different types of activities: activities aimed at *brainstorming and co-designing* and *Club activities* aimed at diffusing the culture. At the beginning (2016–2017), active participation and brainstorming within the think-tank groups allowed the Club to establish clear intrapreneurial potential, and later on (2018 onwards) the inspirational and learning moments, which were open to the whole community, reinforced and diffused a strong intrapreneurial potential within the University. This was enabled by specific factors that were established through the Club and its development. On the one hand, the *enabling mechanisms* were key to initiating activities that unlocked unknown and dormant internal abilities, which were in turn fundamental for developing and disseminating an intrapreneurial mindset; on the other hand, the *supporting mechanisms* established some of the conditions that allowed the intrapreneurial mindset to consolidate and spread throughout the University, with long-lasting effects.

Within the enablers, we find that *blurring lines* (i.e., the Club's boundaries, objectives and identity) was useful for the Club, as it generated a sense of ownership and freedom among its participants. For the initiative to detach from the leader (i.e., the Delegate), the ideas needed to emerge from the Club and not from a top-down mandate. While the undefinition of objectives, boundaries and core propositions was sustained consistently throughout the process, the *legitimizing* mechanism involved distinct stages that changed at different moments in the Club's development. Thus, for example, while the *alignment of interests* with the newly appointed Rector was particularly salient at the very beginning for boosting the Club's activities with a legitimizing power directly from the governance, afterwards the multilevel support (i.e., from academics, administrative staff, etc.) resulted in a wider form of legitimization, leading to more effective and less debated procedures for implementing the Club's outputs. *Establishing a community* around the Club provided its members with a strong sense of *empowerment and ownership* (that afterwards became a *shared sense of belonging*), and together with the capacity to *build bridges* between different groups within the University, as well as with the external ecosystem, this proved fundamental to supporting the Club's activities and to embracing and sustaining the new ideas and approaches. These two mechanisms were put into practice simultaneously and interacted with each other

throughout the Club's life cycle.

Our process model shows how the Club's mechanisms (i.e., enabling and supporting) drove the transformation of individual-level intrapreneurial abilities into an organizational intrapreneurial ability. Below we discuss the outcomes of the Club that brought about this transition from individual to organizational ability.

4.3.1. The Club's outcomes

The Club generated impact in many ways, from concrete outcomes to more subtle but pervasive and long-lasting individual behaviors and organizational abilities. Many people agree that the Club was the main catalyst for them to acquire a more open and creative mindset that they would not have acquired otherwise. This is a shared feeling that has been acknowledged by many academics and administrative staff. A professor declared that 'contamination moments reduced a little the socio-cognitive distance from this strange idea of doing entrepreneurship' (Professor F). The Club was also terrific for network creation and expansion. This new awareness, which was subsequently shared by many people at the University, made them feel empowered to start new initiatives oriented towards the generation of innovative outputs (in terms of the commercialization of research results, but also in terms of public engagement and accounting for novel ideas in the education and research domains). This huge change at the level of individuals' behaviors, interests and approaches that derived from the Club initiative was the real enabler of the establishment and diffusion of *intrapreneurial potential* inside the University, which 'shook the status quo' (Staff P). An administrative director explained: '*When I arrived, it was almost forbidden to do entrepreneurship inside the University. Now the situation is entirely different, and the external actors are well aware of it!*' (Director C).

A strong infrastructure has been created, which could connect theory with practice. Something that was not there before the Club. A shared language now exists for those who want to become more entrepreneurial. Specific moments, initiatives are there now to increase awareness even more, to get on board a larger community. Several little things (and some big) that all together help create a new path. So, from inside to outside. To make the road a little bit less winding, a little bit less complicated because now you have, let's say, references that weren't there before. Before that, if you were an academic with an open-minded approach, you were declared an alien and you did not find any support. Now, you simply feel part of a big community. (Professor F)

Beyond the most intangible aspects, the Club initiated concrete initiatives that turned into formalized and institutional activities and programs offered by the University, such as: the students' and academic entrepreneurship cycles and the soft skills program for students. In the first case, the cycles were ideated and designed to help students develop innovation- and business-oriented ideas. In the second case, the University became aware that it was important to go beyond the technical knowledge usually taught in traditional curricula and to start providing students with more transversal abilities (i.e., soft skills) that could foster creativity, open-mindedness and risk-taking. Other outcomes of the Club were the initiatives aimed at fostering PhD students' intrapreneurial abilities (i.e., the Winter School for Creativity and Entrepreneurship), the creation of the alumni network and the introduction of the University's first PoC funding scheme.

