THESE

En vue de l'obtention du

DOCTORAT DE L'UNIVERSITE DE TOULOUSE

Délivré par

Université Toulouse 1 Capitole (UT1 Capitole)

Ecole doctorale : **TSM Research, UMR 5303 CNRS**

Présentée et soutenue par :
André NANA

le jeudi 30 Novembre 2023

Entrepreneurial Sourcing and Incubators' Performance: An Ecosystem Approach

---

Discipline : Sciences de Gestion
Spécialité : Strategy, Entrepreneurship & Innovation Management
Unité de recherche : TBS Research Centre

Directeurs de thèse
Monsieur Eric Michaël Laviolette (HDR), *Professeur associé, TBS Business School*
Madame Christina Theodoraki (HDR), *Professeure associée, TBS Business School*

Jury:

Rapporteurs : **Monsieur Jean-Pierre Boissin**
Professeur des Universités, Université de Grenoble Alpes
Monsieur Karim Messeghem
Professeur des Universités, Université de Montpellier

Suffragants : **Monsieur Didier Chabaud *(Président du Jury)***
Professeur des Universités, IAE de Paris, Université de Paris, Panthéon Sorbonne
Monsieur Franck Barès
Professeur Titulaire, HEC Montréal, Université de Montréal

'The university does not intend to approve or disapprove the particular opinions of the author.'

DEDICATION

To my two parents: Nana Samandé Pascal and Ouédraogo Tikouliga Marie

ACKNOWLEDGMENTS

'Look at the sky. We are not alone. The whole universe is friendly to us and conspires only to give the best to those who dream and work.'
A. P. J. Abdul Kalam
Indian State Person, President of India From 2002 to 2007

This thesis is the culmination of a long research period into the answers to a banal question: where did the knowledge that teachers set out to teach us from primary school to university come from? How was this knowledge discovered or constructed? I had no answers to these questions during my primary school years. In high school, I started to get answers about the people who contribute to forming knowledge bodies, with the precision of the authors of theories, theorems, and laws in mathematics, physics, chemistry, history, and sciences of life and earth. On the other hand, I had to wait until university for the answers to the 'how' question. When I took a course on scientific research methodologies in my undergraduate year, I began understanding how knowledge was discovered or constructed by researchers. At this point, my unconscious intention was transformed into a secret ambition: contribute to knowledge in the management field.

So, after my Bachelor 2 in Economics and Management, while I was preparing for my bachelor's degree in economics and management Sciences (ESG) at the Norbert Zongo University of Koudougou, Burkina Faso, I was admitted to a training program of excellence, the Master in Management (MSG) at the Thomas Sankara University (formerly Ouaga II University) in Ouagadougou, Burkina Faso. I was able to adapt two trainings in two different cities to obtain my bachelor's degree from Norbert Zongo University in 2015 and my master's degree from Thomas Sankara University in 2016–2017 as runner-up in my class. Thanks to my MSG results, I received an offer to enrol in the Master '*Conseil, Etudes et Recherche (CER)*' program at the University of Paris Est Créteil, Val-de-Marne, which I accepted for the 2018–2019 academic year. As I was preparing to defend my master CER, I received a LinkedIn message from the person who was to become my thesis co-director, Christina Theodoraki, regarding a call for applications for a doctoral contract: The PEPSI research project. I seized the opportunity and applied. I was selected from among 51 candidates to lead this research project entitled '*Sourcing and performance of incubators: an ecosystem approach*' co-directed by Professor Eric Michaël Laviolette and Professor Christina Theodoraki. Before the defence of my master CER on September 23, 2019; here I am already embarked on a doctoral adventure on September 1, 2019.

For me, the doctoral experience was a cocktail of moments of fulfilment and suffering, certainties and doubts, progress, stagnation and sometimes even regression. It was also a period of personal development, during which I learned to manage my emotions and sometimes to be diplomatic in situations of divergence with my professional entourage. On this journey, my compass was my positivity. I considered as motivating factors the moments of fulfilment (participation in conferences and social events with doctoral students and friends), certainty and progress (acceptance of papers at conferences and in journals, congratulations and encouragement from my thesis supervisors and friends). The moments of suffering, uncertainty, stagnation, regression, and divergence with those around me were periods of stepping back, learning, and reconciling with my principles, goals and, above all, my ambitions. In short, I refused to believe in the impossible and in failure. All that animated my body, soul, and mind always and in all places was that anything was possible, and I had to succeed.

I am proud to have achieved this thesis. It is an achievement of one of the most important goals of my ambitions and existence. Nevertheless, I recognise that this achievement is a combination of my work and the multifaceted contributions of many people (thesis supervisors, teachers, colleagues, friends, and relatives) who have crossed my path in life. Without being exhaustive, I would like, in all modesty and humility, to express my gratitude to these people who have supported me. I would therefore like to thank:

My thesis supervisors, Eric Michaël Laviolette and Christina Theodoraki, for initiating the research project and choosing me to conduct it as part of my thesis. I am grateful to them for their guidance, networking, patience and sense of collaboration right to the end of this adventure. My wife, Veronique Savadogo, acted as my third home thesis supervisor in addition to her unfailing encouragement and support. The Occitania region and Toulouse 1 Capitole University for co-funded my thesis. The Nubbo incubator, headed by Anne-Laure Charbonnier, the Réso IP+ (Dorothée Lepine), the PEPITE ECRIN (Prof. Christophe Leyronas), Toulouse Tech Transfer, At-Home, La Cantine (LeStarter), Bpifrance Occitania, CNES, CNRS, TWB, and all the start-up and entrepreneurial support organizations in the Occitania region for their collaboration in providing me with access to the study ground.

The TSM-Doctoral Program: the faculty and administrative staff, Sarah Castillo-Camacho, Claudia Ouaguenouni, Prof. Fany Declerck, Prof. Marion Fortin, Prof. Audrey Rouziès, Prof. Cylien Gibert, etc. for their guidance, listening and multifaceted support. The TBS Research Centre: Stéphanie Lavigne – Dean of TBS Education, Prof. Pascal Bueno Merino, Prof. Samuel Fosso-Wamba, Hélène Paillarès, all the faculty and administrative staff, the strategy and

entrepreneurship department, Prof. Christophe Favoreu, Prof. Andrew Barron, Prof. Christian Gnekpe, Prof. Amadou Lô, etc. for their support, guidance, and suggestions during the periodic presentations of my work at the laboratory meetings. Benjamin Zumba, PhD, Prof. Florence Allard-Poesi, Prof. Abdelmadjid Amine, and Prof. Gérard Koenig for allowing me to do the CER master's degree, which opened the door to my thesis research. Prof. Florent Song-Naba, for his supervision of my master's degree in management at Thomas Sankara University and his moral support during my CER master's degree and thesis. Prof. Issa Zongo of Norbert Zongo University, Dr. Gansonré and my friend from AIESEC, Gaël Some, for their advice and guidance towards the master's in management and the Master CER at Paris-Est University, which enabled me to build my professional project oriented to teaching and research. My fellow PhD students and postdocs: PhD Ransome, PhD Philippe, Tom, Aveline, Acil, Sai, Prince, PhD Cathleen, Philip, PhD Olexandra, Evegenia, PhD Paula, Thi, David, Munday, Soukayna El-Ouali, PhD Ali Mchiri, etc. for the pleasant moments of mutual support.

My family, particularly my siblings, for their unfailing support: Mathias, Bernard, Lazare, Noël, Patrice, Elisabeth, and Bayili François. My friends of Burkina Faso in France for the convivial moments of mutual encouragement and support: Kaboré Abdoulaye and his wife Yasmine, Kientega Gilbert, Sawadogo Hamidou and his wife Azara, Tapsoba Cynthia, Rodrigue, Benjamin, Jean-Marc, Diane, Mohamed Ghjiawad, Zoungrana Mohamadi.

The resource people who supported me financially and morally in my journey: Benoît Mallet, Albert Wilfried Dodo, Corneil Amalaman, Fofana family in Paris, Ouédraogo family from Ouagadougou, Burkina Faso (Salifou, Rosine Nana, Yasmina Mamounata, Nasir, Sirina, Amdiatou, Amalia, Safi), Tapsoba family at Doulougou, Burkina Faso (Gomkoudougou, Jean, the late François and his brothers, the late Yabré Ouédraogo, Dakissaga Julien), Boncoungou Nicole, Sanou Mireille, Kassamba Raïssa, Jean-Maurice, and my friend Sylvie Zangre. My educators who have always inspired, guided and supported me: Ignance Kaboré, Bila Kaboré, Toé Stanislas, Konkobo Edouard, Nikiema Boncoungou Gabriel, etc.

The list of people who have supported me is far from exhaustive. I apologise to all those whose names have been omitted and thank them from the depth of my heart for all they have done for me; I am infinitely grateful.

SUMMARY

LIST OF ABBREVIATIONS

AD'Occ	**:** Agence de Développement Economique en Occitanie
AEI	: Académie de l'Entrepreneuriat et de l'Innovation
AIESEC	: Association Internationale des Etudiants en Sciences Economiques et Commerciales
AIMS	: Association Internationale de Management Stratégique
AJG	: Academic Journal Guide
AOM	: Academy of Management
BCERC	: Babson College Entrepreneurship Research Conference
Bpifrance	: Banque Publique d'Investissement de France
CEEI	: Centres européens d'entreprise et d'innovation
CEO	: Chief Executive Officer
CER	: Conseil Etudes et Recherche
CIFEPME	: Congrès International Francophone en Entrepreneuriat et PME
CNES	: Centre national d'études spatiales
CNRS	: Centre national de la recherche scientifique
CR	: Cited References
DCT	: Dynamic Capability Theory
ES	: Entrepreneurial Sourcing
ESG	: Economie et Sciences de Gestion
FNEGE	: Fondation Nationale pour l'Enseignement de la Gestion des Entreprises
HDR	: Habilitation à Diriger des Recherches
ICSB	: International Council for Small Business
INSEE	: Institut National de la Statistique et des Etudes Economiques
INSPEER	: Innovations, Société et Processus Entrepreneurial
MSG	: Maîtrise en Sciences de Gestion
OCSEED	: Occitanie Seed
OECD	: Organization for Economic Co-operation and Development

PE	: Preincubation Ecosystem
PEPITE	: Pôles Étudiants pour l'Innovation, le Transfert et l'Entrepreneuriat
PEPITE_ECRIN	: PEPITE_Entreprendre-Créer-Reprendre-Innover (Occitanie)
PEPITE_ECRIN (UFTM)	: PEPITE ECRIN (Université Fédérale Midi-Pyrénée)
PEPITE-LR	: PEPITE- Languedoc-Roussillon
Ph.D.	: Philosophiæ Doctor
PRISMA	: Preferred Reporting Items for Systematic Reviews and Meta-Analyses
R&I	: Research & Innovation
RBV	: Resource-Based View
SLR	: Structural Literature Review
TBI	: Technology Business Incubator
TBS	: Toulouse Business School
TBSeeds	: Toulouse Business School Seeds
TSM	: Toulouse School of Management
TTT	: Toulouse Tech Transfer
TWB	: Toulouse White Biotechnology
USA	: United States of America
UT2	: Université Toulouse 2
WOS	: Web of Science

LIST OF THE THESIS PAPERS

Article 1 (Chapter II): Nana, A., Laviolette, E. M. and Theodoraki, C. (2023). Projects selection practices in the preincubation ecosystem, *Entreprendre & Innover* (forthcoming).

Another version is published as a book chapter at Oxford University Press: Nana, A., Laviolette, E. M. and Theodoraki, C. (2023). Incubators potential tenants' identification and screening practices in the preincubation ecosystem: toward an entrepreneurial sourcing. In Huggins, R., Kitagawa, F., Prokop, D., Theodoraki, C. and Thompson, P. (forthcoming). *Entrepreneurial Ecosystems in Cities and Regions: Emergence, Evolution, and the Future*, Oxford University Press (in edition, publication contract signed).

A first version was presented at: 65th International Council for Small Business (ICSB) world congress July 11–16, 2021, Paris, France and won the 'Best Policy Paper' award.

Article 2 (Chapter III): Nana, A., Laviolette, E. M. and Theodoraki, C., Resources within preincubation ecosystem as antecedents of entrepreneurial sourcing, *Entrepreneurship & Regional Development* (reject and resubmit). [FNEGE cat. 2, AJG cat. 3]

A first version was presented at: Academy of Management (AOM) annual meeting, 4th to 9th August 2022, Seattle, Washington, USA. The summary of this version is published in the Academy of Management proceedings 2022 and is available at: https://journals.aom.org/doi/abs/10.5465/AMBPP.2022.17712abstract

Article 3 (Chapter IV): Nana, A. (just submitted), Unravelling entrepreneurial sourcing processes in the preincubation ecosystem: a dynamic capability perspective, *Technological Forecasting and Social Change*. [FNEGE cat. 2, AJG cat. 3]

A first version was presented at: 43rd Babson College Entrepreneurship Research Conference from 7th to 10th Jun 2023, Knoxville, Tennessee, USA. An abstract has been published in '*Frontiers of Entrepreneurship Research.'*

OTHER WORKS RELATED TO THE THESIS

In addition to the articles included in the thesis, other works have been presented at conferences.

Nana, A., Bawack, R., Yannou-Le Bri, G. & Daniellou, R. (2023). Technology 4.0-based sustainable innovation practices in the cosmetics industry: toward a circular business ecosystem 4.0 research program. ICSB World Congress 2023, Gwangju, Corée du Sud. ***Sustainable Development Goals Best Paper award***
Nana, A., Laviolette, E. M. and Theodoraki, C. (2023), Unravelling entrepreneurial sourcing processes in the preincubation ecosystem: a dynamic capability perspective, *Frontiers of Entrepreneurship Research*, Babson College Entrepreneurship Research Conference (BCERC) 7th to 10th Jun 2023, Knoxville, Tennessee, USA.
Nana, A., Laviolette, E. M. and Theodoraki, C. (2022). Contingent factors as entrepreneurial sourcing antecedents in the preincubation ecosystem, INNODAYS conference, 4 au 8 November 2022, Casablanca, Maroc.
Nana, A., Laviolette, E. M., and Theodoraki, C. (2022). A Resource-based View (RBV) of Entrepreneurial Sourcing Within the Preincubation Ecosystem. In *Academy of Management Proceedings*, Vol. 2022, No. 1, p. 17,712. Briarcliff Manor, NY 10510: Academy of Management, 9th August 2022, Seattle, Washington, USA, https://journals.aom.org/doi/abs/10.5465/AMBPP.2022.17712abstract
Nana, A., Laviolette, E. M. and Theodoraki, C. (2021). Sourcing entrepreneurial au sein de l'écosystème de préincubation : une exploration des typologies d'acteurs et leurs interrelations, Conférence de l'Académie de l'Entrepreneuriat et de l'Innovation (AEI), 13 au 15 octobre 2021, Sousse, Tunisie (en ligne).
Nana, A., Laviolette, E. M. and Theodoraki, C. (2021). Incubators potential tenants' identification and screening practices in the preincubation ecosystem: toward an entrepreneurial sourcing, 65th International Council for Small Business (ICSB) world congress July 11–16, 2021, Paris, France
Nana, A., Laviolette, E. M. and Theodoraki, C. (2020). « Sourcing entrepreneurial » et écosystème de préincubation, un processus fondamental pour la performance des incubateurs, Conférence international Francophone de l'Entrepreneuriat et des PMEs (CIFEPME), 18 au 21 mai 2020, Nice, France (en ligne).
Nana, A. (2020). Pratiques de sourcing entrepreneurial des incubateurs et écosystème de préincubation : une étude exploratoire du cas d'un incubateur régional (Nubbo), Consortium doctoral CIFEPME, 17 mai 2020 (en ligne).
Nana, A., Laviolette, E. M. and Theodoraki, C. (2019). Sourcing et performance des incubateurs : une approche écosystémique, INSPEER workshop, 7 novembre 2019, Paris, France.

CHAPTER I: GENERAL INTRODUCTION

'Don't try to do everything by yourself, but try to connect with people and resources. Having that discipline and perseverance is really important.'
Chieu Cao
Co-founder of Perkbox

This chapter aims to justify the interest and relevance of this doctoral research. As a result, it successively presents the context, the theoretical framework, the methodology and the architecture of the thesis.

1.1. Research Background

Defined as the process of exploring, assessing, and exploiting opportunities through business (start-up) creation (Shane and Venkataraman, 2000; Shane, 2003; Hornsby et al., 2018; Davidsson and Gruenhagen, 2021), entrepreneurship is a crucial alternative for employment and economic growth (Audretsch et al., 2022). For example, in 2018, France had over one million start-ups that employed more than 1.7 million employees with an average turnover of 277,000 euros (INSEE, 2021). Indeed, start-ups contribute to the social and economic development of regions and countries (Audretsch et al., 2008; OECD, 2019; Neumann, 2021; Audretsch et al., 2022). However, these start-ups must go through a 'valley of death' during their first five years, where many fail due to their liability of newness and smallness (Pauwels et al., 2015; Ayatse et al., 2017; Wu et al., 2020). In France, the three-year survival rate of start-ups other than micro-enterprises is 82% (i.e. 18% failure), and half of the survivors still pursue survival and maintenance objectives (Baillot, 2023). This three-year survival rate is 46% for micro-enterprises, or a failure rate of 54% (Juliachs, 2023). French start-ups face survival and growth challenges during their launch phase. Moreover, policymakers such as the French senate are aware that support for the creation and growth of start-ups has become a priority because they have become a means of facilitating the transfer of technologies resulting from academic research (Redon-Sarrazi and Paoli-Gagin, 2022).

In this context, organisations supporting entrepreneurship (or incubators in a broad sense) have grown in number with the support of public policies, industries, individuals, non-profit organisations, universities, and schools to improve the survival of their tenants, such as business projects and start-ups (Soetanto and Jack, 2013; Messeghem et al., 2018; Hausberg and Korreck, 2020; Nicholls-Nixon and Maxheimer, 2022). Recently, studies have shown that the survival of tenants also depends on contextual factors such as territorial culture, regional needs, technological changes, and economic conditions (Hill et al., 2023). The consideration of all

these parameters in entrepreneurial support has led researchers and policymakers to call for a more holistic view of entrepreneurial support (Theodoraki, 2020), viewing incubators as an intermediary in an ecosystem: the entrepreneurial ecosystem (Spigel, 2017; Theodoraki and Messeghem, 2020; Lindelöf and Hellberg, 2023).

Over the past decade, the promotion of entrepreneurship in territories has taken a decisive turn with the development of entrepreneurial ecosystems (Autio et al., 2014; Theodoraki and Messeghem, 2017; Theodoraki et al., 2018; Wurth et al., 2021). The entrepreneurial ecosystem is a system of actors and factors that interact to create conditions favourable or unfavourable to entrepreneurship in cities, regions, and countries (Autio et al., 2018; Wurth et al., 2021; Audretsch et al., 2022). In this system, incubators play a crucial role as intermediaries and connectors, enabling the pooling of the ecosystem's strengths in favour of tenants (Spigel, 2017; van Rijnsoever, 2020; Audretsch et al., 2022). This perception of incubators' role has made them very popular and attractive to public policies (Redon-Sarrazi and Paoli-Gagin, 2022) but raises questions about their contributions to the outcomes of the entrepreneurial ecosystem (Messeghem et al., 2018; van Rijnsoever, 2020), which is a central issue of incubators (Messeghem et al., 2018).

While the activity of incubators is a three-stage process (preincubation, incubation, and post-incubation), analyses of their outcomes and performance tend to focus on downstream processes: incubation and post-incubation (Hackett and Dilts, 2004; Messeghem et al., 2018; Hillemane et al., 2019). There is a theoretical and practical gap in the literature regarding whether an incubator's performance is linked to its activity or to the quality of its tenants before entering the incubation stage (Etzkowitz, 2002; Hackett and Dilts, 2004; Hillemane et al., 2019). This gap has led some researchers to underscore the need to assess incubator performance from the preincubation stage by analysing the identification and selection of tenants in volume and quality (Hillemane et al., 2019).

An analysis aiming to fill the theoretical gap in the literature on the relationship of preincubation processes with incubator outcomes and performance is relevant from a practical viewpoint, as identifying and selecting potential tenants in volume is a growing challenge for incubators (Bank and Kanda, 2016; Bank et al., 2017; Klofsten et al., 2020). To address these challenges, this research focused on the analysis of the preincubation phase to provide a deep understanding of the processes of tenants' identification and selection within the entrepreneurial ecosystem. The objective was to theorise the relationship between the processes of tenants'

identification and selection (preincubation process) with the outcomes of the incubators. Thus, this study attempted to propose a theoretical framework of tenants' identification and selection within ecosystems, which may have some practical value. It also helps to bridge the theoretical gap concerning the conceptualisation and explanation of the contribution of preincubation processes to the outcomes of incubators within ecosystems.

The entrepreneurial ecosystem approach suggests that practices during the preincubation phase are part of a process (Etzkowitz, 2002; Bank et al., 2017; Theodoraki and Messeghem, 2020) and that the tenant at the heart of this process is a mix of talent, innovation/technology, and other means (Hillemane et al., 2019; Mian, 2021; Audretsch et al., 2022). By considering tenants as inputs of incubators, the process of identification and selection of these inputs was analysed in this research as complex sourcing (entrepreneurial sourcing) within a sub-ecosystem dedicated to preincubation (preincubation ecosystem). The basic assumption is that 'tenants' components such as talent, innovation/technology and other means (Mian, 2021) are resources held by one or many actor(s) in the preincubation ecosystem and that their identification and selection are part of the actor(s) such as public programs, intermediary organisations, university, funding entities, research laboratories, civil society, etc. willingness to direct its/their resources towards businesses' creation (Carayannis et al., 2018; Audretsch et al., 2022) within the framework of a process supported by the incubator (entrepreneurial sourcing) (Bank et al., 2017; Etzkowitz, 2002) whose effectiveness depends on the capability of the incubator to maximise the outcomes of all the resource contributors (Messeghem et al., 2018).

The above basic assumption led to build the analysis within the framework of the resource-based view (RBV) (Barney et al., 2021) and its extension, the dynamic capability theory (DCT) (Teece et al., 1997; Teece, 2012). Indeed, the incubator is, by analogy, a firm with tenants as its inputs (Aaboen, 2009). Moreover, tenants' identification and selection (entrepreneurial sourcing) can be assumed to be an iterative process consisting of a set of capabilities that bundle resources (Barney et al., 2021). This process could have *ex ante* resources (Barney, 1991) explaining its effectiveness and *ex post* resources (Peteraf and Barney, 2003; Barney and Mackey, 2018) making up its outcomes, and all this dynamic should take place in a co-specialization scheme between actors within the preincubation ecosystem (Teece et al., 1994; Barney et al., 2021). Building on the RBV and DCT frameworks, this research aimed to subsequently provide a thorough understanding of the entrepreneurial sourcing processes in practice within the preincubation ecosystem, explain how *ex ante* resources determine these

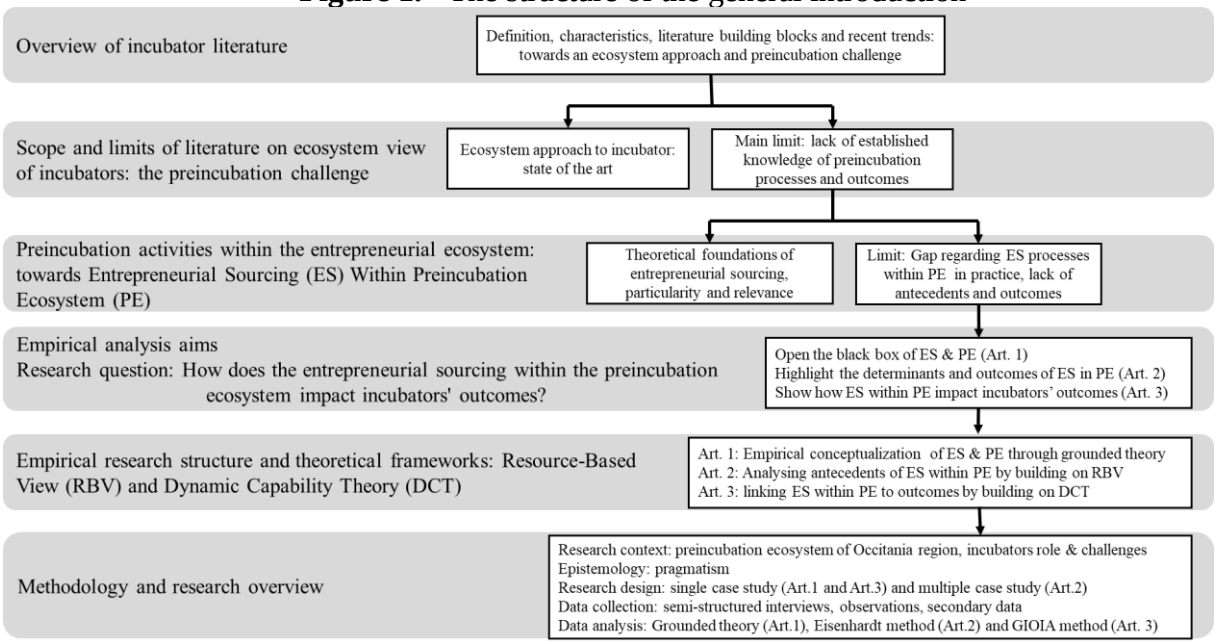
processes (capabilities), and how these entrepreneurial sourcing processes (capabilities) produce and impact outcomes (*ex post* resources) within the preincubation ecosystem. Hence, the main research question is: **How does entrepreneurial sourcing within the preincubation ecosystem impact incubators' outcomes?** This main question is divided into three specific questions to succinctly answer the three objectives above:

- How do incubators identify and select their tenants within the preincubation ecosystem? This question aims to provide a deep understanding of the entrepreneurial sourcing processes in practice within the preincubation ecosystem. It is addressed through a single case study.
- What are the antecedents of entrepreneurial sourcing within the preincubation ecosystem? The answers to this question explain the determinants (ex-ante resources) of entrepreneurial sourcing processes within the preincubation ecosystem. The objective is to highlight the strategic resources that incubators can rely on to implement effective entrepreneurial sourcing. It is analysed through a multiple case study by building on resource-based view (RBV).
- How entrepreneurial sourcing within the preincubation ecosystem impact incubators' outcomes? The answers to this question explain how entrepreneurial sourcing processes (capabilities) produce and impact incubator outcomes within the preincubation ecosystem. It is studied through a single case study by building on dynamic capability theory.