The Club is still seen as a place where ideas can flourish and come to life, and where consensus and support are built. At the University level, the Club's impact has been long-lasting, embedded and diffused, reaching academics, administrative staff and students alike. Many people became imbued with an 'intrapreneurial approach' and started spreading an 'entrepreneurial culture' throughout the University. As the Rector said:

The University's new mission is fostering change in teaching, and not just focusing on entrepreneurship. We need to put extra effort into rethinking the content of many courses, in order to bring more real-life problems, put

the students and their experience at the centre. We need to create pedagogical approaches that take advantage of students' experience and external actors' contributions. (Rector's feedback at the presentation of the projects in summer 2017)

All the programs mentioned above, stemming from the Club, still exist, and many others have been launched over the last 4 years as a result of the organizational intrapreneurial ability nurtured by the Club. The effect, of course, is also very much visible in terms of the support received by the administrative staff for developing out-of-the-box ideas. Before the Club, we observed just the opposite in this respect. As one professor said:

I think that the Club helped legitimize this idea that research is not antithetical to innovation, let's say, and that the University can help and support you being creative and innovative. (Professor F)

5. Discussion

5.1. Theoretical contributions

With this study, we aim to enhance our understanding of how universities can generate organizational intrapreneurial abilities (making them intrapreneurial universities), which are key for leading change through innovation and entrepreneurial activities. Our study contributes to the existing literature in different ways.

First, although extensive research exists on entrepreneurial activities and initiatives within universities (e.g., academic spin-offs, technology transfer activities, licensing), little has been done to better understand how to develop organizational intrapreneurial abilities within an academic context (Guerrero et al., 2021). While intrapreneurial capabilities have been mostly discussed at the individual level (Klofsten et al., 2021; Bogatyreva et al., 2022) and in business contexts (Hernández-Perlines et al., 2022), we do not know how universities can internally develop intrapreneurial abilities at the organizational level. Our findings go in this direction by providing a process model that, by taking advantage of some specific antecedent conditions, reveals the enabling and supporting mechanisms that underpin the establishment of an intrapreneurial University. Individual antecedents – in the form of competencies, mindset, and networks – can be conveyed by a limited number of academics and reflect the knowledge, expertise, and passion they have accumulated over the years. Our model suggests that these individual antecedents – although scattered – are relevant for developing an organizational intrapreneurial ability; they are dormant capabilities within universities, waiting to be called to action and with the potential to ignite new processes. These antecedents are key to raising initial enthusiasm and speeding up the processes and bureaucratic procedures. They contribute to the creation of an internal absorptive capacity, '*a set of organizational routines and processes by which organizations acquire, assimilate, transform and exploit knowledge to produce a dynamic organizational capability*' (Zahra and George, 2002, p. 186). Through initiatives like the Club, such antecedents are revitalized, shared, and socialized. They trigger a process of awareness-raising, whereby key enabling (i.e., blurring lines and legitimizing) and supporting (i.e., establishing a community and building bridges) mechanisms emerge to craft the development of intrapreneurial abilities, which eventually become embodied in the organization and may take the form of behaviors and new programs and initiatives. Our model clearly shows this process and, as such, it advances our knowledge of intrapreneurial universities by demonstrating how intrapreneurial abilities can be developed within universities and become part of the academic organizational endowment.

In doing so, we also shed light on how individual-level factors may be recognized and promoted to become an organizational-level asset, which more generally and widely allows creating and enhancing entrepreneurial activities. People's experience, mindset, networks, and

capabilities represent the catalysts of change and innovation inside universities. However, the quality and engagement of employees will strongly determine whether scattered, individual-level attitudes transform into formalized intrapreneurial potential that spreads throughout the university. In this sense, the university's outcomes and success are very much rooted within individuals, and people – before organizations – are key to bolstering the university's general contributions to economic, social, and environmental growth.

Second, our case study provides an initial contribution toward building a conversation between intrapreneurial universities and academic entrepreneurship (the latter being an important outcome of entrepreneurial universities). We know that the role of universities in contemporary society has changed dramatically (Belitski et al., 2019; Guerrero et al., 2016a; Permann et al., 2013), as they are under increasing pressure to become more entrepreneurial in order to foster regional competitiveness and economic growth (Guerrero et al., 2016a, b; Villani and Lechner, 2021). Much has been said about technology and knowledge transfer processes initiated at the university level that have a huge impact outside the academic context (Belitski et al., 2019; Fini et al., 2022). The Club initiated a number of concrete initiatives that became formalized and official programs offered by the University, mostly as part of the institutional strategy in support of academic entrepreneurship outcomes (e.g., student and academic entrepreneurship cycles to support new venture creation, PoC programs for out-licensing university owned patented technologies, soft skills training events for students, the Winter School for Creativity and Entrepreneurship, preliminary ideas on alumni networks). These initiatives help in explaining the types of environmental factors within universities – as part of the 'conditioning dimensions' framework developed by Guerrero and Urbano (2012) – that allow supporting academic entrepreneurship. To the extent that these initiatives became part of the official strategy in support of academic entrepreneurship, the impact generated through the Club was long-lasting, embedded, and widespread, reaching academics, administrative staff, and students alike. In this respect, governance support represents a key mechanism through which individual-level properties (i.e., competencies, mindset, and networks) are transformed into organizational ones, and enhance entrepreneurial potential. This applies to the entire university community of individuals, including students, faculty members as well as professionals (mainly KTO staff). Moreover, the enabling and supporting mechanisms identified in our process model can be intended as key inputs for sustaining the different stages for building an entrepreneurial university (Guerrero and Urbano, 2012). In particular, they can play a fundamental role in establishing and reinforcing the formal and informal factors, as well as the resources and capabilities described by Guerrero and Urbano (2012).