The analysis of these specific questions has resulted in an academic paper. Thus, this thesis is structured in three articles based on case studies (Eisenhardt, 1989; Yin, 2018) of preincubation processes in one of the most developed entrepreneurial ecosystems in Europe: Southwest France, Occitania (Leendertse et al., 2021). These analyses are part of a qualitative methodology following an ecosystem approach (Theodoraki and Messeghem, 2020) and pragmatist reasoning (Patton, 2005; Kelly and Cordeiro, 2020). The data was collected through semi-structured interviews, participant and non-participant observations, and secondary data. For data processing and analysis, grounded theory is used for the first essay, Eisenhardt's method is used for the second essay (multiple case study), and Gioia's method is used for the third essay (single case study). The NVivo software (Bazeley, 2013) served as a data processing and analysis tool.

The results show that entrepreneurial sourcing is a set of processes grouped into two phases: the tenant identification phase (sensing capability) comprising the processes of scouting, prospecting, opening to application, and e-sourcing, and the screening phase (seizing capability) sequentially comprising the processes of file reviewing, training, assessing, and interviewing. The findings also shown that preincubation ecosystem actors engaged in the co-specialization scheme during the entrepreneurial sourcing are technology brokers, idea brokers and stakeholders of innovative environment. The antecedents (ex-ante resources) of entrepreneurial sourcing within the preincubation ecosystem are incubator internal resources (financial, human, relational, reputational, and technological resources) and preincubation ecosystem resources (structure and conditions, socioeconomic factors, innovation culture, policies, and local research and industry). The outcomes (ex post resources) of the entrepreneurial sourcing are preincubation ecosystem actors' collaboration fostering, tenants' germination, resource (human, finance, technology…) mutualisation and endowment, and technology transfer. These results present relevant theoretical contributions and practical implications for incubators, their sponsors, and partners in the preincubation ecosystem and policymakers. The general introduction follows the scheme below (see Figure 1).

Figure 1. The structure of the general introduction



Source: author

Figure 1 above shows the structure of four sections of the general introduction: i) an overview of incubators' literature, ii) the scope and limits of literature on the ecosystem view of incubators and the challenge of the preincubation phase, iii) the theoretical conceptualisation

of the practices of the preincubation phase within the ecosystem under the process of entrepreneurial sourcing, limits of this conceptualisation and program of empirical research, iv) objectives, structure and theoretical frameworks of the empirical analysis of entrepreneurial sourcing within the sub-ecosystem of preincubation. These sections are complemented by two last ones: v) the research methodology, and vi) an overview of the three essays of the thesis.

1.2. Overview of Incubators' Literature

This section provides an overview of the literature on incubators. After defining them and explaining their central role, we discuss the evolution of this literature, especially in relation to an ecosystem approach to preincubation.

1.2.1. Incubator: Definition and Characteristics

The definition of the concept of 'incubator' is elastic and evolutionary. It's elastic because it can refer to specific entrepreneurial support organisations in the narrower sense or all entrepreneurial support organisations in the broader or umbrella sense (Aernoudt, 2004; Hausberg and Korreck, 2020). Several concepts are often used interchangeably for the incubator concept: *'research parks, enterprise centres, seedbeds, science parks, technopole, industrial parks, innovation centres, knowledge parks, business accelerators, cold frames, hatcheries, hives, germinators, hubs, hot-desks, graduators, grow-on space, spokes, ideas labs, managed workspaces, venture labs, business centres, fertilizers, and the networked incubator'*) (Theodorakopoulos et al., 2014, p. 5).

As we can see, the definition of an incubator is subject to change as such organisations evolve in terms of services, organisation, business model, processes and theoretical approaches of its literature (Lindelöf and Hellberg, 2023; van Weele et al., 2018). Three generations of incubators are identified in the literature (Theodorakopoulos et al., 2014; van Weele et al., 2018): the first generation pertains to the period 1980–1990 (with services like affordable space and shared facilities), the second generation covers the years 1991–2000 (with services such as affordable space, shared facilities, a variety of support services, business advisory services, and networking), and the third generation spans the period 2001 to the present (with services including affordable space, shared facilities, a variety of support services, business advisory services, networking, proactive support, mentoring and coaching, business acceleration, and network development) (Pauwels et al., 2016).

These characteristics (elasticity and evolution) have led to a diversity of definitions for the incubator concept in literature; each researcher defines it in time and space and according to their subject of study (see Table 1: some definitions from the past 20 years).

Table 1. Definitions of 'incubator'

References	Definitions
Hackett and Dilts (2004, p. 55)	An enterprise that facilitates the early-stage development of firms by providing office space, shared services, and business assistance.
Peters, Rice and Sundararajan (2004, p. 83)	Evolving innovative organizational form that is a vehicle for enterprise development.
Bollingtoft and Ulhoi (2005)	Any organization that provides access to affordable office space and shared administrative services.
Phan et al. (2005)	Property-based organizations with identifiable administrative centers focused on the mission of business acceleration through knowledge agglomeration and resource sharing.
Bergek and Norrman (2008, p. 22)	Organizations that supply joint location, services, business support and networks to early-stage ventures.
Honig and Karlsson (2010)	Incubators are business support institutions designed to offer an array of services, such as space, infrastructure, advice, training, and administrative support meant to accelerate the business start-up process.
Bruneel et al. (2012, p. 110)	Tools to accelerate the creation of successful entrepreneurial companies.
Van Weele et al. (2018, p. 1165)	As part of the ecosystem's support services, incubators provide start-ups with direct access to several ancillary resources and services. Initially, the "first generation" incubators focused on providing start-ups with shared office space and other tangible resources, such as meeting rooms, to create economies of scale. More specialized (e.g., university-affiliated) incubators also provided access to equipment or laboratories. From the early 1990s, incubators increasingly focused on supporting technology-based start-ups. Incubators started providing professional consultancy services, as well as coaching and training for entrepreneurs, primarily as a way for entrepreneurs to develop missing business knowledge. These incubators also started to provide financial capital by investing in their tenant companies. By curating the relationship between entrepreneurs and their peers, or between entrepreneurs and other actors in the entrepreneurial ecosystem incubators act as a node in the entrepreneurial ecosystem. This was the focus of the "third generation" incubators, which emerged in the late 1990s and aimed to facilitate access to external resources and networks.
Goswami et al. (2018, p. 125)	Function as Meso-level intermediaries between founders and the regional entrepreneurial ecosystem: connection expertise, development expertise, coordination expertise, and selection expertise. Specifically, accelerators with this expertise can engage the ecosystem intermediation processes that best influence commitment to the regional entrepreneurial ecosystem, venture validation (success or failure), and ecosystem additionality. Important informal disseminators of knowledge,' that can help address gaps in expertise or knowledge. Building on a model of entrepreneurial expertise and commitment, we conceptualize ecosystem intermediation as a socially situated

	process whereby expertise affects commitment and action in a regional entrepreneurial ecosystem.
Hausberg and Korreck (2020, p. 13)	Business incubating-organizations (in the broader sense) are those that support the foundation and/or growth of new businesses as a central element of their organizational goal. Business Incubators (in the narrower sense) are business-incubating organizations that support the establishment and growth of new businesses with tangible (e.g. space, shared equipment and administrative services) and intangible (e.g. knowledge, network access) resources during a flexible period and are funded by a sponsor (e.g. government or corporation) and/or fund themselves taking rent (or less frequently equity) from incubatees.
Lindelöf and Hellberg (2023, p. 10)	The incubation process is an essential evolutionary incubation process and a part of an eco-system, where agents, organizations, providers, interact by the transferring of resources and capabilities from one organizational entity to another, done in consecutive dynamic stages, creating an ecosystem with apparently different purposes and agents, but with the same intentional outcome. The advancement of entrepreneurial firms, the incubator as the ecosystem for genesis, survival, growth, and success. The organizational boundaries to that of the ecosystem is inherently connected and defined by the utility of agents, organizations, and providers. In the aspect of utility, there is also a need to relate the incubator process to the new venture process.

Source: adapted from Hausberg and Korreck (2020)

Table 1 lists a non-exhaustive number of definitions for the concept of an incubator. Hausberg and Korreck (2020) identified eleven other definitions of an incubator. The common thread among all these definitions is that they present the incubator as a tool for supporting the launch, survival and growth of its tenants, such as business projects and start-ups (Hausberg and Korreck, 2020; Lindelöf and Hellberg, 2023). Moreover, the last four definitions (Ketan Goswami et al., 2018; van Weele et al., 2018; Hausberg and Korreck, 2020; Lindelöf and Hellberg, 2023) show that the incubator is a member of a community (the entrepreneurial ecosystem), and its operation is intertwined within a synergistic dynamic of all the stakeholders of the entrepreneurial ecosystem. Thus, the latest definition proposed by Lindelöf and Hellberg (2023) seems comprehensive, and it is chosen in this thesis to guide the ecosystem approach of the various analyses.

Furthermore, the diversity of definitions would come from various types of incubators (Barbero et al., 2012, 2014; Hausberg and Korreck, 2020). Indeed, the literature shows that there are several types of incubators that distinguish themselves according to several criteria (Bøllingtoft, 2012; Carayannis and Zedtwitz, 2005; Hausberg and Korreck, 2020; Zedtwitz and Grimaldi, 2006):

- *The stage of entrepreneurial support* (Gerlach and Brem, 2015; Hillemane et al., 2019; Theodoraki and Messeghem, 2020; Mian, 2021): pre-incubator or pre-accelerator

(Merguei and Costa, 2022; Voisey et al., 2013), incubator (Bruneel et al., 2012), and accelerators or post-incubation (Schwartz, 2009; Hillemane et al., 2019; Snehal et al., 2020).

- *The purpose:* innovation brokerage incubator (Denis Bettenmann, 2023; Eldering et al., 2023), economic development incubator (Carayannis and Zedtwitz, 2005; van Rijnsoever, 2020), profit-making incubator (Todorovic and Moenter, 2010), or social incubator (Nicolopoulou et al., 2017; Sansone et al., 2020; Sentana et al., 2017).
- *The sponsors or funders:* public incubator (Messeghem et al., 2018), private incubator (Hausberg and Korreck, 2020), university incubator (Cooper et al., 2012; McAdam and McAdam, 2006; Wonglimpiyarat, 2016) or corporate incubator (Becker and Gassmann, 2006; Denis Bettenmann, 2023; Eldering et al., 2023; Kohler, 2016).
- *The Geographic location:* regional, national, or international (Markusen and Oden, 1996; Mian et al., 2012; van Weele et al., 2018).
- *The business model:* free service or charged (Tang et al., 2021).
- *Origin of initiation:* bottom-up or top-down (Al-Baimani et al., 2021; Bøllingtoft, 2012; Etzkowitz et al., 2005).
- *The services offered:* accommodation, training, networking, mentorship, and administrative, financial, and regulatory services (Bergek and Norrman, 2008).
- *The mode of operation:* physical or virtual (Carayannis and Zedtwitz, 2005; Nowak and Grantham, 2000).
- *The industry or business specialisation* (Carayannis and Zedtwitz, 2005): technological incubator (information technology, internet services, software and biotech) or networking incubator (Bøllingtoft and Ulhøi, 2005; Mian, Lamine and Fayolle, 2016; Wonglimpiyarat, 2016; van Rijnsoever, 2020).

In this diversity of types of incubators, five typologies are well established in the literature: technological incubators, regional economic development incubators, university incubators, private incubators and social incubators (Barbero et al., 2012, 2014). Table 2 below presents these incubators with their characteristics.

Table 2. The five main types of incubators and their characteristics

Item	Technology incubator	Regional economic development incubator	University incubator	Private incubator	Social incubator
Sponsor and origin	Governments, universities, local development bodies, and non-profit organizations Corporate sector enterprises and private individuals	Public policy	Universities and high schools	Corporate sector enterprises and private individuals	Public policy and non-governmental organizations
Specialization and tenants' criteria	Support technology-based start-ups	Early-stage start-ups (open to a variety of sources of start-ups)	Preference to faculty and student entrepreneurs from host university. Focus on a given technology (driven by the infrastructure investment or The reputation of certain academic departments)	Prefer (corporate) employees to external entrepreneurs Key people being responsible for generating ideas for start-ups	Support social start-ups, consider services linked to social impact (e.g. social impact measurement)
Functioning and services	Enabler for new firm creations, enabler for new firm operations, catalyst for continuous development Enabling knowledge transfer and providing services and resources, and correcting for the shortage of resources for start-ups	Enabler for new firm operations Institutionalization of coaching Lower rental rates for spaces, sharing centralized services (clerical and administrative help, conference rooms, computer systems, and business assistance resources), providing financial and managerial support to start-up	Enabler for new firm creations	Enabler for new firm creations, enabler for new firm operations, catalyst for continuous development	Enabler for new firm creations, enabler for new firm operations, catalyst for continuous development
Business model and objective	Not for profit and for profit: Development of local innovative firms, promotion of technology transfer, enablement of diffusion of products	Not-for-profit: Public mission, such as regional employment and growth, create jobs, and support local commerce and wealth	Not for profit: Serving the scientific community at the university	For profit: Focus on a particular technology or industry to achieve profitability or corporate development	Not for profit: Tackle social challenges, making social impact

Source: inspired from Barbero et al. (2012, 2014), and Hausberg and Korreck (2020)

The definitions above teach us that there is a variety of incubators and that the literature on these organizations has evolved and is leaning towards complex new approaches such as the ecosystem approach. However, to be able to treat the preincubation processes of incubators (without exception) from different perspectives depending on the essays, this thesis is based on Hausberg and Korreck (2020, p. 13) broader definition which is as follows: '*Business Incubating Organizations (in the broader sense) are those that support the foundation and/or growth of new businesses as a central element of their organizational goal.*'

Furthermore, the diversity of definitions shows that literature on incubators is rich. To better navigate in this corpus and make a relevant contribution, it is necessary to know its building blocks and its current trends. This can be done through a bibliometric analysis (Zupic and Čater, 2015). In the following subsection, a bibliometric analysis has been conducted with the aim to identify constituent elements and current trends in the literature on incubators.

1.2.2. Building blocks and trends of incubator literature: towards an ecosystem approach

The objective of this subsection is to identify the building blocks of incubators' literature to position this doctoral research on a relevant and topical subject. Like meta-analyses and systematic literature reviews, bibliometric analysis has been extensively used in recent years to trace the building blocks and evolution of literature in management (Di Stefano et al., 2010) and entrepreneurship (Landström et al., 2012). Using bibliometric analysis allows for a less subjective overview of literature on incubators, thereby identifying a specific, topical subject on which to conduct a less biased systematic literature review and clarify a research problem. Indeed, after collecting reference data from Web of Science (WOS), this data has been sorted and imported for analysis in the R (bibliometrix®) software (see Table 3 regarding the combination of keyword search in the WOS literature search).

Table 3. WOS literature search keywords

Searching Keywords	Number of documents
entrepreneurial support organization*	1700
entrepreneur* and 'business* accelerat*'	42
entrepreneur* and 'business* incubat*'	697
entrepreneur* and 'support* organization*'	124
accelerat* and screen*	36
accelerat* and select*	684
incubat* and select*	178
incubat* and screen*	10
preaccelerat* OR pre-accelerat*	6
preincubat* OR pre-incubat*	23
Incubat* and Tenant*	71
Merged list on April 6th, 2023	3990
Nomber of documents eliminated after filter (see figure 3)	-1887
Number of selected documents	**2103**

Source: author

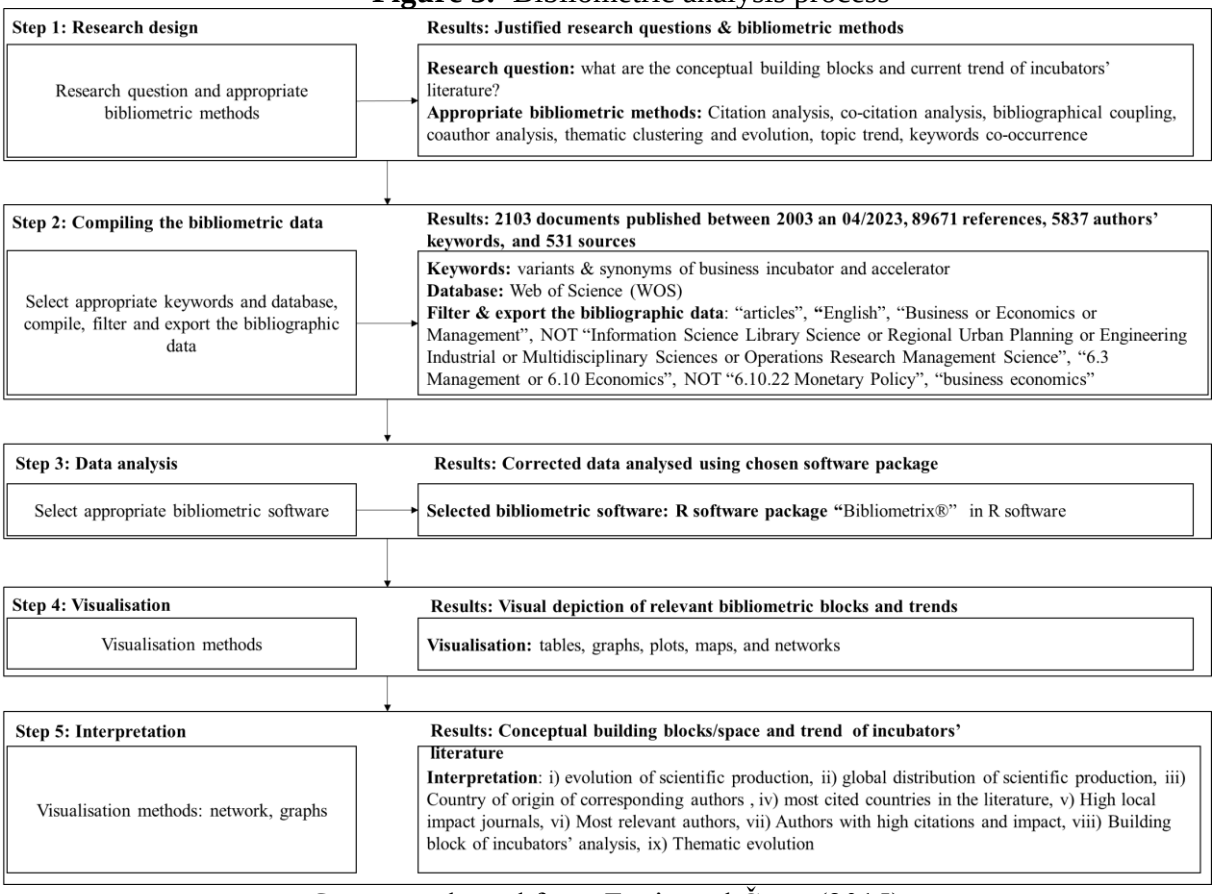
In total, 2103 articles (see details in Figure 2 below) were exported from WOS for the performance of the bibliometric analysis on a bibliometric analysis software: the Bibliometrix® suite of the R software (Zupic and Čater, 2015).

Figure 2. Main metrics of the documents included in the bibliometrix analysis

Source: author (extracted from bibliometrix)

This data was analysed by following the five stages proposed by Zupic and Čater (2015): research design, compilation of bibliometric data, analysis, visualization, interpretation (see Figure 3 below). Through citation analysis, co-citation analysis, bibliographical coupling, co-author analysis, and co-word analysis, the bibliometric analysis allowed for the synthesis of the results of previous research and to position oneself to advance a particular line of research (Zupic and Čater, 2015).

Figure 3. Bibliometric analysis process



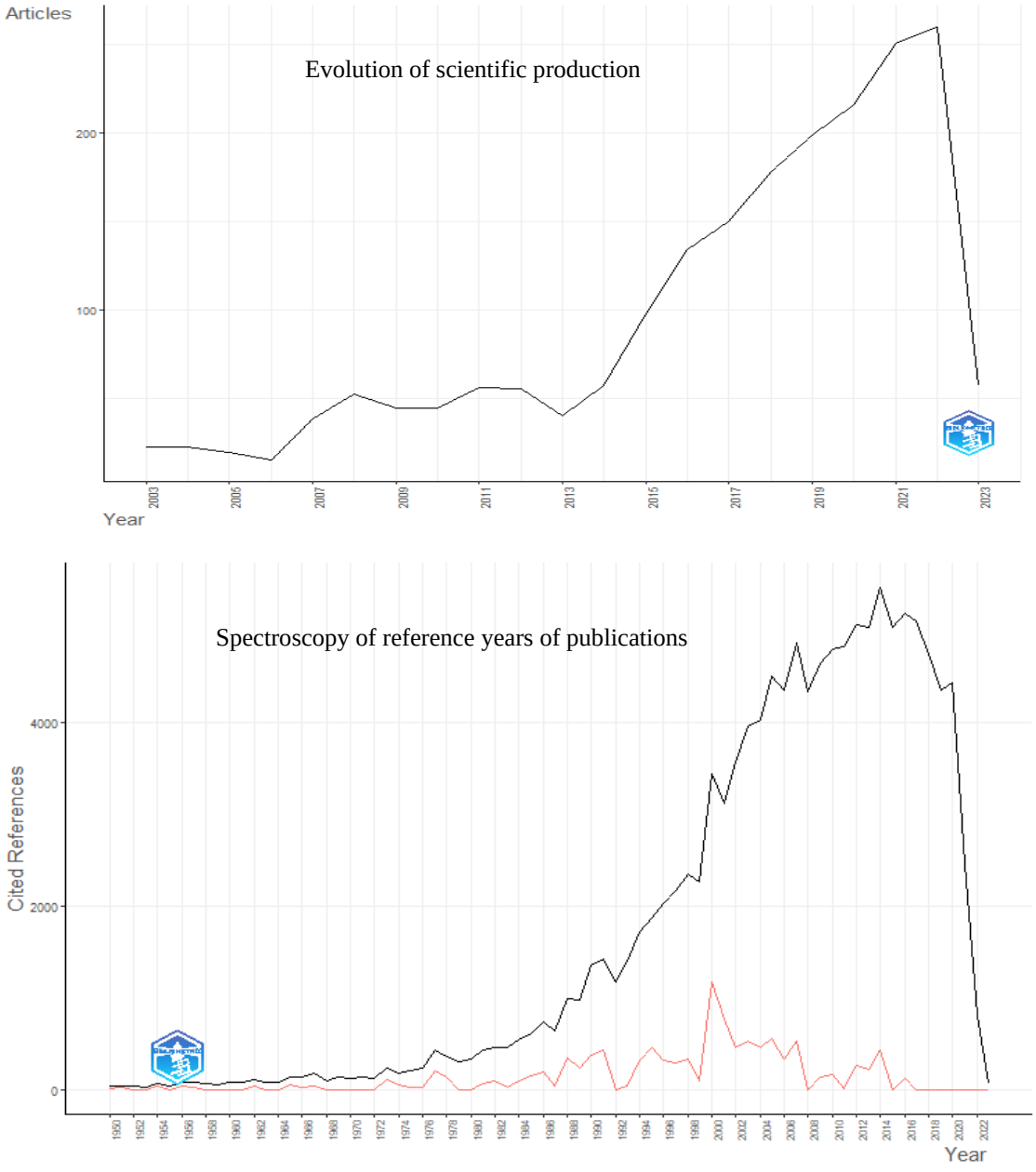
Source: adapted from Zupic and Čater (2015)

The results of the bibliometric analysis are presented in two stages. The first stage involves presenting the metrics of the literature, authors, sources, countries, and organizations that have contributed predominantly to the incubator literature in the last two decades. This served as a guide for the selection of relevant articles for the following literature review on incubators. The second part of the bibliometric analysis presents the thematic clusters and evolution. This has enabled us to position the current doctoral research within the framework of the emerging and indispensable literature: the study of the incubator within the entrepreneurial ecosystem.

The bibliometric analysis shows that the literature on incubators is increasingly attracting the attention of researchers in the past two decades. This is illustrated by the constantly rising

curves of the number of articles published per year and the spectroscopy of the years of publication of the references cited in the articles (see Figure 4 below).

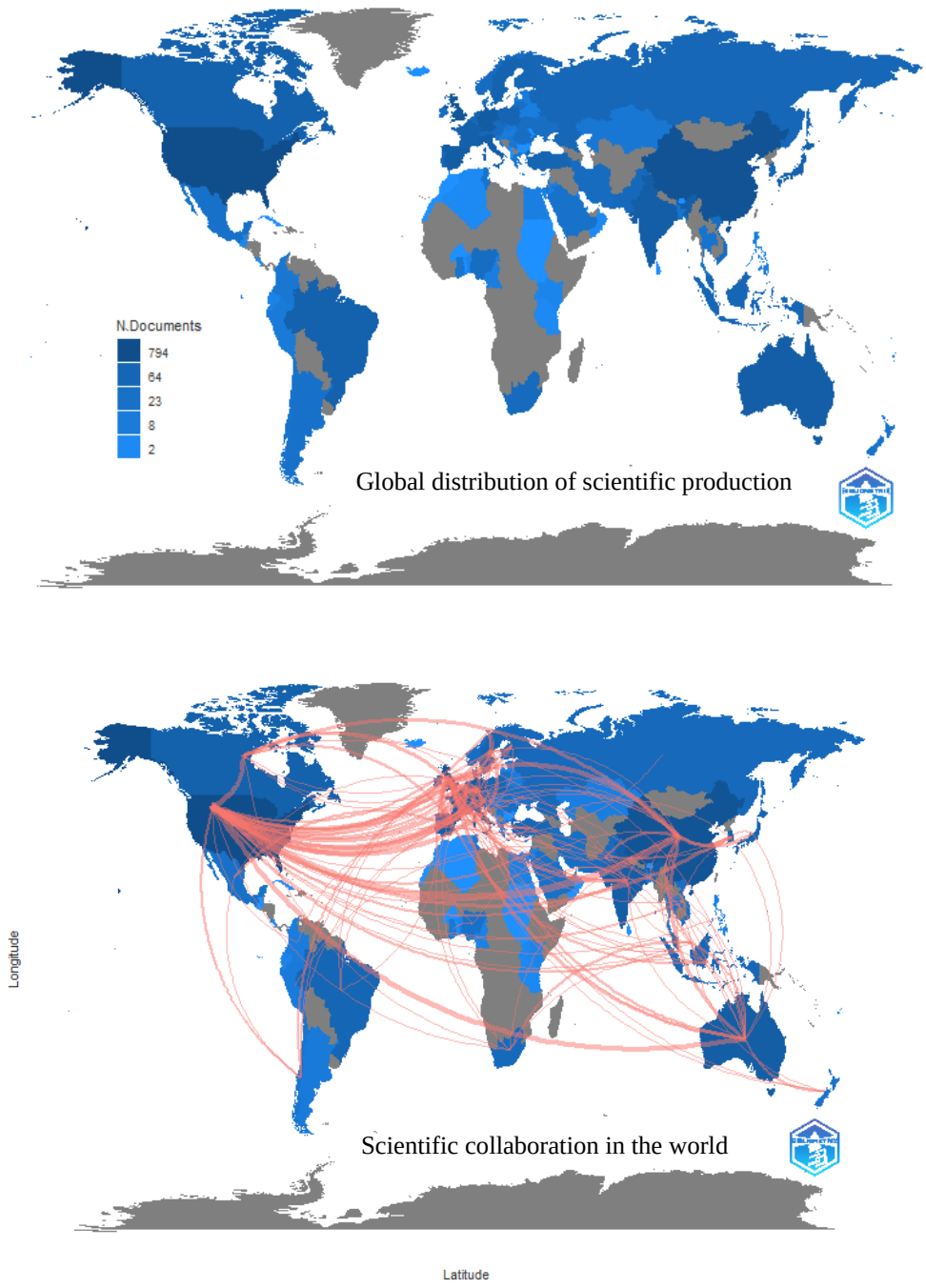
Figure 4. Evolution of scientific production vs spectroscopy of reference years of publications



Source: author (extracted from bibliometrix)

The figures above show that the literature on incubators is an attractive and topical field of research. This also implies that knowledge of incubators is not established or that the phenomenon of incubators is evolving, and the knowledge needs constant updating. Despite its attractiveness, scientific production on incubators is unevenly distributed globally, and international scientific collaboration remains low and selective (see figure 5 above).

Figure 5. Global distribution of scientific production vs scientific collaboration in the world



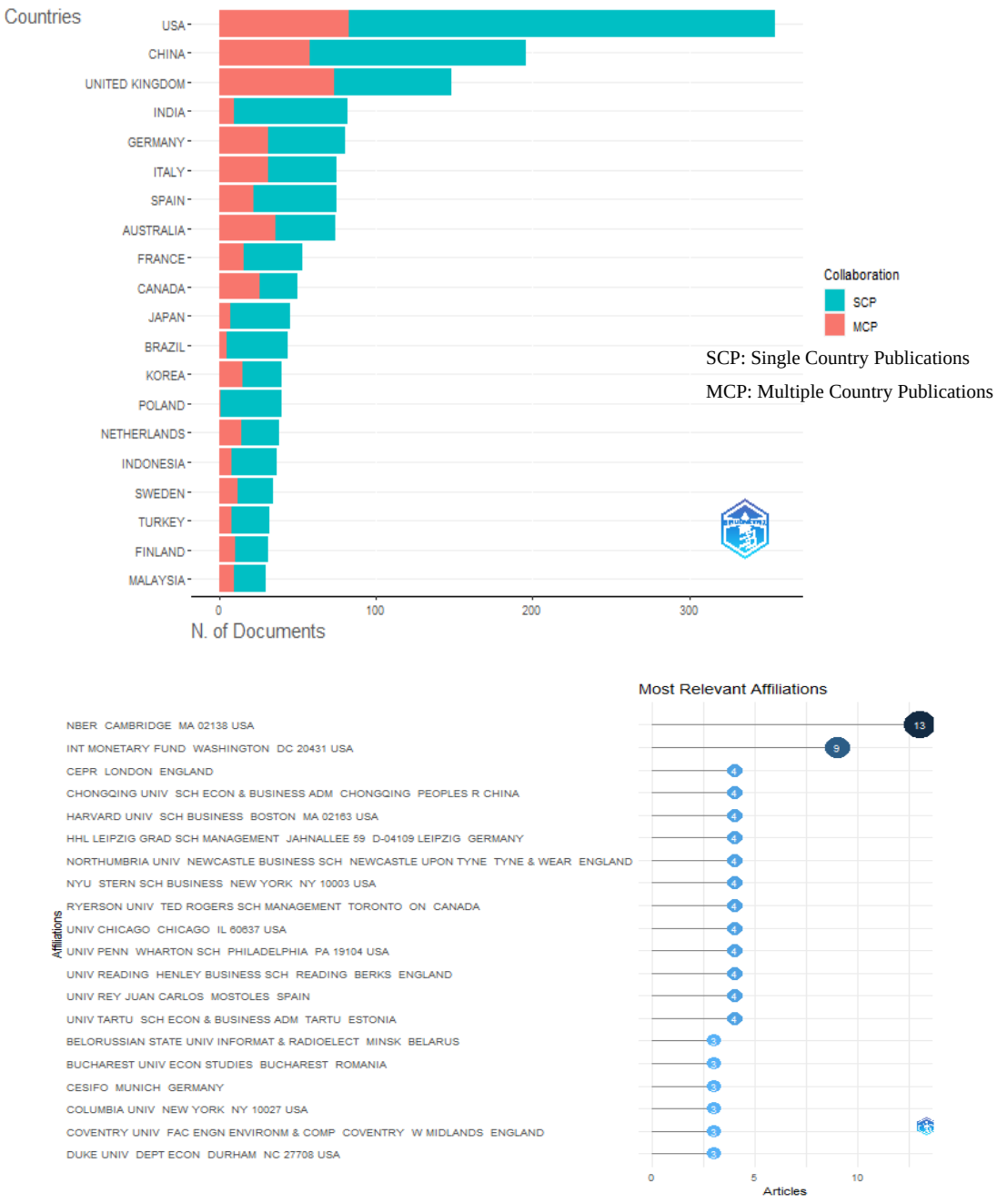
Source: author (extracted from bibliometrix)

The figures above show that certain countries such as the United States, China, and Australia have a scientific output of more than 700 papers, while other countries do not even have a single scientific publication referenced on WOS. Moreover, international scientific collaborations, besides being sparse, are concentrated among countries with high scientific output. This suggests that knowledge about incubators remains contextual, and each territory

(zone, country, region, etc.) needs to develop its indigenous knowledge based on the operations of incubators within its specific context.

As for France, it is one of the countries where incubators are moderately studied (see figure 6). The distribution of corresponding authors of the papers by country of origin shows that fewer than 100 scientific articles have been initiated by researchers originating from France. Similarly, no French organization ranks among the top 20 affiliations for researchers.

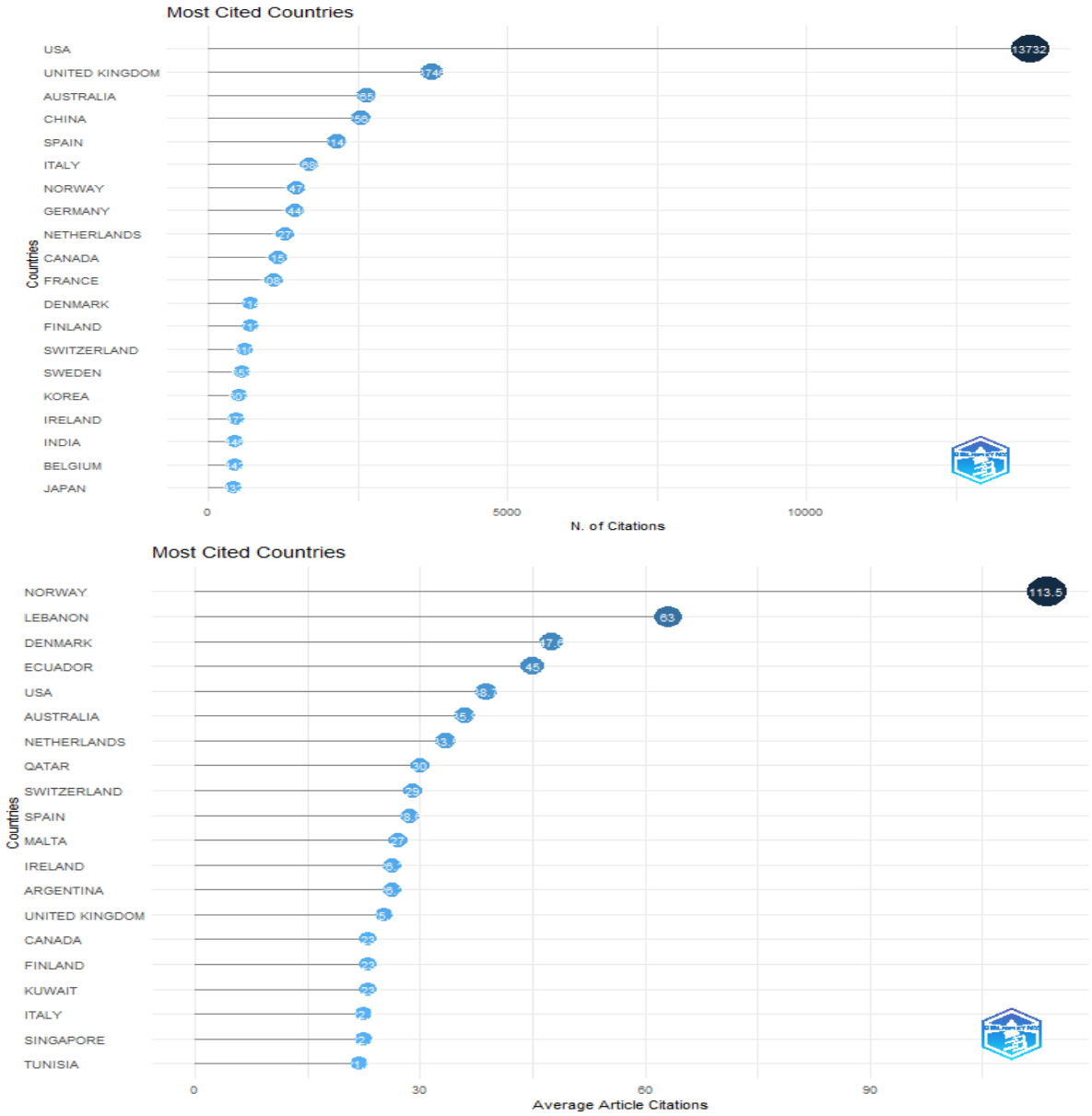
Figure 6. Country of origin of corresponding authors and main organizations of affiliation



Source: author (extracted from bibliometrix)

The figures above show that there is little French scientific research on incubators. Likewise, they inform us, from the researchers' affiliation perspective, that no French organization has made it a main research programme. This suggests that incubators within the French context remain understudied compared to the wealth of literature in countries such as the United States, China, and the United Kingdom. Moreover, work on incubators within the French context has a minor impact on the literature. Indeed, French research on incubators is among the least cited (in absolute value) in the literature. When considering the annual average of citations per article, France disappears from the list of the top 20 most cited countries in the literature on incubators (see figure 7 below).

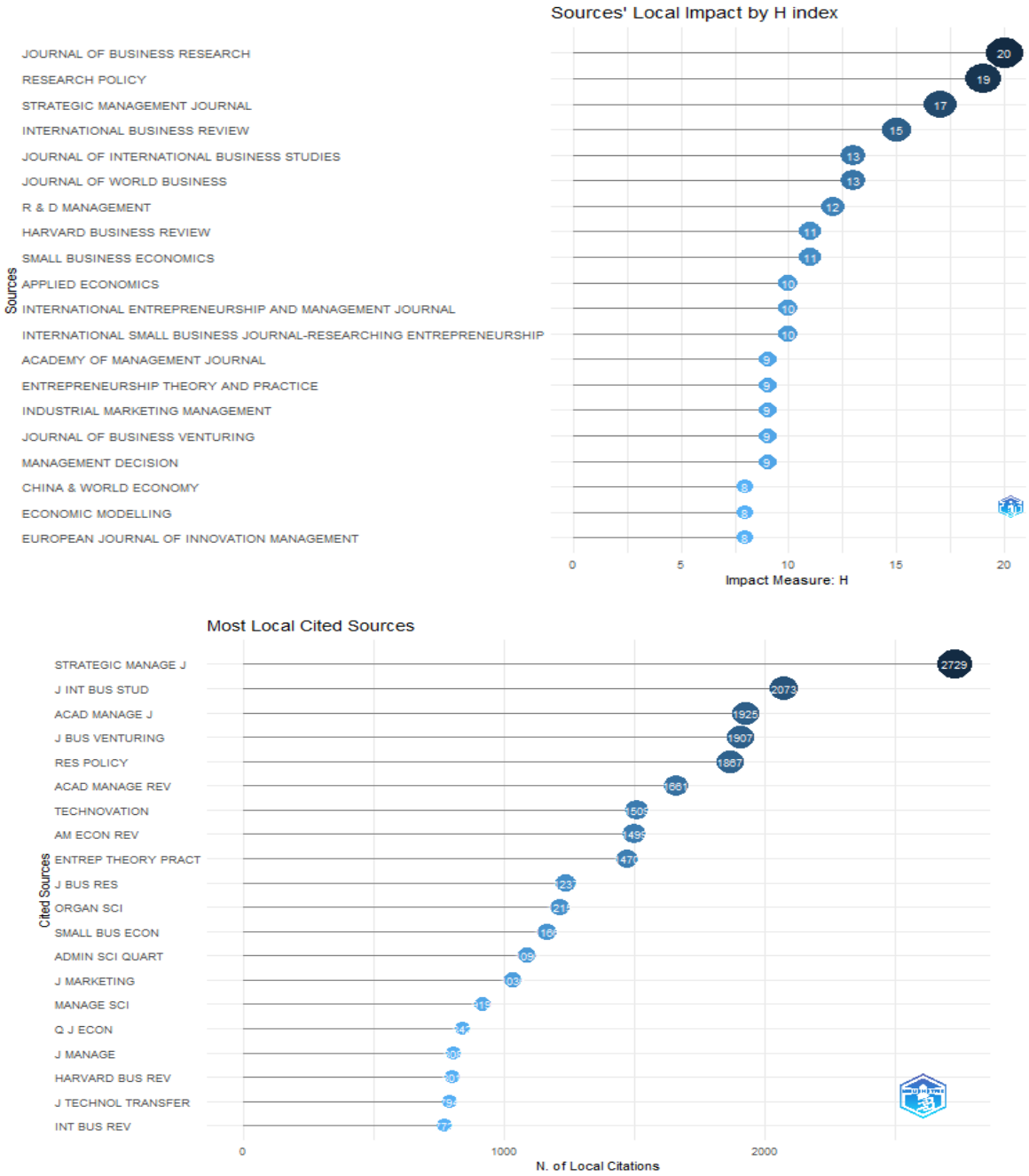
Figure 7. The most cited countries in the literature in absolute value and in average annual citation per article



Source: author (extracted from bibliometrix)

France's low standing among the most mentioned countries in incubator literature implies that French literature on incubators might be lagging compared to other countries such as the United States, the United Kingdom, Norway, Libya, Denmark, etc. The under-investigation and weak impact of French literature on incubators show that it needs strengthening through more impactful work that aligns with the evolution of global literature. Improvements to the impact of French literature on incubators could be achieved through publications in journals with a high local impact or in journals with high local citations (see Figure 8 below).

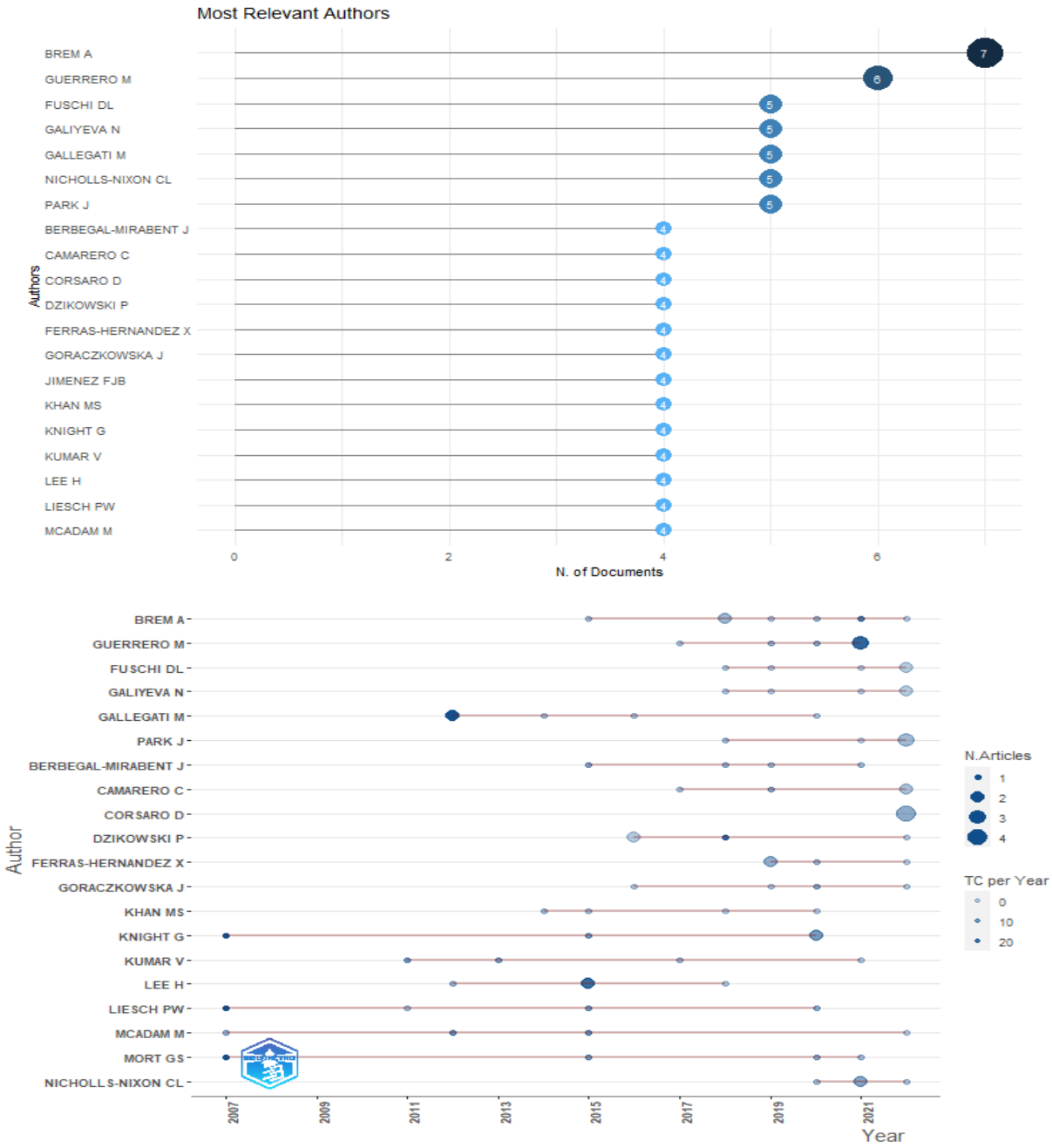
Figure 8. High local impact journals vs high local citation journals



Source: author (extracted from bibliometrix)

Furthermore, to keep pace with the evolution of literature at a global level, French literature on incubators should rely on the work of the most relevant authors who are in tune with recent literature, such as Brem A., Guerrero M., McAdam M., etc. (see Figure 9 below).

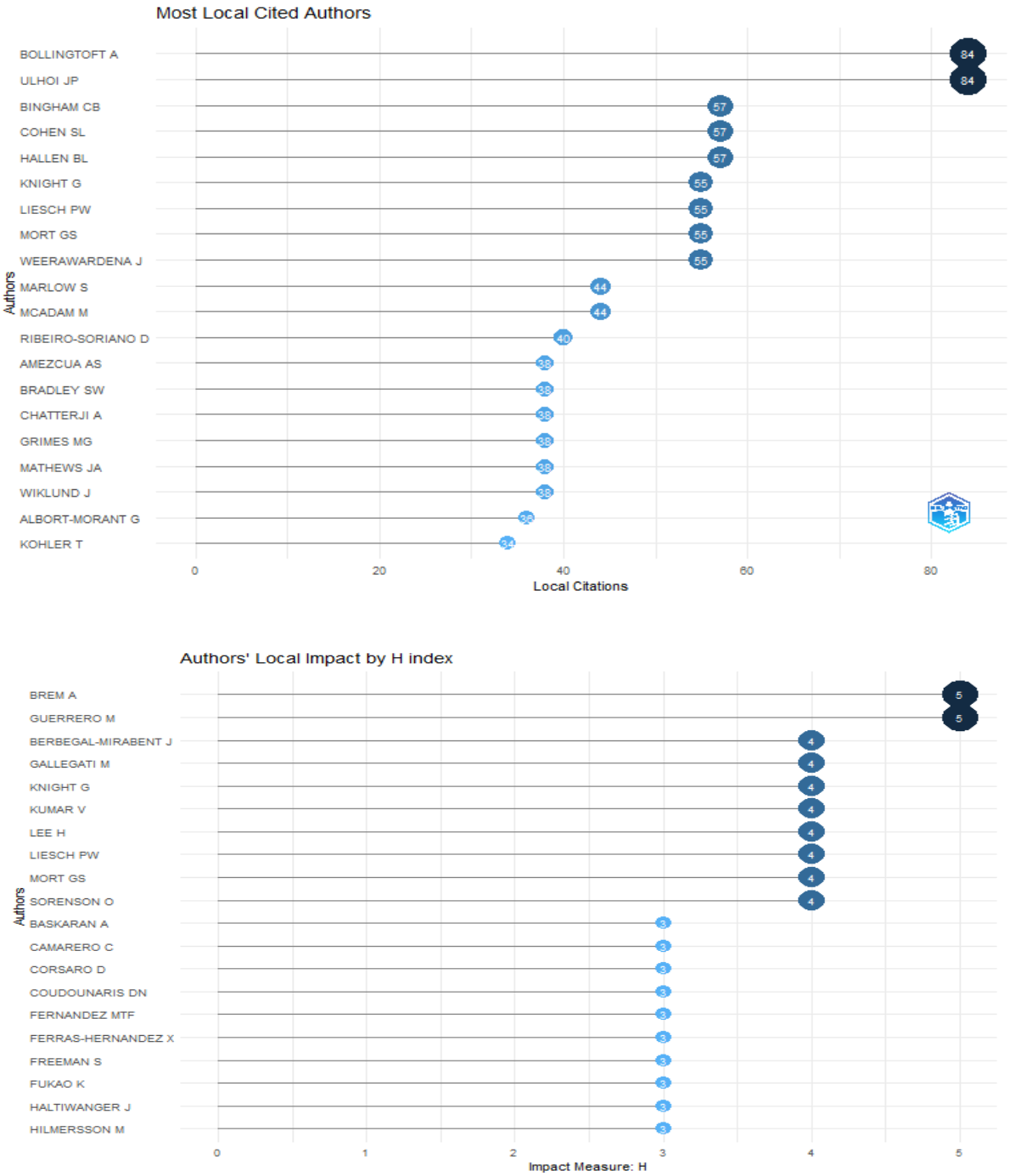
Figure 9. Most Relevant Authors vs Author Time Production



Source: author (extracted from bibliometrix)

Similarly, French research on incubators should draw on the works of locally highly cited authors and/or those with high local impact (see Figure 10 below) to make original and highly impactful contributions to global literature.