The internal factors (Guerrero and Urbano, 2012) – in the form of individual abilities – represent the driver for the environmental factors to be at place. Indeed, support measures developed within universities would probably lose their effectiveness in the absence of individual antecedent factors. Individual antecedent factors (i.e., mindset, competencies, and networks) are brought in by separate communities of scholars, professionals and students and by their interactions.

In sum, our results demonstrate a possible bidirectional intertwining between academic entrepreneurship outcomes and intrapreneurial abilities. Accordingly, academic entrepreneurship and university intrapreneurship can be seen as two sides of the same coin, or a circular mechanism, whereby feeding one usually means feeding the other – although unconsciously.

Our case demonstrates that those universities combining internal factors (Guerrero and Urbano, 2012), in the form of intrapreneurial abilities, with environmental factors, in the form of organizational supporting measures and strategies, are likely to succeed in their entrepreneurial strategies and to be successful entrepreneurial universities. To this regard, our findings suggest an interesting integration between the two conditioning dimensions (Guerrero and Urbano, 2012).

6. Conclusions

6.1. Managerial implications

Based on the results of the study and on the discussion above, we believe that the great challenge for universities and public research organizations willing to foster entrepreneurship is to create the right internal conditions. In particular, it is important to create a culture that endorses creativity and innovation, by fostering the diffusion, socialization and sharing – within the entire academic community – of values that support individuals' engagement in innovation, change and entrepreneurship. While it is important to have strategies to create internal organizational mechanisms (e.g. procedures, regulations, incentive mechanisms, KTOs) in a coherent way, it is of the utmost importance to implement actions that bring together different members of the academic community (i.e. administrators and researchers from different departments, representing a variety of disciplines) in events and situations where they can get out of their boxes, be challenged and engage in the arenas of innovation, change and entrepreneurship. We do not expect everybody to be interested in these topics and/or willing to engage in academic entrepreneurship, but we do believe this to be the most important ingredient for universities that want to evolve, change and meet the challenges that the external environment continuously presents. The great challenge for universities is how to translate individuals' engagement and innovation-oriented abilities into an organizational endowment that lasts for years and becomes rooted in the institution, as part of its DNA. Mechanisms like the Club go exactly in this direction.

Managers willing to explore this path should be aware that the translation of intrapreneurial abilities from individuals to the organization may take years, unfolding through a complex process characterized by different phases. It is important to be aware of the mechanisms that accompany this process, which we define here as enabling mechanisms and supporting mechanisms, and to realize that they may take different forms across different stages of the process. Our evidence suggests, for example, that legitimization takes on different nuances throughout the process. Legitimation, among other things, stems from the alignment of interests between the political and administrative levels. On the one hand, this is not to be taken for granted; on the other hand, it is possible to create the conditions for such an alignment to take place. A university governance that promotes interactions with industrial partners and adopts an open-minded attitude is more likely to align with administrative efforts – specifically of the personnel in the KTO, as in this case – oriented towards academic entrepreneurship, though our evidence also suggests that legitimization stems from active participation in the events at both the political and administrative levels. The active participation and attention of the Rector, the Delegate for Entrepreneurship and other members of the governance signaled the importance of the Club's actions and contributed to sense-making. Last but not least, legitimization also came from the awareness that participation in the Club offered the possibility to co-create new solutions and actions in support of entrepreneurship, which were eventually legitimated – in the eyes of the broader academic community not participating in the Club – because they were the outcomes of a process built on voluntary participation and consensus.

KTO managers have an important role to play too. At first, they might perceive activities like the Club's to be out of scope, because they require high effort and investment and are not directly related to 'output numbers' in terms of patents, licenses, numbers of collaborations, spin-offs, etc. However, KTO involvement in such events can be crucial for two reasons: (1) KTO personnel build concrete bridges with the research community (and eventually the students) in a joint effort to promote change (we should not forget that the success of academic entrepreneurship is very much related to KTO personnel engagement and motivation (Pohle et al., 2022), which can be positively challenged by Club-like events); and (2), while we know that KTO performance is

based on traditional output metrics, there is increasing awareness that the 'oil' to fuel these metrics is a diffused internal intrapreneurial and entrepreneurial attitude (e.g. fostering internal change and having external impact). The stronger the internal intrapreneurial culture, the greater the participation and engagement, and ultimately the academic entrepreneurship and technology transfer metrics, and hopefully the better the quality.

Administrative personnel (mainly KTO staff) should accept that the process can be chaotic – leaving out their inclination towards efficiency and effectiveness – and so they need to be tolerant of experimentation and the *ex-ante* undefinition of goals (blurring lines), knowing that the final outcomes can only be defined at the end of the process. The blurred lines (undefined) leave space for enthusiasm, exploration, and freer co-creation. Perhaps this is important when trying to engage scientists and scholars; they jump on board not merely to execute but, like most academics when they are driven by curiosity and the desire to provide their views, as well as to co-construct, generate value and learn from what they do and from their peers. We report in Table 1 a summary of the most important insights of the managerial implications identified.

6.2. Policy implications

From a policy perspective, countries and governments that invest in supporting academic entrepreneurship and, generally speaking, call for more proactive universities that are able to lead and manage change should motivate universities to develop internal intrapreneurial abilities. The process that we have described here unfolds over about three years. Depending on the 'readiness' level of the university, it may take longer. Therefore, continuity in policy and governance actions might be required. Indeed, change at the governance level may entail the pursuit of changes in policies and actions. Policymakers can create ad hoc incentives to guarantee continuity of actions. They could work out additional incentive mechanisms to reward systematic (rather than occasional) academic entrepreneurship actions by universities aimed at creating an internal entrepreneurial culture, which is likely to drive the emergence of long-lasting intrapreneurial abilities.

6.3. Limitations

Research into university intrapreneurship is still scant. This paper is one of the first attempts to conceptualize the emergence of organizational intrapreneurial abilities within universities. Additional research to better define this notion is highly desirable. Future research could explore the relationship between university intrapreneurial abilities and academic entrepreneurship strategies, outputs and success. We feel that the results achieved by high-performing universities with respect to academic entrepreneurship can be mostly explained by two specific conditions: (1) the existence and soundness of specific (though often temporary) strategies in support of entrepreneurship, and (2) even more importantly, the existence of internal, long-lasting intrapreneurial abilities.

Our study offers a useful initial, exploratory attempt at defining universities' intrapreneurial abilities. However, since it takes into account a successful case, it is not able to delve into the specific obstacles to the establishment of an organizational intrapreneurial ability. Future research could address empirically and in a more detailed way the relation between intrapreneurial abilities and universities' performance/success in generating academic entrepreneurship outcomes like spin-offs, patents, licenses, etc., and in contributing to effective university-to-industry technology transfer. Future studies could go further in exploring how university intrapreneurial abilities influence the universities' performance in generating innovative outcomes also in education/teaching and research activities. As we said, here we provide an initial contribution. For example, it could be interesting to explore if more 'intrapreneurial universities' are more successful in putting forward new teaching programs, attracting more students, innovating their

Table 1
A summary of managerial implications.

Insights	Actions
<i>Fostering internal culture of innovation</i>	Foster a culture of creativity and innovation Promote diffusion and sharing of values supporting innovation Encourage engagement in innovation, change, and entrepreneurship Promote participation and engagement within the university Support academic entrepreneurship and technology transfer activities
<i>Cross-departmental collaborations</i>	Organize events and situations for cross-fertilization Build bridges between KTO and researchers
<i>Aligning interests</i>	Promote alignment between political and administrative levels Encourage interactions between university governance and industrial partners
<i>Tolerance for experimentation</i>	Embrace chaos and experimentation in the process Encourage enthusiasm, exploration, and co-creation Challenge people to engage in innovation and entrepreneurship

research programs and approaches, and attracting more and better scholars.

In addition, it would be interesting to explore both the presence of antecedents, supporting, and enabling mechanisms that are different from the ones we have identified, and the way they possibly affect the process of establishing an intrapreneurial university. In other words, future research should investigate whether different aspects at the individual level (i.e., the level of the researcher) can play a role in fueling the process, as well as if other mechanism than establishing a community and building bridges, or legitimizing and undefined boundaries, can function as enabler or supporter along the process. We hope other researchers will take our findings as a starting point for future inquiry into the determinants of intrapreneurial universities, even considering different countries at an international level.

Data availability

The data that has been used is confidential.

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