Figure 10. Authors with high local citations vs authors with high local impact



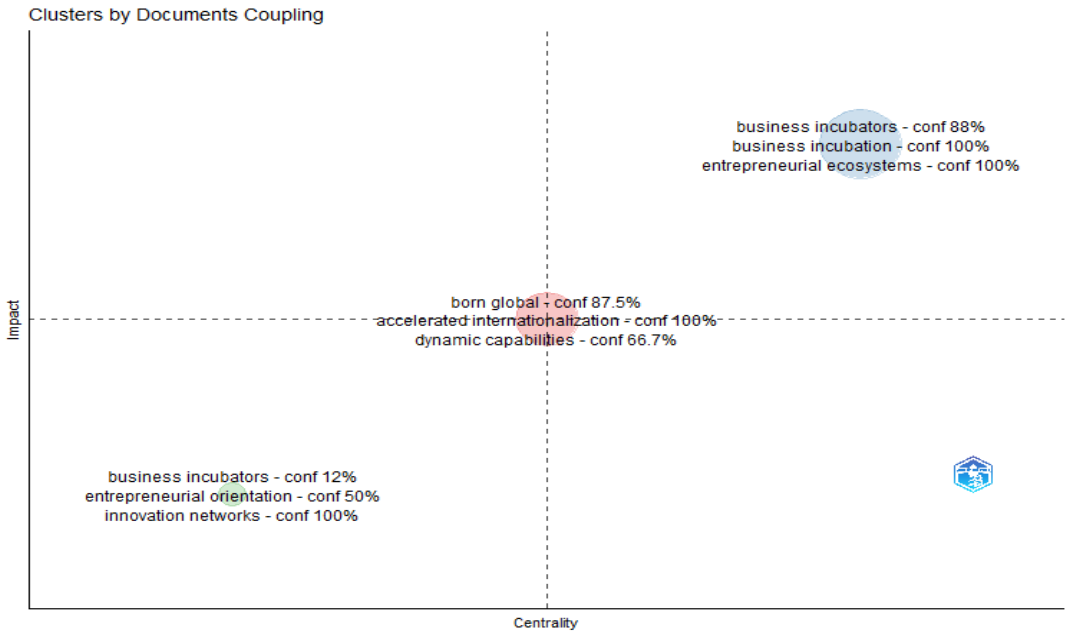
Source: author (extracted from bibliometrix)

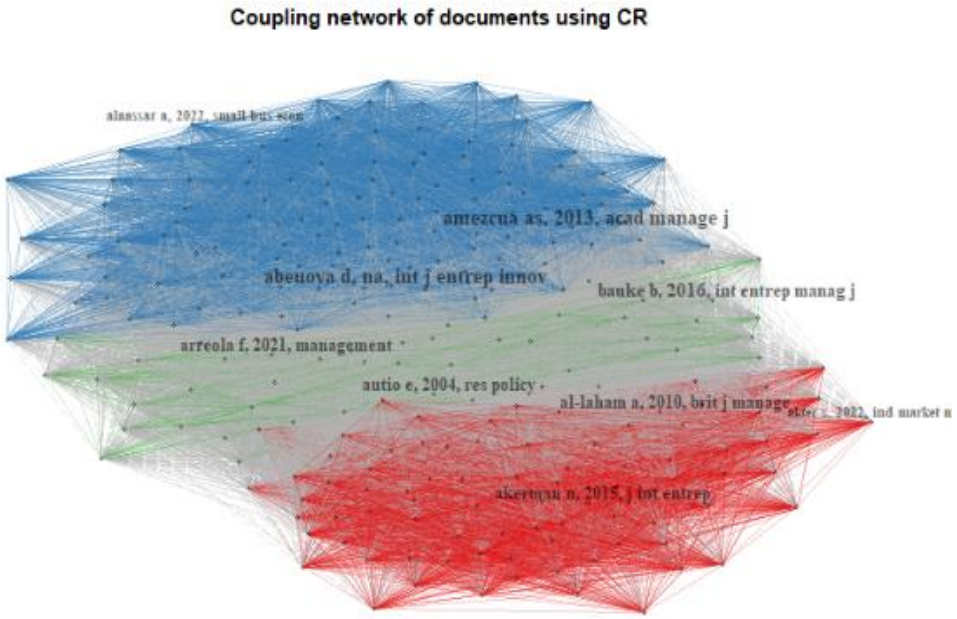
The analyses above have allowed us to understand that incubators within the French context are understudied. Similarly, the existing French literature has a low impact within the global literature on incubators. However, France has a dynamic entrepreneurial context in which public policies have given and still give a central place to incubators with the creation of the Allègre law incubators since the 2000s, the creation of '*Pôles Etudiants pour l'Innovation, le Transfert et l'Entrepreneuriat*' (PEPITE) in 2014 (Meige et al., 2019), and the recent desire of

the French Senate to continue to focus French entrepreneurial policy on incubators (Redon-Sarrazi and Paoli-Gagin, 2022). In addition, these incubators are among the key players in strong entrepreneurial ecosystems in certain regions of France such as Île-de-France and Occitania (Leendertse et al., 2021). As a result, the territory of the Occitania region is considered in this analysis as a relevant context in which a study of incubators should make it possible to understand the ins and outs of the activity of incubators in France and thus contribute to the global literature. These limitations of the literature within the French context are twinned with global literature on incubators which appears to be evolving and contextual. Therefore, a relevant contribution to this literature should involve identifying the research axes of the literature and their trends, to position the upcoming analyses on a topic in line with the theoretical and practical challenges of the current time towards which the literature is oriented.

To identify the research axes and thematic trends of the literature on incubators, in order to position the research theme of this thesis, a document coupling analysis (a grouping of articles according to the number of common references they have cited), co-occurrence of keywords (a grouping of articles according to the number of common keywords used), and thematic evolution (spreads the appearance of study themes over time) was conducted. The document coupling technique, which is based on common cited references (CR) between articles to segment the literature, showed that there are three angles of analysis for incubators (see Figure 11 and Tables 4 and 5).

Figure 11. Building blocks of incubators' literature (based on 2103 documents)





Source: author (extracted from bibliometrix)

Figure 11 presents the three clusters referencing the three approaches of incubators. The first cluster (in red), bringing together the key terms ‘born global’, ‘accelerated internationalization’ and ‘dynamic capabilities’, is a perspective that considers incubators as tools for accelerating the internationalization of tenants (emerging companies), in light of the dynamic capability theory (Casillas and Moreno-Menendez, 2014; Dzikowski, 2018; Freeman et al., 2010; Jones et al., 2011; Pla-Barber and Escriba-Esteve, 2006; Weerawardena et al., 2007).

The second cluster (in blue) includes the key phrases ‘business incubators’, ‘business incubation’ and ‘entrepreneurial ecosystems.’ This points to an approach which views incubators as intermediaries and their activities as interactional processes within the entrepreneurial ecosystem (Sa and Lee, 2012; Amezcua et al., 2013; Ebbers, 2014; Dutt et al., 2016; Roundy, 2017; Goswami et al., 2018; Messeghem et al., 2018; Theodoraki et al., 2018; van Rijnsoever, 2020; Hallen et al., 2020).

Lastly, the third cluster (in green) comprises the key phrases ‘business incubators’, ‘entrepreneurial orientation’ and ‘innovation networks.’ This refers to the perspective that sees the incubator as a tool for promoting entrepreneurial spirit and innovation networks (Arreola et

al., 2021; Cohen et al., 2019; Giudici et al., 2018; Prokop et al., 2019; Redondo and Camarero, 2022).

Table 4. The characteristics of the three lines of research on incubators

Label	Group	Freq	Centrality	Impact	Colour
born global – conf 87.5% accelerated internationalization – conf 100% dynamic capabilities – conf 66.7%	1	85	0.40	3.25	Red
business incubators – conf 88% business incubation – conf 100% entrepreneurial ecosystems – conf 100%	2	123	0.43	3.78	Blue
business incubators – conf 12% entrepreneurial orientation – conf 50% innovation networks – conf 100%	3	42	0.31	2.97	Green

Source: author (extracted from bibliometrix)

The analysis of the characteristics of the three approaches in Table 4 shows that the research angle, which considers incubators as tools for accelerating internationalization and enhancing the dynamic capabilities of tenants, has a moderate impact and attractiveness in the literature. This angle has an average frequency (85), average centrality (0.40), and average impact (3.25). The most impactful and attractive approach on incubators in the literature is the ecosystem and interactional approach. This latter presents a high frequency (123), strong centrality (0.43), and high impact (3.78). Finally, the least impactful and attractive perspective in the literature is the approach that views incubators as tools to promote entrepreneurial spirit and innovation networks. It presents a low frequency (42), low centrality (0.31), and low impact (2.97). A critical look at the years of publication of the 20 primary documents from each analysis angle (see Table 5) shows that in the last two decades, the literature has evolved from the approach that views incubators as tools to accelerate internationalization and strengthen the dynamic capabilities of tenants (with the earliest publication being Pla-Barber and Escriba-Esteve (2006), and the most recent ones being Dzikowski (2018), and Kriz and Welch (2018)) to the ecosystem and interactional approach (the earliest publication being Sa and Lee (2012), and the most recent Nicholls-Nixon and Valliere (2021)). The approach that views incubators as tools to promote the entrepreneurial spirit and innovation networks seems to mark the transition between the first two approaches. The earliest publication of this approach is Hughes, Hughes and Morgan (2007) and the most recent publication is Garcia-Lillo, Seva-Larrosa and Sanchez-Garcia (2023).

Table 5. The first 20 articles of each cluster

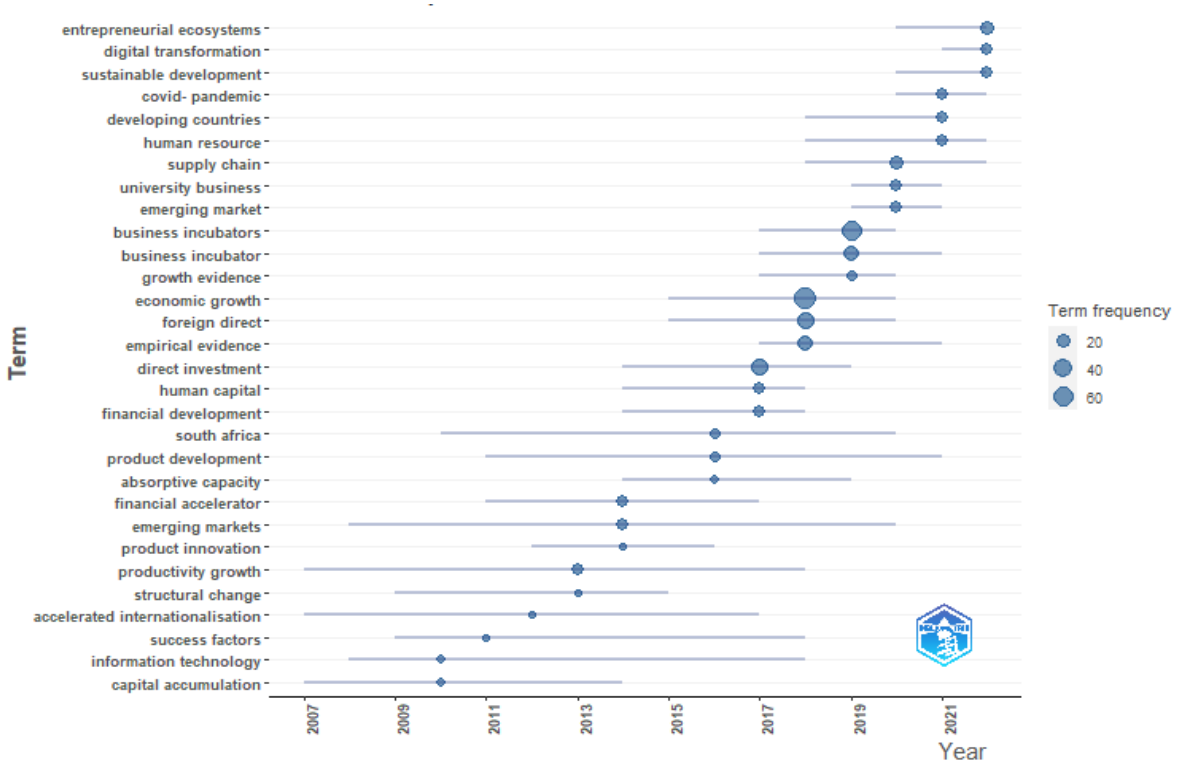
Cluster	Documents	Normalized Local Citation Score
1	(Weerawardena et al., 2007), J WORLD BUS	11.64
	(Jones, Coviello and Tang, 2011), J BUS VENTURING	11.41
	(Pla-Barber and Escriba-Esteve, 2006), 2006, INT MARKET REV	9.62
	(Casillas and Moreno-Menendez, 2014), J INT BUS STUD	6.94
	(Freeman et al., 2010), INT BUS REV	6.29
	(Li, 2010) J INT MANAG	5.03
	(Mathews and Zander, 2007), J INT BUS STUD	4.99
	(Chang and Rhee, 2011), J INT BUS STUD	4.15
	(Kalinic and Forza, 2012), INT BUS REV	3.7
	(Weerawardena et al., 2015), J ACAD MARKET SCI	3.59
	(Freeman and Cavusgil, 2007), J INT MARKETING	3.56
	(Hilmersson et al., 2017), J INT MARKETING	3.36
	(Yu et al., 2011), STRATEGIC MANAGE J	3.11
	(Dzikowski, 2018), J BUS RES	2.25
	(Zhou and Wu, 2010), STRATEGIC MANAGE J	1.89
	(Gammeltoft et al., 2012), EUR MANAG J	1.85
	(Kriz and Welch, 2018), J INT BUS STUD	1.68
	(Bangara et al., 2012), J WORLD BUS	1.39
	(Ripolles and Blesa, 2012), J WORLD BUS	1.39
	(Melia et al., 2010), SERV IND J	1.26
2	(Goswami, Mitchell and Bhagavatula, 2018), STRATEG ENTREP J	18.53
	(Hallen et al., 2020), ORGAN SCI	18.23
	(Amezcua et al., 2013), ACAD MANAGE J	16.89
	(Dutt et al., 2016), ACAD MANAGE J	14.43
	(Sa and Lee, 2012), R and D MANAGE	11.55
	(Clayton et al., 2018), ACAD MANAGE PERSPECT	11.23
	(Shankar and Shepherd, 2019), J BUS VENTURING	11.12
	(Battistella et al., 2017), EUR J INNOV MANAG	8.96
	(Ebbers, 2014), ENTREP THEORY PRACT	8.4
	(Patton, 2014), INT SMALL BUS J	6.94
	(van Rijnsoever, 2020), RES POLICY	6.31
	(Yang et al., 2020), J BUS VENTURING	6.31

	(Theodoraki, Messeghem and Rice, 2018), SMALL BUS ECON	6.18
	(Roundy, 2017), INT ENTREP MANAG J	6.16
	(Redondo and Camarero, 2019), INT ENTREP MANAG J	5.85
	(Messeghem et al., 2018), J SMALL BUS MANAGE	5.05
	(Yang et al., 2018), ENTREP RES J	5.05
	(Pandey et al., 2017), J SOC ENTREP	5.04
	(Nair and Blomquist, 2020), INT J ENTREP INNOV	4.91
	(Nicholls-Nixon and Valliere, 2021), INT ENTREP MANAG J	4.68
3	(Cohen et al., 2019), ADMIN SCI QUART	18.14
	(Giudici, Reinmoeller and Ravasi, 2018), ACAD MANAGE J	2.81
	(McDonald and Eisenhardt, 2020), ADMIN SCI QUART	2.81
	(Tracey et al., 2018), ACAD MANAGE J	2.25
	(Hutter et al., 2021), INT J INNOV MANAG	1.87
	(Lin et al., 2012), SERV IND J	1.85
	(Bustamante, 2019), J BUS RES	1.76
	(Fernandes et al., 2017), EUR J INNOV MANAG	1.68
	(Prokop et al., 2019), INT SMALL BUS J	1.17
	(Seet et al., 2018), ASIA PAC BUS REV	1.12
	(Wallin and Fuglsang, 2017), J SERV MANAGE	1.12
	(Del Sarto et al., 2022), REV MANAG SCI	1
	(Hutter et al., 2023), MANAGE DECIS	1
	(Garcia-Lillo et al., 2023), J BUS RES	0.98
	(Redondo et al., 2022), EUR J INNOV MANAG	0.97
	(Hughes et al., 2007), BRIT J MANAGE	0.95
	(Arreola et al., 2021), MANAGEMENT	0.94
	(Bustamante et al., 2021), GLOB STRATEG J	0.94
	(Del Sarto et al., 2021), SMALL BUS ECON	0.94
	(Eesley and Lee, 2021), STRATEGIC MANAGE J	0.94

Source: author (extracted from bibliometrix)

This analysis suggests that the literature on incubators has evolved over the past two decades. A more in-depth analysis of the thematic evolution of the literature shows that the ecosystem and interactional approach is the most recent development in the literature on incubators (see Figure 12 below).

Figure 12. Thematic evolution of the literature on incubators based on keywords co-occurrence over time



Source: author (extracted from bibliometrix)

The evolution of keyword co-occurrence confirms the current direction of incubator literature towards an ecosystem and interactional approach.

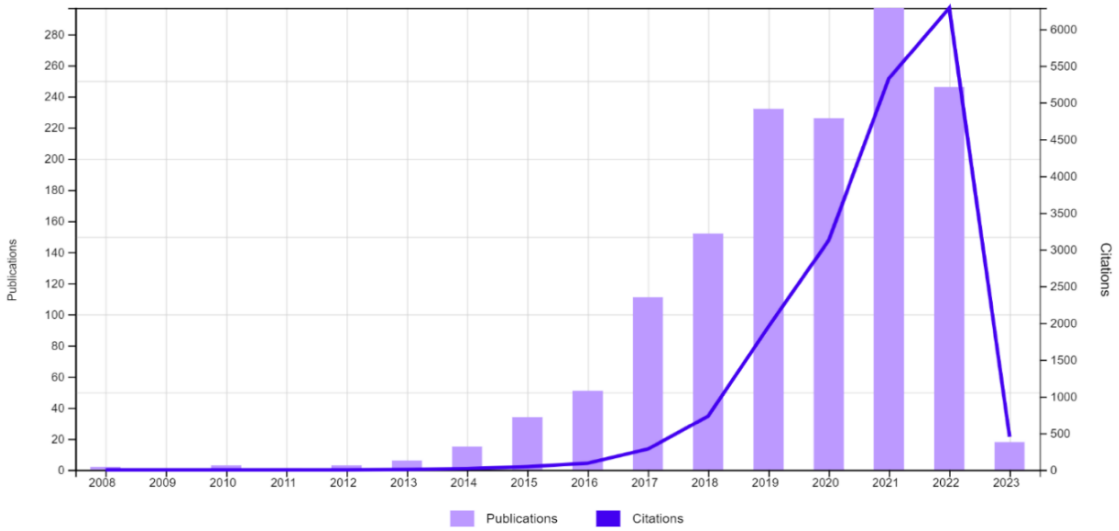
In summary, the bibliometric analysis shows that incubators' literature is evolving and is now leaning towards an entrepreneurial ecosystem approach. The entrepreneurial ecosystem approach is recent and little developed. While this angle of incubator analysis attracts a lot of researchers and has a significant impact on the literature, it deserves to be analysed in depth to understand its scope and limitations to propose research axes that should contribute to the consolidation of knowledge for the benefit of stakeholders in the entrepreneurial ecosystem in territories such as public policies, entrepreneurial support organizations, universities, industry, and civil society. Before reviewing the literature on the ecosystem approach to incubators, the following subsection presents the entrepreneurial ecosystem and the role of the incubators.

1.2.3. Entrepreneurial Ecosystem and Role of Incubators

The entrepreneurial ecosystem is one of the last fields of research in entrepreneurship that receives particular attention from both researchers and policy makers. Research on the entrepreneurial ecosystem has quickly benefited from the support of public policies given that it offers promising avenues for understanding the mechanism and dynamics of entrepreneurial

activity, a source of economic development and job creation in the territories (Audretsch et al., 2022; Wurth et al., 2022). Research on the entrepreneurial ecosystem took off in 2011 (Isenberg, 2011; Theodoraki and Messeghem, 2017) and has evolved exponentially to become today an essential 'Buzz Word' in the field of entrepreneurship as indicated by Figure 13.

Figure 13. Evolution of research on the entrepreneurial ecosystem



Source: web of science (consult 02/15/2023 with the keywords: 'entrepreneur* ecosystem*')

Several recent works have already conducted literature reviews on research regarding entrepreneurial ecosystems (Audretsch et al., 2022; Wurth et al., 2022). In this section, I will come back to the definition and composition of this concept to situate the place of incubators. The objective is to justify the relevance of the ecosystem approach in the study of incubators.

There are several definitions of the entrepreneurial ecosystem. This diversity of definition is linked to the evolution of the concept of an 'entrepreneurial ecosystem' due to the enrichment of the literature over time. Table 6 below shows the definitions listed in the literature by Malecki (2018, p. 6) supplemented by more recent definitions.

Table 6. Definitions of the entrepreneurial ecosystem

Auteurs	Definition
Cohen (2006)	Sustainable entrepreneurial ecosystems are defined as an interconnected group of actors in a local geographic community committed to sustainable development through the support and facilitation of new sustainable ventures. (p. 3)
Isenberg (2010)	The entrepreneurship ecosystem consists of a set of individual elements – such as leadership, culture, capital markets, and open-minded customers – that combine in complex ways. (p. 43) Ignoring the interconnected nature of the ecosystem elements can lead to perverse outcomes. (p. 50)
Isenberg (2011)	This entrepreneurship ecosystem consists of a dozen or so elements (which we consolidate into six domains for convenience's sake; see the diagram) that, although they are idiosyncratic because they interact in very complex ways, are always present if entrepreneurship is self-sustaining. So, although the combinations are always unique, in order for there to be self-sustaining entrepreneurship, you need conducive policy, markets, capital, human skills, culture, and supports. (p. 6)
Feld (2012)	The Boulder thesis states that a prosperous ecosystem has four characteristics: (a) it is led by entrepreneurs; (b) it is inclusive where everyone is welcomed; (c) the involved people are committed long term (at least 20 years) to the ecosystem; and (d) there are many opportunities for gathering, that is, a lot of events. (p. 25–28)
Isenberg (2014)	By definition an ecosystem is a dynamic, self-regulating network of many different types of actors. In every entrepreneurship hotspot, there are important connectors and influencers who may not be entrepreneurs themselves.
Mason and Brown (2014)	A set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organizations (e.g., firms, venture capitalists, business angels, and banks), institutions (universities, public sector agencies, and financial bodies), and entrepreneurial processes (e.g., the business birth rate, numbers of high growth firms, levels of 'blockbuster entrepreneurship', number of serial entrepreneurs, degree of sell-out mentality within firms, and levels of entrepreneurial ambition) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment. (p. 9)
Stam (2015)	A set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship (p. 1765) The entrepreneurial ecosystem concept emphasizes that entrepreneurship takes place in a community of interdependent actors. (p. 1761) The systemic conditions are the heart of the ecosystem: networks of entrepreneurs, leadership, finance, talent, knowledge, and support services. The presence of these elements and the interaction between them predominantly determine the success of the ecosystem. (p. 1766)
Cukier et al. (2016)	We define a start-up ecosystem as a 'limited region within 30 miles (or 1-hr travel) range, formed by people, their start-ups, and various types of supporting organizations, interacting as a complex system to create new start-up companies and evolve the existing ones'. (p. 1)
Mack and Mayer (2016)	EE are defined as the interacting components of entrepreneurial systems, which foster new firm creation in a specific regional context. (p. 2120)
Audretsch and Belitski (2017)	We define systems of entrepreneurship (further ecosystem) as institutional and organizational as well as other systemic factors that interact and influence identification and commercialization of entrepreneurial opportunities. (p. 2)
Gauthier, Penzel, and Marmer (2017)	We defined ecosystems … around the concept of a shared pool of resources generally located within a 60-mile (100-km) radius around a center point. (p. 24)
Roundy, Brockman, and Bradshaw (2017)	Communities of agents, social structures, institutions, and cultural values that produce entrepreneurial activity (p. 99)

Spigel (2017)	Entrepreneurial ecosystems … are the union of localized cultural outlooks, social networks, investment capital, universities, and active economic policies that create environments supportive of innovation-based ventures. (p. 49) Entrepreneurial ecosystems are combinations of social, political, economic, and cultural elements within a region that support the development and growth of innovative start-ups and encourage nascent entrepreneurs and other actors to take the risks of starting, funding, and otherwise assisting high-risk ventures. (p. 50)
Theodoraki and Messeghem (2017)	The entrepreneurial ecosystem includes three dimensions: actors who form it and their interactions (formal and informal network), physical infrastructure, and culture. (p. 50) The entrepreneurial ecosystem may be described as a generic context aiming to foster entrepreneurship within a given territory. …. Therefore, it consists of a horizontal network (customers and providers) and a vertical network (competitors and complementors). …. It also includes organizations supporting entrepreneurs: public or private funding agencies (banks, business angels, venture-capital, etc.); support entities (business incubators, consultants, etc.); research organizations (research centers, laboratories, etc.); and businesses' consortiums (active businesses, associations, and trade unions, etc.). (p. 56) The entrepreneurial ecosystem seems to be composed of both physical and non-physical elements. The latter includes elements such as regulation and entrepreneurial culture, which are, for instance, connected to geographic specificities. (p. 57)
Roundy, Bradshaw and Brockman (2018)	An entrepreneurial ecosystem is a self-organized, adaptive, and geographically bounded community of complex agents operating at multiple, aggregated levels, whose non-linear interactions result in the patterns of activities through which new ventures form and dissolve over time. (p. 5)
Audretsch, Cruz and Torres (2022)	An entrepreneurial ecosystem consists of the set of complementary factors required to start a business with the potential to scale up and innovate in a particular geographic space. (abstract) An entrepreneurial ecosystem characterizes the spatial organization, structure, configuration, and interactions of organizations, firms, institutions, and individuals at a specific geographic place that is conducive to entrepreneurship. (p. 1) A set of interdependent actors and factors that are governed in such a way that they enable productive entrepreneurship in a particular territory. (p. 1) There are four key elements to an entrepreneurial ecosystem: functions, actors, interactions (spatial dimension), and impact. Taken together, these elements comprise an entrepreneurial ecosystem, with the explicit goal of spurring entrepreneurship as a means for enhancing spatial economic performance. (p. 14)

Source: adapted from Malecki (2018)

This diversity of definitions shows that despite its growing popularity, the entrepreneurial ecosystem remains a vaguely defined concept (Stam and Van De Ven, 2019). However, the latest work shows that the ecosystem is defined around four elements (see table 7): functions, actors, interactions, and impacts (Audretsch et al., 2022).

Table 7. Constituents of entrepreneurial ecosystem definition

Items	Constituents	References
Functions: main influences and underlying forces (resources) conductive to or impeding entrepreneurship, the drivers of demand of these resources, and the barriers of resource endowments	**Resources:** Physical capital, human capital, knowledge, infrastructure, and output **Drivers:** Market **Barriers:** finance, regulations, and culture	Theodoraki, Messeghem and Rice (2018) Audretsch, Marcio and Torres (2022) Isenberg (2011) Stam (2015) Gauthier, Penzel, and Marmer (2017)
Actors: a form in which factors and resources, along with institutions and culture are delivered.	Actors, organizations, firms, institutions, policies, public programs, and intermediary organizations, support organizations/incubators	Cohen (2006) Isenberg (2011) Isenberg (2014) Mason and Brown (2014) Stam (2015) Theodoraki and Messeghem (2017) Audretsch, Cruz and Torres (2022)
Interaction: provide the source of spatially localized increasing returns or knowledge externalities	Collaboration, contract, cooperation, competition, resources flow across space, knowledge spills over	Isenberg (2014) Mason and Brown (2014) Stam (2015) Mack and Mayer (2016) Audretsch and Belitski (2017) Theodoraki and Messeghem (2017) Roundy, Bradshaw and Brockman (2018) Audretsch, Cruz and Torres (2022)
Impact: outcomes of the systemic interaction of entrepreneurial ecosystem actors and factors	Productive entrepreneurship, entrepreneurial activity, regional economic and societal performance, start-up creation and growth, innovation	Spigel (2017) Roundy, Bradshaw and Brockman (2018) Leendertse, Schrijvers and Stam (2021) Stam and Van de Ven (2021) Audretsch, Cruz and Torres (2022)

Source: author, inspired by Audretsch et al. (2022)

According to the characteristics (functions, actors, and impact) of entrepreneurial ecosystems (Table 7), this thesis retains the definition of Roundy et al. (2018, P. 5) by considering the entrepreneurial ecosystem as "*a self-organized, adaptive, and geographically bounded community of complex agents operating at multiple, aggregated levels, whose non-linear interactions result in the patterns of activities through which new ventures form and dissolve over time*." In the literature, the incubator is considered as a supporting actor who functions as an intermediary to facilitate the circulation and endowment of resources within the entrepreneurial ecosystem to encourage the creation and growth of business projects and start-ups which are its tenants (Isenberg, 2011; Stam, 2015; Spigel, 2017; Audretsch, et al., 2022).

Business incubators, as intermediaries within the entrepreneurial ecosystem, serve as crucial actors that connect various elements and facilitate the interdependent dynamics among them. The entrepreneurial ecosystem literature, such as Cohen (2006), Isenberg (2011), and Theodoraki and Messeghem (2017), highlights the importance of these actors in fostering

entrepreneurship. They enable the critical functions, interactions, and impacts that ultimately contribute to entrepreneurial activity and regional economic and societal performance.

Functionally, incubators offer resources like physical capital, human capital, knowledge, and infrastructure, thereby addressing the barriers that might impede entrepreneurship (Theodoraki et al., 2018). By doing so, they allow the ecosystem's drivers, such as market demands, to flourish. Furthermore, they can reduce barriers, such as financial constraints and regulatory hurdles, by providing entrepreneurs with access to funding sources and guidance on navigating legislative requirements.

In terms of interaction, incubators serve as platforms for collaboration, cooperation, and competition, enabling knowledge spillover and resources flow across space (Isenberg, 2014; Mason and Brown, 2014; Stam, 2015). This role is significant as the entrepreneurial ecosystem concept 'emphasizes that entrepreneurship takes place in a community of interdependent actors' (Stam, 2015, p. 1761). Hence, the incubators' role is crucial in bringing together diverse elements, facilitating interaction, and mediating the complex dynamics within the ecosystem.

As a result, the impact of incubators on the entrepreneurial ecosystem is substantial. They directly contribute to productive entrepreneurship, venture creation, and growth, and indirectly to regional economic and societal performance (Audretsch et al., 2022; Spigel, 2017). Incubators, as indicated by Stam and Van de Ven (2021), influence patterns of entrepreneurial activity through time, helping ventures form and dissolve.

What is less considered and analysed are the concomitant effects of an entrepreneurial ecosystem on each of the individual components, ranging from actors to organizations, institutions, firms and individuals (Audretsch et al., 2022). In fact, studying incubators and their interactions within the entrepreneurial ecosystem is thus highly relevant. It should provide valuable insights into how entrepreneurship is fostered and how ecosystems should be designed to encourage productive entrepreneurship. More importantly, it can inform policy and program design to create more supportive ecosystems for entrepreneurship, innovation, and economic growth.

The incubator and its processes form a part of the entrepreneurial ecosystem (Isenberg, 2011; Spigel, 2017; Theodoraki and Messeghem, 2017). Existing literature has demonstrated the relevance of the ecosystem approach in analysing incubator processes (Giudici et al., 2018; Cumming et al., 2019; Theodoraki, 2020; Hernández-Chea et al., 2021). Theodoraki's thesis defended in 2017 laid the foundations for the relevance of the ecosystem approach in the analysis of incubators (Theodoraki, 2017). The first contribution of her work was the

highlighting of the different levels (Micro, Meso and Macro) of the entrepreneurial ecosystem (Theodoraki and Messeghem, 2017). She demonstrates that what happens within the incubator should be analysed as the micro level of an entrepreneurial ecosystem. The interaction between the different actors of the entrepreneurial support ecosystem, including the incubator, represents the meso level of the entrepreneurial ecosystem. Finally, the Macro level includes interactions between multiple ecosystems. In this configuration, the incubator is presented as a core of the entrepreneurial ecosystem.

By analysing in a holistic way, the strategy of the incubator within the entrepreneurial ecosystem, Theodoraki and Messeghem (2020) show that in the phase of selection (preincubation) the interaction between the incubator and the other actors is made of a high competition and less cooperation. Conversely, in the downstream phases (incubation and post-incubation) the interactions are made of high cooperation and less competition. The underlying idea of this second contribution is that the incubator does not operate in autarky but depends on and interacts with actors and factors in the meso and macro level of the entrepreneurial ecosystem. This central position of the incubator within the entrepreneurial ecosystem is also defended by Spigel (2017) as well as Goswami et al. (2018) who present it as an intermediary at the meso level allowing networking between tenants and other actors in the entrepreneurial ecosystem.

Thus, the ecosystem perspective has the advantage of enabling the analysis of phenomena related to an organization (for instance, the activity of incubators), considering both internal determinants (specific to the organization) and external determinants linked to ecosystem specificities (Wurth et al., 2022). For this reason, this thesis uses the entrepreneurial ecosystem approach to study the activity of incubators. In the following section, a systematic literature review is conducted on the entrepreneurial ecosystem approach in the analysis of incubators. This allowed for an assessment of the current state of knowledge on this novel approach to studying incubators and identified gaps that led to the research problem for the thesis.

1.3. The Ecosystem View of Incubators: Challenges of the Preincubation and performance

A systematic literature review (SLR) was conducted to take stock of knowledge concerning incubator studies in the entrepreneurial ecosystem. To conduct this SLR, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 process (Page et al., 2021) was adopted and adapted by excluding the steps concerning intervention studies and meta-analysis (see the table 8 below). The PRISMA generic framework, which has become the

reference in academic research as evidenced by its wide use (Kar and Harichandan, 2022; Kumari et al., 2022).

Table 8. Systematic literature review approach

Step in PRISMA 2020	Description of actions taken	Outcome
Eligibility criteria	Be part of the dataset used for the bibliometric analysis be part of the literature regarding business incubators in the broader sense (entrepreneurial support organizations)	2103
Information sources	WOS database from 2003 to 2023: list of documents in the specific cluster 2 (business incubators, business incubation, and entrepreneurial ecosystems) revealed by documents coupling in the bibliometric analysis.	123
Search strategy	Search titles, keywords, and abstracts with keywords of the table 3 above	123
Selection process	Visual screening of documents: studies of incubators within ecosystems	40
Data collection process	Data was collected and recorded using Microsoft Excel. The results were discussed by the thesis supervisors iteratively until a consensus was reached.	-
Data items	Research purposes, methods, main findings, entrepreneurial ecosystem actors in interaction, limits, and research avenues (with precision of the phases of incubators' activity studied: preincubation, incubation, and post-incubation)	-
Study risk of bias assessment	Risk of bias exists in the study since the SLR can be influenced by the subjective interpretation of the reviewers. However, the risks were mitigated by the fact that reviews were discussed collegially by the thesis' supervisors. The supervisors came from two complementary expertise thereby reducing subject matter bias: i) Entrepreneurial ecosystem and entrepreneurial support organizations, and ii) larger socio-economic systems management.	-
Effect measures	Not relevant to this study since we simply extract what is already presented in the documents, with no quantitative dimension.	-
Synthesis methods	The results are presented in tabular form and through a visual representation of the subset of the entrepreneurial ecosystem.	Appendix 1.1
Reporting bias assessment	Risk of reporting bias exists in our data since we restricted our analysis to documents forming the single specific thematic cluster. To mitigate this bias, I performed a search on the other clusters, Google Scholar, and Scopus for any relevant documents I may have missed that could add a new data item to our results. I find 12 additional articles	12
Certainty assessment	Results are validated by the two thesis supervisors.	-
Total of papers reviewed		52

Source: adapted from Page et al. (2021)

A reading grid has been developed to synthesize the literature (see Appendix 1.1). This reading grid has made it possible to take stock of knowledge on the main phases of incubator activity: preincubation, incubation and post-incubation. It also made it possible to conduct a critical review of the literature to raise its gaps and propose the main line of research on which the thesis focused.

1.3.1. Preincubation

The preincubation process within the entrepreneurial ecosystem, as suggested by the existing literature, is a crucial phase that involves strategic decision-making, prospective sense-making, and the identification and evaluation of potential tenants (Friesl et al., 2019; Prexl et al., 2019; Roundy, 2017; Guerrero et al., 2017; Lindelöf and Hellberg, 2023). Activities during this phase include scouting potential tenants at universities and start-up events, evaluating their business plans and models, providing recruitment and support for sustainability-oriented incubators, and securing tenant inflow for sustainable incubators through regional and inter-regional cooperation (Bank and Kanda, 2016; Bank et al., 2017). These activities are influenced by a range of factors such as the size and specialization of incubators, the local context, available resources, university entrepreneurial ecosystems, and current societal and economic circumstances (Klofsten et al., 2020; Bank and Kanda, 2016; Prokop, 2021; Huggins and Thompson, 2022). Further, the literature highlights the significant part of pre-acceleration programs, described as early-stage entrepreneurship support organizations with a focus on education (Merguei and Costa, 2022). The sourcing of entrepreneurs and new ventures during this phase is seen as key to enhancing performance outcomes and innovativeness of corporate business incubators and corporate accelerators respectively (Eldering et al., 2023; Bettenmann, 2023). The role of institutional logic is also critical, suggesting that entrepreneurial ecosystems are guided by entrepreneurial-market and community logic (Roundy, 2017). Similarly, institutional changes and reforms can impact the selection process of start-ups by venture accelerators, suggesting improvements in perceived value (Assenova, 2021). Moreover, studies have emphasized the importance of coachability, collaboration, and passion in selecting tenants for accelerators, reducing information asymmetry, and signalling noise for investors (Beyhan et al., 2021). The organizational architecture of entrepreneurial universities is also proposed to support all stages of entrepreneurship (Cunningham et al., 2022).

However, the generalizability of these findings is often limited due to the studies being context-specific, focusing on particular countries, institutions, and based on specific samples

such as specific incubators or universities (Friesl et al., 2019; Guerrero et al., 2017; Bank and Kanda, 2016; Bank et al., 2017; Prokop, 2021; Eldering et al., 2023; Bettenmann, 2023). Some studies also lack empirical data or case studies and are based on theoretical models or literature reviews, which may not fully capture the dynamic nature of the preincubation process (van Rijnsoever, 2022; Roundy, 2017). The scope of current literature on the preincubation process within the entrepreneurial ecosystem provides important insights into various aspects. Yet, further research is needed to increase understanding in different contexts, explore more diverse and extensive samples, different types of incubators and universities, other regions or countries, and long-term impacts, and to empirically validate the relationships proposed in theoretical studies (Bank and Kanda, 2016; Bank et al., 2017; Prokop, 2021; Huggins and Thompson, 2022; Merguei and Costa, 2022; Eldering et al., 2023; Bettenmann, 2023; van Rijnsoever, 2022).

1.3.2. Incubation

Incubation processes within entrepreneurial ecosystems constitute a complex, evolutionary dynamics, involving a broad array of ecosystem actors such as tenants, incubators, accelerators, universities, governmental and non-governmental entities (Lindelöf and Hellberg, 2023; Roundy, 2017; Guerrero et al., 2017). These actors play diverse roles, including hosting and participating within incubators, and implementing strategies that foster tenants' development (ventures). They also play pivotal roles as intermediary organizations by connecting, developing, coordinating, and selecting stakeholders and tenants (Goswami et al., 2018; Shankar and Shepherd, 2019; Yang et al., 2018). The influence of several factors such as cultural forces, institutional logic, relational dynamics within networked business incubators, and universities and their business incubators significantly shape the incubation processes (Roundy, 2017; Guerrero et al., 2017; Apa et al., 2017).

The scope of the studies includes the complex dynamics within the entrepreneurial ecosystem encompassing incubation processes. It broadly covers the investigation of relationships within the incubator, the emergence of collaboration and innovation, the influence of Technology Business Incubators (TBIs), legitimization of accelerators, participation of diverse entrepreneurs, the impact of cultural and institutional forces, the role of universities and their business incubators, and the relational dynamics within networked business incubators (Clayton et al., 2018; David-West et al., 2018; Roundy, 2017; Guerrero et al., 2017; Apa et al., 2017).

Current research is context-specific, often focusing on specific sectors, regions, or incubator/accelerator programs. The limited geographic scope and the dominance of single case studies reduce the generalizability of findings (Lindelöf and Hellberg, 2023; Roundy, 2017; Guerrero et al., 2017; Apa et al., 2017). Additional limitations include restricted bibliometric analysis, interpretative nature of literature studies, and non-representative sample sizes. Lastly, there is an underrepresentation of studies from certain regions (David-West et al., 2018). Future research should consider a broader geographic and institutional scope and testing of theorized relationships. Other research avenues encompass investigating the incubation process evolution, the impact of various ecosystem elements on the tenant's development, the role of accelerators in different entrepreneurial ecosystems, the influence of cultural and institutional forces, the examination of the role of incubator management, and understanding the correlation between collaborative relationships and innovation within incubators (Apa et al., 2017; Guerrero et al., 2017; Breznitz and Zhang, 2019; Qin et al., 2019; Sedita et al., 2019; Shankar and Shepherd, 2019).

1.3.3. Post-Incubation

Post-incubation phase of incubators' activity within entrepreneurial ecosystems signifies a crucial phase in the entrepreneurship life cycle, involving diverse actors such as tenants, incubators, accelerators, universities, governmental and non-governmental entities (Lindelöf and Hellberg, 2023; Tritoasmoro et al., 2022; Cunningham et al., 2022; Hillemane et al., 2019; Prexl et al., 2019; Clayton et al., 2018; Roundy, 2017). These entities have varying roles and effects on tenants' survival and growth at the post-incubation phase, presenting a complex ecosystem affected by several factors, such as formal organizational structures, and cultural forces (Tritoasmoro et al., 2022; Cunningham et al., 2022; Roundy, 2017). Moreover, incubation processes are viewed as an evolutionary trajectory marked by preincubation, incubation, and post-incubation phases, with an increasing focus on the post-incubation process for long-term sustainability and success of tenants (Lindelöf and Hellberg, 2023; Hillemane et al., 2019).

The scope of the studies encompasses a wide range of aspects related to the activity of post-incubation phase within entrepreneurial ecosystems, such as the influence of formal organisational structures in entrepreneurial universities, the development of a conceptual framework explaining Technology Business Incubators' (TBIs) contribution to the tenants'

generation, and the examination of cultural forces in entrepreneurial ecosystems (Lindelöf and Hellberg, 2023; Cunningham et al., 2022; Hillemane et al., 2019; Roundy, 2017).

1.3.4. Incubators' performance

Incubators' performance constitutes a critical measure of the effectiveness and efficiency with which these entrepreneurial support organisations fulfil their primary objectives of nurturing and supporting their tenants (business projects and start-ups). This concept extends beyond the mere successful development and graduation of incubator tenants, encompassing a broader influence on the entrepreneurial ecosystem (Barbero et al., 2012). The performance indicators of incubators are diverse, encompassing the rate of successful tenant launches, the sustainability and growth of tenants, and the richness and effectiveness of support services such as mentorship, networking opportunities, and access to capital (Messeghem et al., 2018). Furthermore, tenants' degree of innovation and market impact, along with their collective contribution to regional economic development and job creation, are integral aspects of performance (Audretsch et al., 2008). Incubator performance also involves internal operational efficiency, stakeholder satisfaction, and the alignment of incubator outcomes with strategic objectives (Allen and McCluskey, 1991).

This comprehensive definition recognises that incubator performance is not a unidimensional construct but rather an amalgamation of tangible outcomes, including the success rates of tenants and qualitative measures such as service quality and the impact on the entrepreneurial ecosystem. It underscores the importance of evaluating an incubator's success beyond immediate outputs, emphasising long-term, sustainable contributions to the entrepreneurial ecosystem and the broader economy.

In examining incubators within the entrepreneurial support system (incubator), mainly focusing on the preincubation phase, a complex interplay is revealed among managerial capabilities, performance metrics, structural policies, and their influence on entrepreneurial activities. Notwithstanding the insightful contributions in this field, notable gaps exist within the current literature.

The research of Maus and Sammut (2023) highlights the critical importance of dynamic managerial capabilities in incubation contexts, advocating for a partnership-oriented approach. This is a crucial perspective within the entrepreneurial ecosystem framework, highlighting the need for cooperative management practices (Theodoraki and Messeghem, 2020). However, the literature tends to overlook the specific impacts of these capabilities during the preincubation

phase. Investigations by Vedel and Stéphany (2011) and Messeghem et al. (2018) concentrate on developing performance indicators for incubators. Their scholarly efforts point to the necessity for robust and standardised metrics to gauge incubator efficacy, particularly in the preincubation stage. However, a scholarly consensus on what constitutes effective performance indicators at this stage is lacking. Allen and McCluskey (1991) extensively explore the structural, policy, and service dimensions of business incubators, laying a foundational understanding of these aspects. Nevertheless, the evolution and adaptation of these components within the preincubation phase remain under-explored in the academic domain. The significant role of incubators in enhancing entrepreneurial success and promoting knowledge diffusion is accentuated in the works of Audretsch et al. (2008) and Ayatse et al. (2017). However, focused research on the specific manifestations of this impact during the preincubation phase is scarce. Additionally, Barbero et al. (2012) and Nicholls-Nixon and Valliere (2021) address the variability in incubator types and strategies, suggesting that incubator outcomes are contingent upon these factors. Despite this recognition, there is a notable gap in the literature regarding in-depth examinations of how different incubator models function and perform during the early, critical stages of preincubation.

While the scholarly exploration of the ecosystem approach to incubators, particularly through the lens of the preincubation phase, offers valuable insights into various aspects of incubator management and performance, it concurrently reveals shortcomings. These include limited investigations into the specific aspects of dynamic managerial capabilities tailored to preincubation, the development of standardised performance metrics for the preincubation stage, a comprehensive scrutiny of the evolution of structural and policy frameworks in the preincubation context, and a profound understanding of the distinct impacts exerted by various incubator models at this critical juncture. These identified gaps in the literature signal urgent opportunities for more focused research endeavours to enhance the understanding and effectiveness of incubators in their pivotal role in fostering emerging entrepreneurial ventures during the preincubation phases.

1.3.5. Research program of preincubation processes within an entrepreneurial ecosystem

Studies of incubators within entrepreneurial ecosystems present several limitations, including the geographic and institutional specificity of the research, a lack of empirical testing in conceptual studies, limited sample sizes in quantitative analysis, and a sole focus on specific types of tenants or incubators (Roundy, 2017; Clayton et al., 2018; Hillemane et al., 2019; Prexl

et al., 2019; Cunningham et al., 2022; Tritoasmoro et al., 2022; Lindelöf and Hellberg, 2023). Future research can include the empirical testing of conceptual frameworks, investigation into additional factors influencing post-incubation success, exploration of a wider variety of incubators and tenants, and the study of underrepresented geographical and institutional contexts (Roundy, 2017; Clayton et al., 2018; Hillemane et al., 2019; Prexl et al., 2019; Cunningham et al., 2022; Tritoasmoro et al., 2022; Lindelöf and Hellberg, 2023).

Preincubation processes within entrepreneurial ecosystems lay the foundation for successful incubation and post-incubation outcomes (Etzkowitz, 2002; Vedel and Stéphany, 2011), providing crucial resources, mentorship, and support for nascent entrepreneurs and tenants (Hillemane et al., 2019; Prexl et al., 2019). Existing literature underscores the significance of understanding and theorising these processes for several stakeholders, including incubators, tenants, and policymakers. For incubators, focusing on preincubation processes can help optimise the selection and support mechanisms for tenants, improving the effectiveness of the incubation process (Vedel and Stéphany, 2011; Prexl et al., 2019). Prexl and colleagues (2019) identified differences among accelerators (a type of incubator) in their strategies, design elements, and processes, emphasising the need for a nuanced understanding of preincubation processes to shape long-term incubator strategy.

In practice, a structured understanding of preincubation is an urgent need for incubators, given the challenge to deal with the steady flow of tenants in the later years (Bank et al., 2017). For tenants, preincubation support is critical for mitigating early-stage risks and challenges, enabling them to develop robust business models, validate their value propositions, and prepare for growth and scalability (Voisey et al., 2013; Hillemane et al., 2019). Hillemane and colleagues (2019) proposed a conceptual framework encompassing preincubation, incubation, and post-incubation stages, suggesting that emphasis on preincubation processes can enhance technology business incubators' productivity and success rates. Policymakers also stand to gain from a deeper understanding of preincubation processes. Policies aimed at strengthening entrepreneurial ecosystems can be better informed and more effectively targeted when the dynamics and requirements of preincubation are fully considered (Cunningham et al., 2022; Clayton et al., 2018). For example, Cunningham et al. (2022) discussed the role of formal organisational structures in entrepreneurial universities in supporting entrepreneurs across different stages, including preincubation, indicating potential policy directions for fostering university-based entrepreneurship. Similarly, Clayton et al. (2018) highlighted the role of

intermediary organisations in advancing the commercialisation of science, suggesting potential policy implications for supporting these organisations in the preincubation phase.

In fact, studying and theorising preincubation processes within entrepreneurial ecosystems can significantly enhance the effectiveness of incubation and post-incubation outcomes, presenting valuable insights for incubators, tenants, and policymakers. Indeed, understanding these processes should allow the identification and selection of a steady flow of tenants in volume (Bank et al., 2017) with the potential for success during incubation and post-incubation (Etzkowitz, 2002; Vedel and Stéphany, 2011). This would boost business creation and growth, leading to job creation and economic growth in the territories (Messeghem et al., 2018). Future research can further explore preincubation dynamics, challenges, and opportunities, contributing to a more holistic and nuanced understanding of entrepreneurial ecosystems.

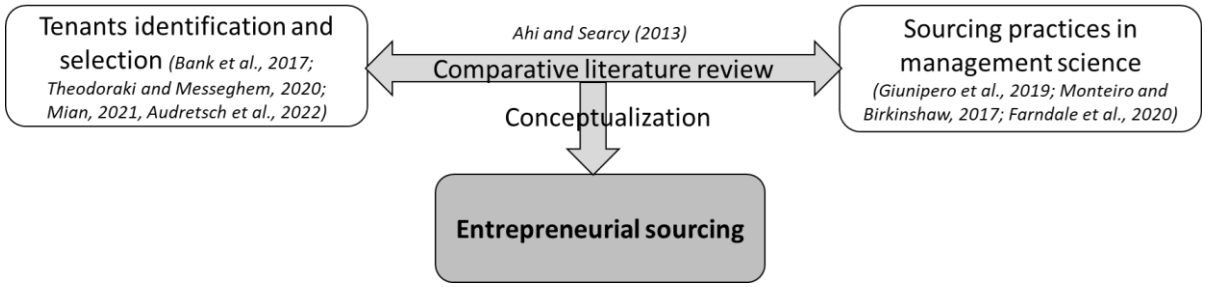
1.4. Preincubation Processes Within Entrepreneurial Ecosystem: Towards Entrepreneurial Sourcing Within Preincubation Ecosystem

The following subsections present, respectively, the theoretical conceptualisation of entrepreneurial sourcing, the context of the preincubation ecosystem within which entrepreneurial sourcing takes place and a critical look at the limits of the theoretical framework of entrepreneurial sourcing, which will be subjects of in-depth analysis in the body of the thesis.

1.4.1. Identification and selection of tenants: towards entrepreneurial sourcing

A critical literature review shows that preincubation processes, particularly the identification and selection of tenants, can be conceptualised as entrepreneurial sourcing. Indeed, a comparative literature review between the upstream activity of identifying and selecting tenants (preincubation) and the sourcing practices already studied in the management literature (see Figure 14 below) has revealed similarities.

Figure 14. Conceptualization of Entrepreneurial Sourcing



Source: author

Several studies implicitly show a more active role of incubators aiming to germinate potential tenants before selection (Bank and Kanda, 2016; Bank et al., 2017). Incubators have a porous organisational structure through associations with schools/universities, public policy organisations, and research labs, etc. (Bank and Kanda, 2016; Bank et al., 2017). These incubators also develop collaborative partnerships with other actors (universities, laboratories, employment agencies, private companies, or industries) in their ecosystems to recruit their tenants. This activity is geared towards finding high-growth tenants that could enter the incubator's production process (i.e., incubation or transforming tenants into functional businesses) (Aaboen, 2009; Hackett and Dilts, 2004). Researchers claim that these practices allow incubators to overcome the challenges of volume (Bank and Kanda, 2016; Klofsten et al., 2020), quality (Etzkowitz, 2002), and inflows (Bank et al., 2017) of tenants for their incubation processes. There are no direct charges of collaboration during the preincubation phase, but this obviously generates coordination costs given the focus on complementarity (Mian, 2021) and the pursuit of common goals such as job creation and economic growth (Messeghem et al., 2018). These collaborations occur face-to-face or virtual and formal or informal meetings (Bank et al., 2017). Still, it depends on the tenants' field of activity (digital services or tangible products). The upstream process of preincubation consists of sourcing resources (talent, technology/innovation, and other means) within the ecosystem to combine and feed the pool of tenants for the incubation phase (Gerlach and Brem, 2015; Bank et al., 2017; OECD, 2017).

Sourcing is a research object in several scientific disciplines. To transpose it into entrepreneurship, this research proposes to borrow it from three fields of the same discipline of strategic management: human resources management (Nayak et al., 2018), supply chain management (Narasimhan and Jayaram, 1998) and innovation management (Legenvre and Gualandris, 2018). The literature review on sourcing practices in these research fields shows that they share common attributes: the opening of the organisation to the outside world, collaborative partnerships with suppliers, production resources, management of incoming resources in production, securing flows and managing the quality of resources. These attributes are similar to the preincubation processes identified above (see these similarities in Table 9 below).

Table 9. Sourcing attributes vs attributes of preincubation processes

Items	Common attributes of sourcing	Attributes of preincubation processes
Organizational structure	Open to the outside	Open to the external environment *(Bank and Kanda, 2016)*
Form of partnerships	Collaborative relationships	Coopetition (cooperation and competition) relationships *(Theodoraki and Messeghem, 2020)*
Objects at the centre of exchanges	Production resources, talents, or technologies	Tenants/entrepreneurs (combination of production resources, talents, and technologies/ideas) *(Spigel and Harrison, 2018, Mian 2021; Audretsch et al., 2022)*
Flow direction	Flow entering production	Tenants/entrepreneurs entering the incubation process *(Voisey et al., 2013)*
Objectives of the exchanges	Quantity, quality, and fluidity of production resource flows	Critical mass, potential and fluidity of tenants' flows *(Bank and Kanda, 201 6; Bank et al., 2017)*
Exchange framework	Face-to-face or virtual	Face-to-face or virtual *(Bank et al., 2017)*
Interpretation	***Sourcing practices***	***Entrepreneurial sourcing***

Source: author

Preincubation practices share common attributes of sourcing practices in three other management fields. This shows that it is relevant to adopt the 'sourcing' concept and associate it with entrepreneurship to designate upstream activity of preincubation regarding tenants' identification and selection. For incubators, this sourcing aims to detect and/or create business projects to supply the quantity and quality of the pool of tenants for the incubation (Bank et al., 2017). Sourcing concerns talents in human resources (Nayak et al., 2018), production materials in supply management (Agrawal et al., 2014) and technologies in innovation management (Legenvre and Gualandris, 2018). At the preincubation level, it concerns tenants/business projects/start-ups (Bank et al., 2017) that constitute combinations of talents, technologies, and production resources (Spigel and Harrison, 2018; Mian, 2021; Audretsh et al., 2022). It is, therefore, a sourcing of entrepreneurship resources, hence the concept of 'entrepreneurial sourcing.'

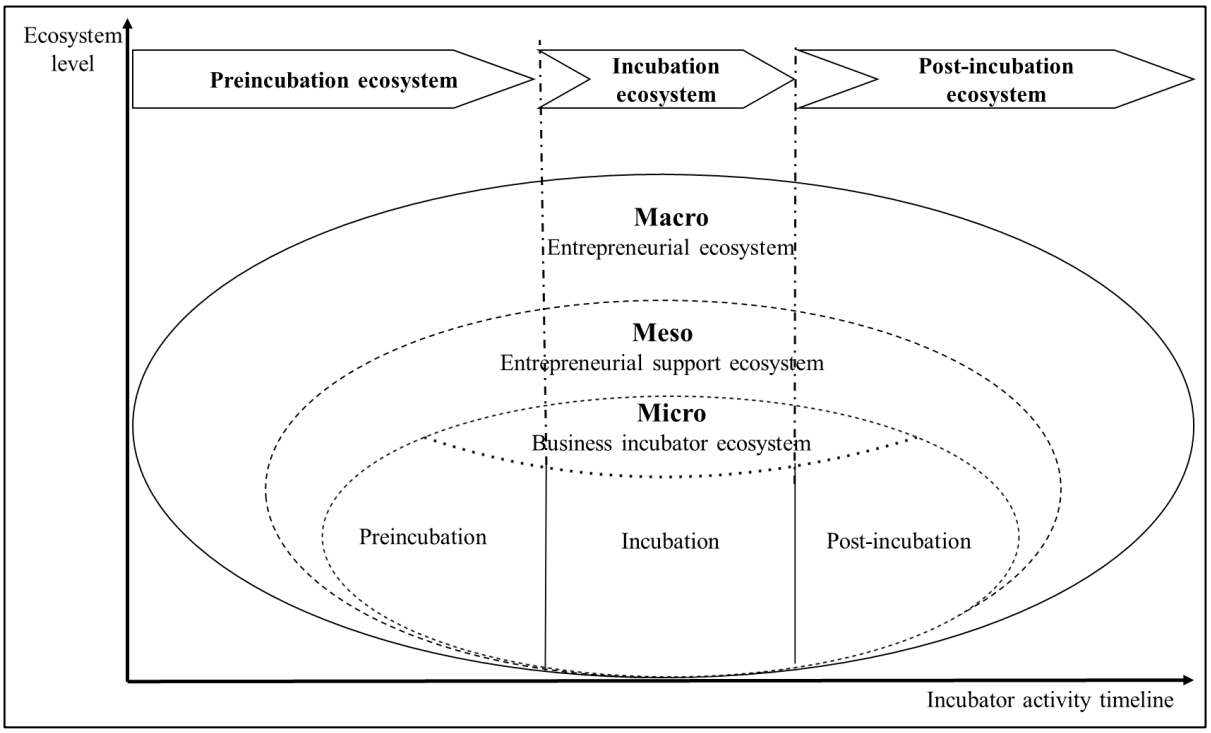
'Entrepreneurial sourcing' is supposed to be a process with practices undertaken by incubators in close collaboration with other actors within the preincubation ecosystem, whose objective is to regularly identify and screen tenants with potential corresponding to their (incubators) specialisation criteria. Such a process should require the incubator to have an open organisational structure (Bank et al., 2017). It is also part of a collaboration with ecosystem players. Entrepreneurial sourcing appears complex and involves a combination of human, technologies/innovation, and material sourcing. For the incubator, this is a process for managing incoming flows of tenants (Bank et al., 2017). The objective pursued by incubators in undertaking entrepreneurial sourcing is to ensure the quality and volume of tenants' flow for their incubation process (Bank et al., 2017). Finally, sourcing is a set of practices that occur

face-to-face or on digital platforms (Bank et al., 2017). All these attributes, in common with sourcing practices in other fields, show that 'entrepreneurial sourcing' is a reality of the entrepreneurial ecosystem.

1.4.2. Discovering a sub-ecosystem dedicated to entrepreneurial sourcing: the preincubation ecosystem

To understand the preincubation ecosystem, this thesis combines the multi-level vision of the entrepreneurial ecosystem (Theodoraki and Messeghem, 2017) and the strategies of incubators (cooperation and competition) at the level of the three phases of their activity (preincubation, incubation and post-incubation) within the ecosystem (Theodoraki and Messeghem, 2020). By considering the incubator as the central core (the micro level) of the entrepreneurial ecosystem, the distinct phases of its activity can be analysed by considering the interactions (cooperation and/or competition) with the actors and factors in the meso and macro level of the entrepreneurial ecosystem (Spigel, 2017; Theodoraki and Messeghem, 2017, 2020; Goswami et al., 2018). A breakdown of the entrepreneurial ecosystem according to the three phases of incubator activity gives three sub-ecosystems: the preincubation ecosystem, the incubation ecosystem, and the post-incubation ecosystem. Given that entrepreneurial sourcing is part of the preincubation phase, it is analysed within the preincubation ecosystem in this thesis (see Figure 15 below).

Figure 15. A multi-level perspective of the preincubation sub-ecosystem



Source: adapted from Theodoraki and Messeghem (2017, 2020)

Preincubation ecosystem is assumed to be a sub-ecosystem (Messeghem et al., 2023) associating all the actors (academics, institutions, industries, organisations, other incubators, technology transfer entities, funding entities, innovation/technology brokers…) and sociocultural factors of the entrepreneurial ecosystem within which incubator sources it tenants to feed the incubation phase (Voisey et al., 2013; Bank and Kanda, 2016; Bank et al., 2017; Theodoraki and Messeghem, 2020). It could be considered as a physical and virtual place where tenants are self-created or created by and exchanged between actors based on multilateral, interpersonal and inter-organizational relationships supported by the sharing of expertise and information. Although attached to the incubator, entrepreneurial sourcing engages all the actors and factors of the entrepreneurial ecosystem, which constitutes the preincubation ecosystem. In this preincubation ecosystem, the other actors of the ecosystem contribute to the constitution of the pool of tenants. Based on collaboration with the actors within the meso level of the entrepreneurial ecosystem (entrepreneurial support ecosystem), the latter could contribute directly to the pool of potential tenants by transferring business projects or start-ups to the incubator (Gerlach and Brem, 2015; Bank et al., 2017). In addition, actors with preincubation programs (Theodoraki et al., 2018) can hand over incubation from their tenants to the incubator for acceleration. Incubators can also participate through multilateral collaboration in the creation of tenants in sourcing hubs by providing human, technological, and financial resources (Spigel and Harrison, 2018). This channel could also be a collaborative participation of the incubator in sourcing hubs, such as public technology transfer organisations initiated by other ecosystem actors engaged in entrepreneurial support. All these actors and their interaction with incubators, which contribute to the identification and selection of tenants, constitute a preincubation ecosystem, advancing previous research by Theodoraki and Messeghem (2017, 2020) and Messeghem and al. (2023). This thesis focused on the functioning of the entrepreneurial sourcing considering the interaction between incubators and other entrepreneurial support organisations in a sub-entrepreneurial ecosystem (Messeghem et al., 2023). Thus, the analysis was held at the meso level of the preincubation ecosystem (Theodoraki and Messeghem, 2017; Goswami et al., 2018). In the rest of the thesis, entrepreneurial sourcing is analysed in the (meso level) preincubation ecosystem.

1.4.3. Entrepreneurial sourcing in the preincubation ecosystem: knowledge gap and research perspectives

The conceptualization of entrepreneurial sourcing within the preincubation ecosystem as delineated in the precedent subsection reflects a dynamic, multifaceted, and interconnected framework that harnesses the combined capabilities of various actors (universities, laboratories, private companies, etc.) to consolidate the pool of potential tenants for incubators. This, as argued, is beneficial in overcoming issues of critical mass and inflow of tenants for incubation processes (Bank et al., 2017). However, while comprehensive, this conceptualization has its limits.

The conceptualization of entrepreneurial sourcing within the preincubation ecosystem as described maintains the preincubation stage as a 'black box' in several ways. Primarily due to a lack of detail and specificity around the precise activities and interactions that occur during this phase. The emphasis of the conceptualization is largely on the collaboration between the incubator and various other actors (such as universities, laboratories, private companies) in the ecosystem (Bank et al., 2017). While this is indeed a key part of the preincubation process, it does not provide explicit details on the internal activities and processes that happen within the preincubation stage itself. The exact mechanisms and practices through which these actors contribute to the sourcing and selection of tenants remain unclear. Therefore, the first reason the preincubation stage remains a 'black box' is due to a lack of granularity and specificity about the internal workings of the preincubation process.

Secondly, the conceptualization does not clearly articulate the criteria used for sourcing and selection of potential tenants (Bank et al., 2017). How does the incubator or the broader ecosystem evaluate and decide which entrepreneurial projects are worth pursuing? What factors are taken into consideration? What is the process of evaluation and decision-making? The absence of this crucial information leaves the selection process as a 'black box', making it difficult to comprehend and replicate the process.

Finally, the conceptualization does not consider the potential impact of socio-cultural, economic, and political contexts on the preincubation process (Theodoraki and Messeghem, 2017). Given the considerable influence these external factors can have on the entrepreneurial ecosystem, ignoring them can limit our understanding of how the preincubation phase operates within different contexts, thus adding another layer of obscurity.

The current conceptualization of entrepreneurial sourcing within the preincubation ecosystem, while providing a broad framework, leaves the internal processes, the decision-

making criteria, and the influence of broader socio-cultural contexts relatively unexplored. This lack of specificity and context sensitivity keeps the preincubation stage as a ‘black box’ within the ecosystem. Keeping the entrepreneurial sourcing as a ‘black box’ within the preincubation ecosystem can have several implications.

- Lack of transparency in selection processes: By not explicitly detailing the mechanisms and criteria used for sourcing and selection of potential tenants (Bank et al., 2017), the process becomes opaque and could be subject to biases and inconsistencies. This lack of transparency can hamper the faith of potential tenants in the fairness of the selection process.
- Inefficiencies in sourcing strategies: Without a clear understanding of the inner workings of the entrepreneurial sourcing process, it is difficult for incubators to assess the effectiveness of their sourcing strategies or to optimize them. This could lead to inefficiencies and missed opportunities for sourcing high-potential tenants.
- Difficulty in replicating success: If the methods that led to successful sourcing of promising tenants are not explicitly outlined, it becomes challenging for other incubators, or even for the same incubator, to replicate the success in different scenarios or contexts.
- Neglect of contextual factors: The current conceptualization does not thoroughly consider the socio-cultural, economic, and political contexts that could significantly influence the preincubation process (Theodoraki and Messeghem, 2017). As a result, there is a risk of developing and implementing sourcing strategies that are not fully aligned with the particularities of a specific ecosystem.
- Limited understanding of outcomes: Keeping the entrepreneurial sourcing as a ‘black box’ also means that it is hard to clearly ascertain the impact of different sourcing strategies on the success or failure of tenants, thereby limiting opportunities for learning and improvement (Bank et al., 2017).

Keeping entrepreneurial sourcing as a ‘black box’ can create a range of challenges, from transparency problems and inefficiencies to difficulties in replication and understanding of outcomes. Opening this ‘black box’ can lead to better, more efficient, and more equitable entrepreneurial sourcing processes within the preincubation ecosystem.

The current thesis objective – to open the ‘black box’ of entrepreneurial sourcing within the preincubation ecosystem – is highly relevant for several reasons, with respect to clarifying

tenant identification and selection processes, exploring broader context determinants, and shedding light on the outcomes of entrepreneurial sourcing processes.

- Clear tenant identification and selection processes: While the conceptualization provides a broad framework of the preincubation stage, it raises many questions unanswered about the identification and selection process of potential tenants (Bank et al., 2017). By focusing on these aspects, the thesis can bring transparency to the methods, and steps involved in tenant selection, which are vital for predicting the tenant's success and sustainability (Etzkowitz, 2002). Uncovering this aspect could also help incubators and other stakeholders optimize their strategies and improve the quality of their tenant pool.
- Highlight broader context determinants: Understanding the larger socio-cultural, economic, and political context is crucial to analyse the preincubation process (Theodoraki and Messeghem, 2017). These external influences can significantly shape the way entrepreneurial sourcing is conducted and can impact the success of the sourced tenants. By making this a focus, the thesis can provide nuanced insights into how various context factors influence sourcing, thereby enhancing the generalizability and applicability of findings across different ecosystems.
- Highlight the outcomes of entrepreneurial sourcing processes: By exploring the outcomes of entrepreneurial sourcing processes, the thesis can provide important insights into the effectiveness of different sourcing strategies and their impact on tenant success (Bank et al., 2017). This can not only help incubators to refine their sourcing strategies but also guide potential tenants in their quest for finding the right incubator.

The objective of opening the 'black box' of entrepreneurial sourcing within the preincubation ecosystem is vital to enhance the clarity and effectiveness of sourcing practices, understand their contextual influences, and assess their impact on the entrepreneurial ecosystem. This can provide valuable guidance to incubators, tenants, and policymakers, thereby fostering entrepreneurship and innovation.

1.4.4. Basic assumption and research question(s)

The entrepreneurial ecosystem approach suggests that preincubation practices are part of a process (Etzkowitz, 2002; Bank et al., 2017; Theodoraki and Messeghem, 2020) and that the tenant at the heart of this process is a mix of talent, innovation/technology, and other means (Hillemane et al., 2019; Mian, 2021; Audretsch et al., 2022). By considering tenants as inputs of incubators, the process of identification and selection of these inputs was analysed in this

research as complex sourcing (entrepreneurial sourcing) within a sub-ecosystem dedicated to preincubation (preincubation ecosystem). The basic assumption is that tenants' components (talent, innovation/technology, and other means) are resources held by one or many actor(s) in the preincubation ecosystem and that their identification and selection are part of the actor(s) willingness to direct its/their resources towards businesses' creation within the framework of a process supported by the incubator (entrepreneurial sourcing) whose effectiveness depends on the capability of the incubator to maximise the outcomes for all the resource contributors. The empirical part of this thesis consisted of verifying and deepening the understanding of this basic assumption through an answer to the following research question: **How does the entrepreneurial sourcing within the preincubation ecosystem impact incubators' outcomes?** To further dissect this overarching question, the following three specific questions are proposed:

- Entrepreneurial sourcing process clarification: How do incubators identify and select their tenants within the preincubation ecosystem? This question aims to unpack the 'black box' of entrepreneurial sourcing by exploring the precise mechanisms, steps, and criteria used to identify and select tenants within the preincubation ecosystem. The stakeholders of the preincubation ecosystem and their interaction have also been highlighted through the answer to this first specific question.
- Antecedents (determinants) of the entrepreneurial sourcing process: what are the antecedents of entrepreneurial sourcing within the preincubation ecosystem? Based on the resource-based view, this question seeks to explore how the unique bundle of resources and capabilities within the ecosystem (e.g., human capital, technological resources, social networks, etc.) shape the sourcing practices and decisions.
- Impact of entrepreneurial sourcing on incubator outcomes: How entrepreneurial sourcing within the preincubation ecosystem impact incubators' outcomes? This question, framed within the dynamic capability theory, will explore how the sourcing processes contribute to developing and renewing the ecosystem's capabilities and how this impacts incubators' outcomes.

1.4.5. Theoretical framework: Resource-Based View and Dynamic Capability Theory

The basic assumption led to build the analysis within the framework of the resource-based view (Barney et al., 2021) and its extension, the theory of dynamic capability (Teece et al., 1997; Teece, 2012). Indeed, the incubator is, by analogy, a firm with tenants as its inputs (Aaboen, 2009). The components of the tenants held by the actors within the preincubation

ecosystem would be *ex ante* strategic resources (Barney, 1991; Barney et al., 2021), and their pooling to create tenants would be part of a co-specialization scheme between actors aiming to produce shared outcomes (Teece et al., 1994; Maus and Sammut, 2023; Barney et al., 2021). Therefore, the availability of these resources and the relationship between their holders within the preincubation ecosystem and the incubator could be considered as prerequisites that determine the effectiveness of the process aimed at identifying and selecting tenants (entrepreneurial sourcing) within the preincubation ecosystem (Barney, 1991; Barney, 2018).

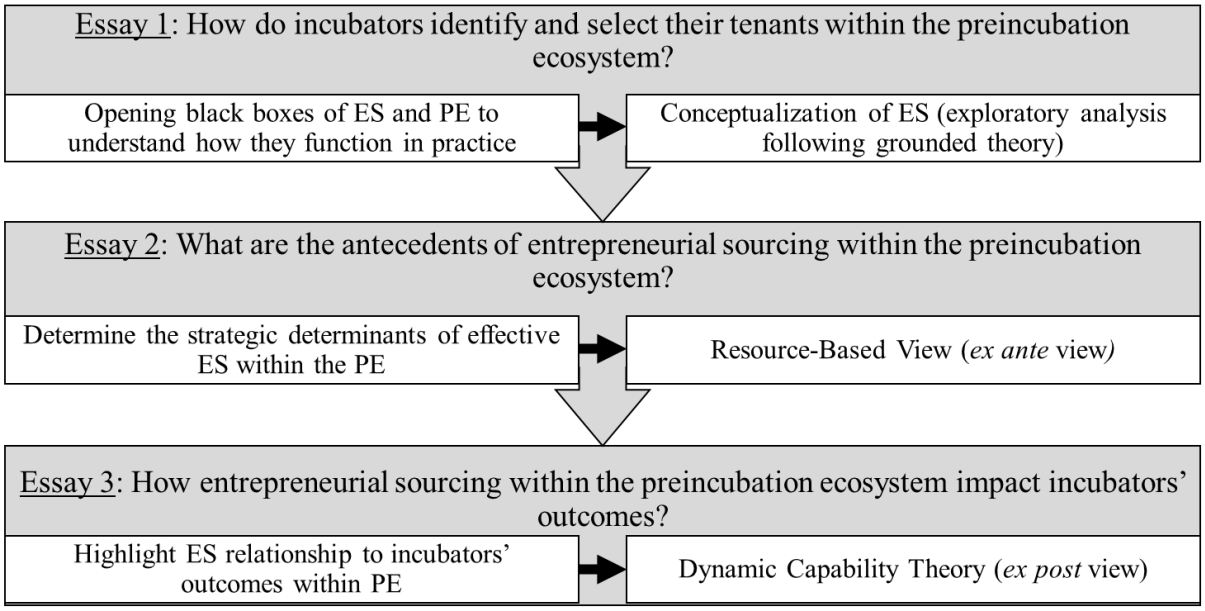
The willingness of the actors of the preincubation ecosystem to converge their resources towards a given incubator would require that the latter declines through its process of entrepreneurial sourcing capabilities to maximise the outcomes for itself as well as for resource contributors (Helfat and Martin, 2015; Barney et al., 2021; Helfat, 2022; Maus and Sammut, 2023). Therefore, the outcomes resulting from the entrepreneurial sourcing process (a set of capabilities) would be *ex post* strategic resources beneficial to the incubators and the initial contributors of resources (Peteraf and Barney, 2003; Barney and Mackey, 2018). In such a scheme, *ex post* strategic resources (outcomes) nourish and transform the ex-ante strategic resources. The sensing and seizing of transformed *ex ante* resources would require the incubator to change its entrepreneurial sourcing capabilities, thus creating a continuously changing process. Therefore, this assumes that entrepreneurial sourcing within the preincubation ecosystem is an iterative process comprising an interconnected bundle of dynamic resources and capabilities.

Building on this theoretical framework, this research aimed to subsequently provide a thorough understanding of the entrepreneurial sourcing processes in practice within the preincubation ecosystem, explain how *ex ante* resources determine these entrepreneurial sourcing processes (capabilities), and how these entrepreneurial sourcing capabilities produce and impact outcomes (*ex post* resources) within the preincubation ecosystem. The following section presents the structuring of the empirical investigations of the thesis and the theoretical frameworks (RBV or DCT) used at each stage according to the objective of the analysis (conceptualisation of the entrepreneurial sourcing process within the preincubation ecosystem, the determination of its antecedents or its impact on the outcomes of the incubators).

1.5. Analysis of entrepreneurial sourcing: Research Structure and Theoretical Frameworks

The thesis is presented in three essays, each addressing a specific question. This section provides an overview of each trial by outlining its research question, objective, and theoretical framework for analysis. The summary of the section is shown in the figure 16 below.

Figure 16. Summary diagram of the three essays of the thesis



Source: author

1.5.1. Exploring entrepreneurial sourcing within the preincubation ecosystem (essay 1)

This essay aims to delve into the concrete mechanisms of entrepreneurial sourcing (ES) within the preincubation ecosystem (PE). By unravelling the 'black boxes' of ES and PE, the intention is to understand incubators' concrete procedures and criteria to identify and select potential tenants. The initial exploration revolved around the field's current state, followed by an exploratory analysis based on empirical data that conceptualises ES in practice. This essay attempted to bridge the gap between theory and practice, providing a practical lens through which the processes of ES within PE can be examined.

Given that the concepts 'entrepreneurial sourcing' and 'preincubation ecosystem' are the results of a theorisation of this thesis, the exploratory study aimed at understanding their outlines in practice was based on a grounded theory (Gehman et al., 2018). The grounded theory has made it possible to support and empirically support the theorisation of these two new concepts. This theorisation offers an in-depth understanding of the mechanisms of entrepreneurial sourcing within the entrepreneurial ecosystem, making it possible to plan the

following stages of the analysis aimed at understanding the ins and outs (outcomes) of the identification and selection processes of tenants in the incubators.

1.5.2. Exploring the antecedents of entrepreneurial sourcing: an RBV perspective (essay 2)

This essay explores the antecedents of entrepreneurial sourcing within the preincubation ecosystem. The emphasis was on understanding the strategic supports that help establish and enhance entrepreneurial sourcing, making it effective and efficient. This analysis is grounded in the resource-based view (RBV) of strategic management, which posits that organisations can gain a competitive advantage by effectively leveraging their unique set of resources and capabilities. The essay studied how various internal and external resources within the preincubation ecosystem contribute to the entrepreneurial sourcing processes, determining what resources and capabilities drive informed decision-making and lead to successful tenant sourcing.

The Resource-Based View (RBV) forms an ideal theoretical framework for Essay 2, which examines the antecedents of entrepreneurial sourcing within the preincubation ecosystem (Barney et al., 2021). This strategic management perspective emphasises the role of unique and valuable firm-specific resources in gaining and maintaining competitive advantage (Barney, 1991; Barney et al., 2021).

Applying the RBV to the context of preincubation allows for the investigation of how incubators use their unique set of resources – such as financial resources, physical infrastructure, human capital, networks and partnerships, and intellectual capital – to attract and select promising tenants (Nayak et al., 2018). This view sheds light on how these resources contribute to successful tenant sourcing, filling a significant gap in current understanding.

RBV also considers firms' capabilities to leverage these resources effectively (Barney, 1991). In the context of incubators, these include the ability to evaluate and select tenants with high potential, the capacity to network with other ecosystem actors, and the proficiency in managing the preincubation and incubation processes.

RBV in this essay also aligns with previous studies that have applied this perspective to entrepreneurship and incubation. For instance, Mian (2021) and Audretsch et al. (2022) have demonstrated how resources and capabilities within the incubator ecosystem play a critical role in the entrepreneurial ecosystem and tenants' creation. While Mian (2021) showed that the tenant sought by the incubator in the preincubation phase is a mix of resources such as talents (entrepreneurs), innovation/technology and financial and immaterial means, on the other hand, Audretsch et al. (2022) demonstrated that these resources are held by actors in the

entrepreneurial ecosystem which combine them as part of ecosystem processes to create and support the survival and growth of tenants.

Furthermore, it's noteworthy to mention that RBV will help examine not only incubators' internal resources but also their ability to leverage external resources through partnerships and collaborations with universities, industries, and other actors within the ecosystem (Barney et al., 2021). Thus, RBV provides a comprehensive framework to understand the antecedents of entrepreneurial sourcing within the preincubation ecosystem.

1.5.3. Entrepreneurial sourcing relationship to incubators' outcomes: a dynamic capability perspective (essay 3)

The final essay investigated the impact of entrepreneurial sourcing within the preincubation ecosystem on the outcomes of incubators. The dynamic capability perspective guides this analysis, a framework that emphasises the ability of organisations to integrate, build, and reconfigure internal and external resources to address rapidly changing environments (Helfat, 2022; Helfat and Martin, 2015). The essay explored how entrepreneurial sourcing contributes to the evolution and development of dynamic capabilities within the preincubation ecosystem, particularly focusing on how sourcing processes impact the outcomes of the incubator. The objective was to highlight the significance of entrepreneurial sourcing and its relationship to incubators' outcomes within the context of the preincubation ecosystem.

The dynamic capability theory is an apt theoretical lens for this essay, which explores the relationship between entrepreneurial sourcing processes and outcomes within the preincubation ecosystem. This theory, an extension of the resource-based view, focuses on a firm's ability to integrate, build, and reconfigure internal and external competencies in response to rapidly changing environments (Teece et al., 1997; Helfat and Martin, 2015; Helfat, 2022). In the context of incubators, these capabilities could be related to identifying and attracting potential tenants, managing relationships within the ecosystem, or evolving services in response to tenant landscape changes.

One key aspect of the dynamic capability's perspective is its emphasis on learning and adaptation. In the case of incubators, their ability to learn from past experiences and adapt their sourcing processes should be crucial for successfully identifying and selecting high-potential tenants. These learning and adaptive capabilities, facilitated by effective entrepreneurial sourcing processes, may result in better outcomes (Bank et al., 2017).

In addition, dynamic capabilities should also involve external collaborations with universities, laboratories, employment agencies, private companies, or industries within the

ecosystem to source potential tenants (Bank et al., 2017). This multi-actor collaboration is part of the dynamic sourcing capabilities of the incubator, which helps manage and secure high-quality inflows of tenants.

Furthermore, the dynamic capability theory underpins strategic management processes within a dynamic environment (Helfat, 2022; Helfat and Martin, 2015). Therefore, this theory can be relevant for incubators operating in ever-changing entrepreneurial ecosystems (Roundy and Fayard, 2019; Spigel and Harrison, 2018). The strategic capabilities of incubators in managing their entrepreneurial sourcing processes should significantly influence their outcomes, for example, in terms of the quantity, quality, and fluidity of tenant inflows (Bank et al., 2017).

Thus, by leveraging the dynamic capability theory, this essay should provide valuable insights into how entrepreneurial sourcing processes, shaped by the dynamic capabilities of incubators, influence their outcomes within the preincubation ecosystem.

1.6. Methodology

Starting from the context of the entrepreneurial ecosystem of the Occitania region in France, the role of incubators and their challenges in the preincubation ecosystem have been exposed to justify research orientation towards a pragmatist epistemology. Then, the design of the research, the sampling, and the data collection, as well as data processing and analysis, were exposed. Table 10 below summarises the methodology of the thesis.

Table 10. Methodology of the thesis

	Essay 1	**Essay 2**	**Essay 3**
Research context	France Occitania region entrepreneurial ecosystem and incubators: opportunity and challenge		
Epistemology	Pragmatism (Patton, 2005: 153; Kelly and Cordeiro, 2020)		
Research design	Single case study (Yin, 2018) and ecosystem approach (Theodoraki and Messeghem, 2020)	Multiple case study (Yin, 2018) and ecosystem approach (Theodoraki and Messeghem, 2020)	Single case study (Yin, 2018) and ecosystem approach (Theodoraki and Messeghem, 2020)
Sample and data collection	22 interview data (in person and Zoom and Teams call) Participants and nonparticipant observation notes Secondary data	53 interview data (in person and Zoom and Teams call) Participants and nonparticipant observation notes Secondary data	33 interview data (in person and Zoom and Teams call) Participants and nonparticipant observation notes Secondary data

Analysis methods	Grounded theory (Glaser and Strauss, 1967) using Nvivo software (Bazeley and Jackson, 2013)	Eisenhardt method (Eisenhardt, 1989; Gehman et al., 2018) using Nvivo software (Bazeley and Jackson, 2013)	Gioia method (Gioia et al., 2022) using Nvivo software (Bazeley and Jackson, 2013)

Source: author

1.6.1. Research context: Occitania region's entrepreneurial ecosystem dynamic, and incubators' role and challenges

The preincubation ecosystem of the Occitania region presents a multifaceted and rich environment for studying entrepreneurial sourcing within incubators. The region's historical background, rich entrepreneurial ecosystem, commitment to innovation, and diverse incubation practices contribute to its relevance as a research context.

- *The Occitania region (an overview of a dynamic entrepreneurial ecosystem):* The entrepreneurial ecosystem of the Occitania region in France provides an intriguing study of dynamism and evolution. This ecosystem, recognised for its diverse and abundant entrepreneurial support organisations, has a history of fostering innovation and business growth. The foundation of the ecosystem is built on a solid collaboration between various stakeholders, including local authorities, academic institutions, industries, research organisations, and funding entities, among others (Theodoraki and Messeghem, 2017). This has led to the establishment of a public network of entrepreneurial support entities, coworking spaces, preincubators, associations, universities and schools, institutions and laboratories, industries, corporate incubators, school incubators, and technology transfer acceleration entities.

  This diverse and comprehensive support network has fostered a vibrant entrepreneurial environment (Leendertse et al., 2021). Over time, the ecosystem has evolved to adapt to current trends and needs. The Occitania region, already known for its significant aerospace industry, has seen technological innovation and entrepreneurship surge. This was fuelled in part by the establishment of a regional incubator over 20 years ago by the French government to promote the transfer of public research technologies (Baraldi and Havenvid, 2016; Hillemane et al., 2019; Mian, 2021). This incubator has adapted over the years to cover the full spectrum of entrepreneurial support: preincubation, incubation, and acceleration, thus reflecting the dynamism of the ecosystem (Theodoraki and Messeghem, 2020).

The future of the Occitania region's entrepreneurial ecosystem looks promising. The region has seen significant developments in recent years, including the opening of 'La Cité,' a space dedicated to bringing together various entrepreneurial support actors. Additionally, the regional incubator has expanded its premises and increased its tenant capacity, reflecting the ecosystem's continued growth (Klofsten et al., 2020). Government commitment with continuous support has played a crucial role in this evolution and will continue to do so in the future. Government commitment is evident in the creation of the regional incubator and its continuous support. Moreover, policies aimed at dynamizing the ecosystem have led to the creation of diverse types of incubators, each playing a significant role in the entrepreneurial journey. This dynamism is further reflected in the regional incubator's recent launching of a seed funding, OCSEED (Occitania seed), indicating a continued commitment to fostering entrepreneurship.

The Occitania region's entrepreneurial ecosystem is characterised by a dynamic and evolving nature, shaped by a collaborative effort from multiple stakeholders and supportive policies. Its history of fostering innovation, combined with recent developments and a strong commitment to ecosystem dynamisation, indicates a promising future for entrepreneurship in the region.

- *Incubators' missions and commitment within the Occitania preincubation ecosystem:* Incubators hold a pivotal role in the entrepreneurial dynamics of the Occitania ecosystem. They are designed to support entrepreneurs and tenants by providing resources, mentorship, and access to networks and capital. However, their place in the ecosystem involves various missions and commitments.

  Incubators in the Occitania ecosystem serve multiple missions. Firstly, they foster economic development by facilitating the growth of tenants (Aernoudt, 2004). This is achieved by providing resources, mentorship, and training to entrepreneurs. Secondly, incubators like Nubbo (the regional incubator of Occitania) work to promote the transfer of public research results. This involves turning academic research into commercialised technologies. Thirdly, some incubators have established seed funds, like OCSEED (Occitania seeds), to support tenants financially.

  Incubators in the Occitania ecosystem demonstrate a strong commitment to support the entire entrepreneurial journey from preincubation to acceleration (Theodoraki and Messeghem, 2020). They are committed to working with stakeholders, including local

authorities, academic institutions, industries, research organisations, and funding entities, to provide a comprehensive support system for tenants (Theodoraki and Messeghem, 2017, 2020).

The role of incubators in the Occitania ecosystem is multifaceted. They contribute significantly to the entrepreneurial dynamics of the region by providing an environment that fosters innovation, growth, and economic development. However, this role also presents several challenges, requiring continuous efforts and adaptations to keep up with the evolving dynamics of the entrepreneurial ecosystem.

- *Incubators' challenges in identifying and selecting tenants within the Occitania preincubation ecosystem:* The Occitania region's preincubation ecosystem presents numerous challenges to incubators, particularly in identifying and selecting tenants. Several factors contribute to these challenges:

  Complexity of selection: Given the diversity of the entrepreneurial ecosystem in Occitania, the identification and selection of potential tenants become complex tasks (Theodoraki and Messeghem, 2020; Mian, 2021). Incubators must screen tenants from various sectors, distinct stages of business maturity, and differing technological complexities. This requires a sophisticated identification and screening process to accommodate this wide variety.

  Volume of Tenants: With the expansion of the regional incubator, there is an expectation for a large volume of tenants to be supported each year (Bank et al., 2017). The sheer volume of potential tenants could present a significant challenge regarding tenant identification, screening, and selection. Balancing the quantity with the quality of tenants becomes a crucial task.

  Conflicting Objectives: Incubators in the region are tasked with the dual mission of fostering economic development and maintaining profitability (Allen and McCluskey, 1991; Hackett and Dilts, 2004; Bøllingtoft and Ulhøi, 2005). This requires selecting tenants who possess innovative, commercially viable ideas and align with the incubator's mission and objectives. Striking a balance between these potentially conflicting objectives can pose a significant challenge.

  Ecosystem Diversity: The Occitania region boasts a rich and diverse ecosystem. Incubators must consider stakeholders' varied needs and expectations, such as universities, research organisations, funding entities, and industries (Theodoraki and

Messeghem, 2017, 2020; Leendertse et al., 2021). Thus, the identification and selection of tenants must align with these diverse stakeholders' interests and expectations.

Technological Change: The Occitania region, particularly known for its aerospace industry, is marked by rapid technological advancements (Theodoraki and Messeghem, 2017). The pace of change and the necessity to stay abreast of emerging technologies adds another layer of complexity to the tenant selection process.

Addressing these challenges requires a comprehensive, adaptable, and collaborative approach. A clear and well-articulated selection strategy, regular communication with stakeholders, and ongoing monitoring of emerging industry trends can help to navigate these complex tasks effectively. The preincubation ecosystem of the Occitania region of France provides an excellent context for studying entrepreneurial sourcing. The challenges raised (the issue of the steady flow of tenants in incubators) require a research orientation towards actionable results that will serve the incubators. This requires the adoption of pragmatic reasoning.

1.6.2. Epistemology: Pragmatism

Epistemology concerns the nature of knowledge, the ways in which we come to know things, and what we regard as valid or credible knowledge. Different research paradigms (positivism, interpretivism, and pragmatism, among others) embody different epistemologies and can have profound implications for selecting research methods and interpreting results.

The positivist paradigm, for instance, posits that there is a single, objective reality that can be observed and measured from a neutral, detached perspective. It typically employs quantitative methods and statistical analysis and is often used in experimental or quasi-experimental research designs (Creswell and Creswell, 2017). This paradigm was unsuitable with the objectives and methods of this thesis given that the analysis considered the subjective testimonies of social actors such as incubator staff and their partners in the preincubation ecosystem and business project holders (tenants).

On the other hand, the interpretivist paradigm emphasises subjective experiences and interpretations, believing that reality is socially constructed and can only be understood from the perspectives of those who live and experience it. It usually employs qualitative methods and interpretive analysis, often used in ethnographic or phenomenological research designs (Creswell and Creswell, 2017). This paradigm was unsuitable for this thesis due to the observation and consideration of environmental factors specific to the objective realities of the

entrepreneurial ecosystem (public policies, socio-economic crises, cultural factors, etc.) that shape entrepreneurial sourcing.

Pragmatism rejects the forced choice between positivism's objective reality and interpretivism's subjective reality. Instead, it suggests that the research question should drive the choice of methods, and both objective and subjective methods can be used as necessary to answer the research question (Patton, 2005). This approach can be seen as more flexible and adaptable, allowing the researcher to use the most practical and valuable methods for answering the research question. Pragmatism is particularly suited to this thesis because of its focus on entrepreneurial sourcing processes within the preincubation ecosystem. The research questions necessitate an understanding of both the external structures and conditions of the ecosystem (which might be observed) and the subjective experiences and interpretations of the actors within the ecosystem (which need to be understood through qualitative methods). Therefore, a pragmatist approach allows the researchers to employ a combination of methods and perspectives, including single and multiple case studies, qualitative interviews, and participant and non-participant observations, to capture the complexities of the entrepreneurial sourcing within the preincubation ecosystem and generate a comprehensive, nuanced, and contextually sensitive understanding. The choice of pragmatism also aligns with using the ecosystem approach (Theodoraki and Messeghem, 2020) in this thesis. Given that the ecosystem comprises various actors, interactions, and resources, a pragmatist approach allows the researchers to consider multiple perspectives and data sources, thus providing a holistic view of the dynamics of entrepreneurial sourcing within the preincubation ecosystem.

The epistemology of the thesis is rooted in pragmatism, a philosophical tradition that emphasises the practical implications and usefulness of ideas and actions. Pragmatism positions knowledge as something constructed and interpreted in relation to the context and purposes for which it is used (Patton, 2005). It is an approach well suited to addressing complex, real-world problems, as it values practical solutions and actionable insights over abstract theoretical precision (Kelly and Cordeiro, 2020). Thus, this paradigm is consistent with the multiple methods of data collection in the thesis (semi-structured interview, participant and non-participant observation, secondary data) and one of the thesis's practical objectives, which was to equip incubators with the knowledge to face the challenge of the steady flow of tenants.

In this thesis, pragmatist epistemology manifests in examining entrepreneurial sourcing processes in the preincubation ecosystem. The research is driven by the need to understand and improve these processes in practical terms rather than solely attempting to understand them in

an abstract, decontextualised way. This focus on actionable insights and practical relevance is characteristic of the pragmatist tradition.

Pragmatism also emphasises the importance of pluralistic and flexible methodological approaches, valuing methods that serve the research objectives (Patton, 2005). The research employs various methods, including single and multiple case studies, in-person and video-call interviews, and participant and non-participant observations. These methods are chosen based on their ability to provide valuable insights into the specific context of the preincubation ecosystem in the Occitania region in France. Thus, pragmatism is consistent with the thesis's practical objective, which was to equip incubators with the knowledge to face the challenge of the steady flow of tenants.

The epistemology of this thesis is deeply rooted in pragmatism, a tradition that values practical relevance, context sensitivity, and methodological flexibility. The research aims to produce helpful knowledge that can inform and improve the practices of entrepreneurial sourcing within the preincubation ecosystem, embodying the pragmatist emphasis on the practical application of knowledge (Patton, 2005; Kelly and Cordeiro, 2020).

1.6.3. Research design: case study and ecosystem approach

The design of this thesis aligns with a pragmatist approach, employing both single and multiple case study methods as well as the ecosystem approach to investigate entrepreneurial sourcing processes within the preincubation ecosystem.

As delineated by Yin (2018), the case study methodology is particularly suitable for investigations into contemporary phenomena within real-world contexts. Given that this research aims to delve deep into the sourcing processes and resources in the preincubation ecosystem in France’s Occitania region, using the case study method allows for a thorough exploration of the complexities and nuances of these practices and the context in which they occur.

In addition to the case study methodology, the thesis employs the ecosystem approach (Theodoraki and Messeghem, 2020). This approach allows the research to examine the various actors, interactions, and resources that compose the preincubation ecosystem, thus providing a holistic view of the dynamics within this entrepreneurial environment. The use of the ecosystem approach serves as an acknowledgement that incubators do not operate in isolation but are part of a larger interconnected system.

Moreover, the thesis uses a mix of in-person and digital interviews (via Zoom and Teams) to gather qualitative data from participants. This approach enables the collection of rich,

detailed data from various perspectives and offers valuable insights into the participants' experiences and perceptions.

Lastly, non-participant observation notes are used as a method of analysis. This technique helps provide a more comprehensive and in-depth understanding of the studied phenomena, enabling researchers to uncover subtleties and complexities that may be missed in interviews alone.

Therefore, the design of this thesis – employing a combination of single and multiple case studies, the ecosystem approach, mixed-format interviews, and participant and non-participant observation – demonstrates a commitment to exploring the complexities of entrepreneurial sourcing in a comprehensive, nuanced, and contextually sensitive manner.

1.6.4. Sampling and data collection

The research conducted in the thesis uses a combination of robust sampling and data collection methods. The goal is to garner rich insights into entrepreneurial sourcing processes within the preincubation ecosystem, specifically focusing on the incubators operating in France's Occitania region. The selection of data collection methods, cases, and interviewees in the thesis is influenced by the research questions, the theoretical framework, and the overall research design, grounded in a pragmatist epistemology.

For sampling, the research varies depending on the specific study or essay of the thesis. In the first and third essays, a single case study design is employed, wherein the researcher selects a single 'incubator' (Nubbo: an experimented regional incubator founded in 2000 as part of Allègre low incubators, which had an ambitious development program at the beginning of this research and was partnering to understand how to achieve its objective of volume of tenants to identify and select) to examine in-depth. On the other hand, the second essay employs a multiple case study design, suggesting that multiple 'incubators' (technology incubator, academic incubator, economic development incubator, social incubator, and private incubators) are studied to generate a more comprehensive and generalisable understanding of the topic. A case, in this context, refers to a specific incubator or entrepreneurial support entity within the Occitania ecosystem. The choice between single and multiple cases depends on the research question and objectives. Multiple case designs allow for comparative analysis and often provide more substantial evidence, while single case designs allow for in-depth exploration of a specific context or instance (Yin, 2018).

Regarding data collection, the thesis uniformly uses qualitative interview data. The researcher conducts interviews both in-person and via digital platforms like Zoom and Teams.

The number of interviews conducted varies across the studies, with 22 interviews for the first essay, 53 for the second, and 33 for the third. This method allows the researchers to capture detailed personal experiences, opinions, and insights directly from the actors involved in the entrepreneurial sourcing processes. The interviews serve as a rich data source for the researchers to understand the nuances and complexities of entrepreneurial sourcing, especially as they occur in the real-world context of the Occitania ecosystem. Moreover, using digital platforms for interviews ensures that data collection is not hampered by geographical or logistical constraints, enhancing the feasibility and efficiency of the research process.

The researchers complement the interview data with participant and non-participant observation notes. This involves observing the behaviours, interactions, and practices within the preincubation ecosystem as a participating member or an external observer. These observations help provide a more comprehensive understanding of the entrepreneurial sourcing processes, as they allow researchers to capture data that might not be explicitly expressed or revealed in interviews. For instance, non-verbal cues, interactions, and practices can provide crucial insights into the underlying dynamics and mechanisms of the ecosystem (Patton, 2005).

Overall, this thesis's sampling and data collection methods represent a robust and comprehensive approach to investigating the entrepreneurial sourcing processes within the preincubation ecosystem. They align with the thesis's pragmatic epistemology, emphasising the importance of context and practical relevance and allowing the researcher to generate detailed and actionable insights that can contribute to theory and practice.

1.6.5. Data processing and analysis

The data analysis process in the thesis is guided by the underlying pragmatist epistemology, which involves creating meaningful and actionable knowledge from the data collected.

The primary data, obtained from in-person and digital platform interviews, are transcribed verbatim, resulting in a detailed textual representation of the conversations. Transcription is an essential initial step in qualitative data analysis as it converts spoken language into written form, providing a tangible and manipulable dataset for subsequent analysis (Bailey, 2008).

Once transcribed, the data are subjected to thematic analysis, a common method of analysis in qualitative research. This involves identifying, analysing, and reporting patterns (themes) within the data (Braun and Clarke, 2006). Thematic analysis is a flexible method providing a rich, detailed, and complex data account. It involves a six-step process: familiarising oneself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and finally producing the report.

Throughout this process, the researcher continuously reflects and interprets, guided by the research objectives and questions. This reflexive approach is a crucial aspect of qualitative analysis, ensuring that the researchers remain open to emerging insights while staying focused on the overall objectives of the research (Patton, 2005).

Alongside the interview data, the thesis also uses participant and non-participant observation notes for data analysis. Participant observations included participating in events such as business project selection juries, entrepreneurship awareness days, and visits to the work sites of incubators and their partners. This made it possible to observe practices in real-time without participating in the activities. As for participant observation, it took place during a single activity organised by the Toulouse technology transfer organisation called 'Toulouse Tech Transfer (TTT).' This activity called 'Deep Tech Time,' consisted of presenting technologies sourced in research laboratories in the Occitania region to students (participants) so that they could think about business models around technologies. The objective was to obtain (early) business projects relating to the technologies at the end of the event. As a doctoral student, I participated in the event and worked with a team to define a business model around technology. While participating, this allowed me to observe the practices for combining ecosystem resources such as talents (participating students), technologies, finance, and human resources (coaches) to form business projects. These observation notes provide additional context and insight, enhancing the depth and richness of the analysis. This data, like the interview transcripts, is subjected to thematic analysis, helping to triangulate and confirm the findings.

The choice of software for qualitative data analysis can also influence the process. Software like NVivo or Atlas.ti can aid in organising and coding the qualitative data, providing a systematic framework for the analysis (Paulus et al., 2014).

The thesis adopts an iterative approach to data analysis, moving back and forth between the various stages of thematic analysis as the researchers refine their understanding and interpretation of the data. This iterative approach, combined with a constant comparison method, allows the researchers to explore the data deeply, identify connections and contrasts, and develop nuanced and detailed insights (Gibbs, 2007).

In summary, the data processing and analysis in the thesis involve rigorous and comprehensive steps to create meaningful and actionable knowledge. Using thematic analysis, reflexive interpretation, and iterative approach, underpinned by pragmatist epistemology,

ensures that the findings are grounded in the data while remaining relevant to the research objectives.

1.7. Overview of the Three Essays

Table 11 below summarises the three thesis essays and their findings. Each article's title, status and abstract corresponding to each essay are set out below.

Table 11. Summary of thesis essays

Articles	Research questions	Aims	Main findings
Chapter 1/Essay 1: Book chapter in OUP/accepted in '*Entreprendre et Innover*', ICSB 2021 'Best Policy Paper'	How do incubators identify and select their tenants within the preincubation ecosystem?	Open entrepreneurial sourcing black box and Highlights preincubation ecosystem	**ES practical processes**: Identification (scouting, prospecting, opening to application, and e-sourcing) and screening (file reviewing, training, assessing, interviewing) **PE components:** innovation brokers, and ideas brokers embedded in innovation ecosystem
Chapter 2/Essay 2: article 'Reject and Resubmit' in '*Entrepreneurship and Regional Development'* Abstract published in 2022 AOM proceedings	What are the antecedents of entrepreneurial sourcing within the preincubation ecosystem?	Highlight incubators internal and ecosystem antecedents of entrepreneurial sourcing processes and outcomes using RBV theory	**ES antecedents:** PE level (regulation, economic structure, …) and incubators level (financial resources, reputation, and social capital)
Chapter 3/Essay 3: article to be submitted in 'Technological Forecasting and Social Change*'* Presented at BCERC 2023	How entrepreneurial sourcing within the preincubation ecosystem impact incubators' outcomes?	Unravelling the relationship between entrepreneurial sourcing and incubators' outcomes using dynamic capability theory	**Sensing** (identification processes) and **seizing** (screening processes) capabilities lead to **ecosystem outcomes reconfiguring** (tenants' germination, technology transfer, resources mutualization, PE actors networking and collaboration)

Source: author

1.7.1. Essay 1: Potential tenant identification and screening practices in the preincubation ecosystem: toward an entrepreneurial sourcing approach

Authors: André Nana, Eric Michaël Laviolette and Christina Theodoraki

Status: in edition at Oxford University Press as chapter in Huggins, R., Kitagawa, F., Prokop, D., Theodoraki, C. and Thompson, P. (in press). *Entrepreneurial Ecosystems in Cities and Regions: Emergence, Evolution, and the Future* (publication contract signed). Presented at 65th International Council for Small Business (ICSB) world congress 11–16 July 2021, Paris, France

and deserved the 'Best Policy Paper Award'. A short version of this paper has been published in a peer-review journal '*Entreprendre & Innover'* [Ranked FNEGE-4].

Abstract

Previous literature on the ecosystem approach of incubators' studies has shown that these entities adopt complex practices (cooperation and competition) in interaction with actors of entrepreneurial support ecosystem during preincubation. Among these practices, identifying and selecting tenants (business projects and start-ups) during the preincubation is particularly central as it shapes incubators' performance. The current research aims to deepen knowledge of incubator tenants' identification and selection practices. Using an ecosystem approach, we analysed tenants' identification and selection process through a single case study of an incubator in Occitania (southwestern region of France). A conceptual model is proposed with entrepreneurial sourcing as a pragmatic process with two sets of practices: identification (scouting, prospecting, opening, and e-sourcing) and screening (files reviewing, training, accessing, and interviewing). These practices result from interactions between incubators and other actors (technology brokers, idea brokers and innovative environment) in a sub-ecosystem that we have detailed and qualified as a preincubation ecosystem. Finally, we discuss the challenges of entrepreneurial sourcing and how they can be mitigated through digitalisation.

Keywords: Incubator, ecosystem, preincubation, sourcing, entrepreneurial, tenant

1.7.2. Essay 2: A resource-based view of entrepreneurial sourcing within the preincubation ecosystem: a multiple case study

Authors: André Nana, Eric Michaël Laviolette and Christina Theodoraki

Status: Reject and Resubmit at *Entrepreneurship and Regional Development* [FNEGE cat. 2, AJG cat. 3]. Presented at the Academy of Management (AOM) annual meeting, 4th to 9th August 2022, Seattle, Washington, USA. Abstract published in the Academy of Management proceedings 2022: https://journals.aom.org/doi/abs/10.5465/AMBPP.2022.17712abstract

Abstract

Practices for identifying and selecting tenants (project holders and start-ups) during the preincubation phase remain understudied. Previous works have implicitly asserted, albeit without empirical evidence, that these preincubation practices are part of a process that impacts

the performance of incubators. In line with the recent literature on the ecosystem approach, we propose a processual and ecosystem analysis of tenant identification and selection practices in diverse types of incubators using RBV as a theoretical framework. We conducted a multiple case study (featuring five types of incubators) based on 53 semi-structured interviews in the southwestern region of France by observing tenant identification and selection practices step by step. The results show tenant identification and selection practices are part of an 'entrepreneurial sourcing' process, including identification and screening practices. We found that not all practices are observable in all types of incubators, given the unevenness of the resource stocks that determine the capacity of these organisations to act in the preincubation ecosystem. A discussion of these results yields practical implications for incubators and public policy.

Keywords: Incubator, entrepreneurial sourcing, preincubation ecosystem, RBV

1.7.3. Essay 3: Unravelling entrepreneurial sourcing processes in the preincubation ecosystem: a dynamic capability perspective

Authors: André Nana

Status: Under review in *Technological Forecasting and Social Change* [Ranked FNEGE-2, AJG-3]. Presented at Babson College Entrepreneurship Research Conference from 7th to 10th Jun 2023, Knoxville, Tennessee, USA.

Abstract

Incubators play a pivotal role in fostering entrepreneurship and innovation. Recent literature underscores their significance within entrepreneurial ecosystems, especially in the preincubation phase. This research delves into the dynamic processes through which incubators identify and select tenants within the evolving preincubation ecosystem. Drawing upon the principles of dynamic capability theory – including adaptability, reconfiguring competencies, and addressing rapid environmental changes – we study the incubators' use of sensing and seizing capabilities in identifying and selecting tenants within the entrepreneurial sourcing framework. Emphasising the continuous interactions between incubators and various actors in the preincubation ecosystem, this single case study sheds light on the outcomes of entrepreneurial sourcing processes. Notably, we highlight the potential reconfiguration of the preincubation ecosystem, marked by mutualising resources and enhancing their provision. Furthermore, our analysis emphasises the relationship between tenants' identification and

selection processes and incubator outcomes, such as improving resources' endowment, enhancing collaboration, occasioning tenants' germination, and streamlining technology transfer. By framing our study within the dynamic capability theory, we offer fresh insights into the intricacies of entrepreneurial sourcing and their implications for the preincubation ecosystem. This research contributes to understanding how incubators can maximise their impact, underscoring the need for adaptive, forward-looking strategies in an ever-changing entrepreneurial landscape.

Keywords: Incubator, entrepreneurial sourcing, dynamic capability, preincubation ecosystem.

Appendix 1.1 Integral list of interviewees

No.	Membership entity	Position
1	NUBBO (ex Midi-Pyrénées Incubator)	Director
2	NUBBO (ex Midi-Pyrénées Incubator)	Director
3	NUBBO (ex Midi-Pyrénées Incubator)	Director
4	NUBBO (ex Midi-Pyrénées Incubator)	Preincubation Program Manager
5	NUBBO (ex Midi-Pyrénées Incubator)	New project prospecting manager
6	CNES	Regional Affairs responsible
7	LeStarter (LaCantine- LaMêlée)	CEO LeStarter
8	Réso IP+ (AD'Occ)	Project manager for the animation of Réso IP+
9	ISAE-SUPAERO (INNOVSPACE)	Innovation and entrepreneurship project manager
10	Starter PEPITE ECRIN	PEPITE Starter-ECRIN Coordination Officer
11	TBSeeds	Coordinator and pedagogical and partnership manager
12	BPIFrance	Innovation Delegate Occitanie (ex Midi-Pyrénées)
13	Toulouse Tech Transfer	Director of the Creation and Monitoring of Participations
14	CREALIA	Financing innovative start-ups
15	At-HOMME	Partner at At-Home – Toulouse is AI
16	Université Toulouse Jean Jaurès	SCUIO-IP UT2J Entrepreneurship Referent
17	PEPITE ECRIN (UFTM)	Head of the PEPITE Ecrin entrepreneurship division (UFTM)
18	CNRS	Head of the CNRS Occitania Ouest partnership and valorization department
19	AELIS Innovation	Responsible
20	IRDInnov 2	Responsible
21	Toulouse Tech Transfer	Business Manager Business creation
22	Innov'ATM	Tenant (CEO)
23	Picsellia	Tenant (CEO)
24	Swallis Medical	Tenant (CEO)
25	Wings emploi	Tenant (co-founder)
26	Telegraph	Tenant (CEO)
27	NORIMAT	Tenant (CEO)
28	Staffman	Tenant (CEO)
29	NEXT4.io	Tenant (CEO)
30	Vortex.io	Tenant (CEO)
31	Micro-PEP	Tenant (CEO)
32	Drive IM	Tenant (Founder)
33	OALLEY	Tenant (CEO)

34	Authentic Material	Tenant (President Authentic Material)
35	TWB	Regional Delegate for Research and Technology Occitania
36	iBAT	Tenant (CEO)
37	Bigou Coop interview	Host
38	Réso IP+ (AD'Occ)	Project manager for the animation of Réso IP+
39	Responsible for a departmental entity of entrepreneurial support	
40	Responsible for a departmental entity of entrepreneurial support	
41	Responsible for a departmental entity of entrepreneurial support	
42	PVD IN'CUBE	Incubator Manager
43	INNOVOSUD	Director Incubator
44	MINE ALES	Incubator Manager
45	First Brick	Incubator Manager
46	The first Occitania	Incubator Manager
47	ALBI INNOPROD	Incubator Manager
48	BICs full south enterprises	Incubator Manager
49	The Site	Founder Incubator
50	Ethics Biotope	Incubator Manager
51	Ionis361	Host
52	[R] Carcassonne Mine	Incubator Manager
53	CATALYST	Host

Appendix 1.2 List of events participated in the Occitania region for data collection

Date	Events
25/10/2019	Study day EFE Network (Toulouse/UT2 Jean Jaurès)
15–16/11/2019	Deep Tech Time (TTT/ University of Toulouse 3 Paul Sabatier)
18/11/2019	Global Entrepreneurship weekend (TBS/Toulouse)
20/11/2019	Visit of the NUBBO incubator website: presentation of the PEPSI project at the Nubbo incubator (Toulouse) and introduction to the Occitania ecosystem
12/06/2020	Visit of the LeStarter work site (in the premises of Mêlée Numérique, Toulouse): Observation of the maturation practices of business projects
23/06/2020	BE/A BOSS, BE ENTREPRENEURE Occitania 2020: discovering support systems for women's entrepreneurship
10/11/2020	Presentation of the first results to Nubbo (Videoconference), collection of feedback from practitioners
19/11/2021	Presentation of the results of our research in Nubbo at 'La Cité' and collection of expert practitioner feedback
01/2022	Exchange by videoconference with Mrs. Dorothé Lepine of Réso IP+, objective: to understand the interrelations between the members of the network and request interviews from each structure

CHAPTER II: POTENTIAL TENANT IDENTIFICATION AND SCREENING PRACTICES IN THE PREINCUBATION ECOSYSTEM

Previous literature on the ecosystem approach of incubators' studies has shown that these entities adopt complex practices (cooperation and competition) in interaction with actors of entrepreneurial support ecosystem during preincubation. Among these practices, identifying and selecting tenants (business projects and start-ups) during the preincubation is particularly central as it shapes incubators' performance. The current research aims to deepen knowledge of incubator tenants' identification and selection practices. Using an ecosystem approach, we analysed tenants' identification and selection process through a single case study of an incubator in Occitania (southwestern region of France). A conceptual model is proposed with entrepreneurial sourcing as a pragmatic process with two sets of practices: identification (scouting, prospecting, opening, and e-sourcing) and screening (files reviewing, training, accessing, and interviewing). These practices result from interactions between incubators and other actors (technology brokers, idea brokers and innovative environment) in a sub-ecosystem that we have detailed and qualified as a preincubation ecosystem. Finally, we discuss the challenges of entrepreneurial sourcing and how they can be mitigated through digitalisation.

Introduction

While the literature suggests that identifying and selecting tenants (business projects and start-ups) shape incubators' performance (Etzkowitz, 2002; Aerts et al., 2007), recent works have also revealed that these preincubation practices need to be investigated further because they are becoming increasingly complex (Bank et al., 2017; Klofsten et al., 2020), and less understood (Hillemane et al., 2019; Mian, 2021). The literature on the ecosystem approach of incubators' studies has shown that these entities adopt complex practices (cooperation and competition) in interactions with other actors of the entrepreneurial support ecosystem during preincubation (Theodoraki and Messeghem, 2020). An ecosystem approach seems relevant for an attempt to understand incubator tenants' identification and selection practices during preincubation.

An incubator refers to any entity (incubators, accelerators, science parks, and other similar venture support programmes) whose function is to support the launch and growth of its tenants (Hausberg and Korreck, 2018; Theodoraki and Messeghem, 2020; Mian, 2021) 'with a strategic perspective' (Mian, 2021, p. 21). It performs this function by offering hard services (premises, access to venture capital and other types of funding, and proximity to universities, research institutes and competently managed science parks) and soft services (business advice, coaching, education, and networking activities) (Bergek and Norrman, 2008; Barbero et al., 2012).

A regional incubator is one among many other incubator types (von Zedtwitz and Grimaldi, 2006; Hausberg and Korreck, 2018) which benefits from financial support from state and local socio-economic and political sponsors (OECD, 2019). Its mission is to favour the creation of jobs and wealth by supporting the launch and growth of innovative companies (Von Zedtwitz, 2003; Clarysse et al., 2005). The literature suggests that incubators' activity is a three-step process: preincubation, incubation, and post-incubation (Hillemane et al., 2019).

From a theoretical point of view, several studies have focused on the downstream side of incubators (i.e., incubation, performance, etc.), but very few have looked at the upstream side (preincubation) which includes tenants' identification and selection (Hillemane et al., 2019; Mian, 2021). Research that has addressed preincubation has mainly focused on selection (Lumpkin and Ireland, 1988; Aerts et al., 2007; Klofsten et al., 2020), while very few studies address the identification step (Aaboen, 2009). Some studies have examined tenants' identification and screening processes, but their contributions remained fragmented theoretical assumptions (Etzkowitz, 2002) or sparse empirical descriptions (Bank et al., 2017).

The recent literature on the ecosystem approach of incubators has shown that these entities adopt co-opetitive strategies (cooperation and competition) (Carayannis et al., 2018) in interactions with actors of the entrepreneurial support ecosystem during preincubation (Theodoraki and Messeghem, 2020). This ecosystem view offers a fruitful perspective to conceptualise the identification and screening of potential tenants in a systemic way. Developing such a perspective on preincubation can also enable incubators to better design their preincubation practices to ensure a steady flow of qualified tenants (Bank et al., 2017) with potential of success during incubation (Etzkowitz, 2002).

A comparative literature analysis on several approaches to preincubation has shown that the identification and selection of potential tenants in the ecosystem (Theodoraki and Messeghem, 2020) is part of a process (Etzkowitz, 2002; Bank et al., 2017) which share characteristic attributes with the sourcing processes and practices already studied in management science (Giunipero et al., 2019). Such analysis paves the way to a conceptualisation of the entrepreneurial sourcing by transposing 'sourcing' to the process and practices of potential tenants' identification and selection during preincubation.

By considering the entrepreneurial ecosystem as a set of interdependent sub-ecosystems (Theodoraki and Messeghem, 2017; Theodoraki and Catanzaro, 2022), the current research posits that entrepreneurial sourcing practices take place in a subset that is framed as a preincubation ecosystem. The analysis aims to support the entrepreneurial sourcing by

exploring its practices in the preincubation ecosystem. Hence the research question: how do incubators identify and screen potential tenants within the preincubation ecosystem?

Building on grounded theory qualitative analysis (Glaser and Strauss, 1967), the research question is answered through an in-depth exploratory single case study (Dubois and Gadde, 2002; Yin, 2018) of a regional incubator in Occitania (Southwest region of France). By considering the incubator as a central player in the preincubation ecosystem (Spigel, 2017), its unilateral and partnership practices of potential tenants' identification and selection were observed (Rohrbeck, 2010; Theodoraki and Messeghem, 2020) through 22 semi-structured interviews, participating and non-participating observations and secondary data. An abductive and process method is followed for data analysis (Dubois and Gadde, 2002; Langley et al., 2013). The remainder of this study is structured as follows: Section 2.1 presents the conceptual framework, followed by the qualitative research method in Section 2.2. Then, Section 2.3 presents the findings, which are discussed, and conclusions drawn in Section 2.4.

2.1. Preincubation Literature Review and Conceptual Framework

Previous literature on preincubation practices have obtained fragmented results (Lumpkin and Ireland, 1988; Aerts et al., 2007; Bank and Kanda, 2016; Bank et al., 2017; Theodoraki and Messeghem, 2020; Mian, 2021) and sometimes even patterns of results which appear paradoxical (Klofsten et al., 2020). A major part of this literature is focused on the impact of potential tenants' screening on the incubator performance with no consensual results (Lumpkin and Ireland, 1988; Aerts et al., 2007; Klofsten et al., 2020). Some research has found that incubators screen potential tenants according to three categories of criteria (experience of potential tenants' management team, financial strength, market, and personal factors), which ultimately determine incubator performance through tenants' success during incubation (Lumpkin and Ireland, 1988; Aerts et al., 2007). Others have shown that when incubators did not find enough potential tenants matching their specialisation criteria, they widen the screening criteria to retain other potential tenants (Bank and Kanda, 2016). This led to the paradox that Klofsten et al. (2020) exposed in terms of finding that despite the positive relationship between incubators' size (the number of their tenants) and their specialisation criteria, there is no fit between most tenants and their incubators' specialisation criteria.

Recent literature has suggested that potential tenants' identification and screening are embedded in a process (Etzkowitz, 2002; Bank et al., 2017) which takes place in an ecosystem (Theodoraki and Messeghem, 2020). For example, Etzkowitz (2002: 121) suggests that 'the

application and decision-making process by which new enterprises are accepted into the incubator is important in identifying firms with potential for growth and other relevant criteria of success.' Bank et al. (2017) have shown that incubators collaborate with partners in their external environment during this process. Furthermore, Theodoraki and Messeghem (2020) demonstrated that preincubation practices depend on an ecosystem because they found that at this stage, incubators are in co-opetition with other actors in the entrepreneurial support ecosystem.

From the above literature review, the conclusion is that knowledge on potential tenants' identification and screening practices during the preincubation is fragmented, under-theorized and with a lack of an accepted conceptual framework (Hillemane et al., 2019; Mian, 2021) despite the importance of such practices on the incubator performance (Etzkowitz et al., 2005). The current research addresses this theoretical gap with practical relevance. The objectives of this study are to show: 1) that we can conceptualise these practices as a process (Etzkowitz, 2002) that we framed as entrepreneurial sourcing by showing their relationships in time (OECD, 2019; Hillemane et al., 2019; Mian, 2021); and 2) that these practices are embedded in a sub-ecosystem (Theodoraki and Catanzaro, 2022; Theodoraki and Messeghem, 2020) called the preincubation ecosystem.

2.1.1. Entrepreneurial Sourcing: A Multi-Dimension Concept

The 'entrepreneurial sourcing' concept is developed here by transposing 'sourcing' from other fields of management science (Giunipero et al., 2019; Farndale et al., 2021) to the processes and practices of potential tenants' identification and screening (Etzkowitz, 2002; Bank et al., 2017) following a comparative literature review (Ahi and Searcy, 2013). Potential tenants are presented in the literature as mixed inputs (talents, knowledge/technology, and other means), which are transformed during incubation into innovative firms (Lumpkin and Ireland, 1988; Mian, 2021). They can be considered as the equivalents of inputs (raw materials, talents, and technologies) used in industries for production (Narasimhan and Carter, 1998; Monteiro and Birkinshaw, 2017; Farndale et al., 2021).

The research and acquisition of inputs in industries are part of the so-called sourcing process in management sciences (Giunipero et al., 2019). In supply chain management, sourcing is considered as the upstream part during which firms source inputs: raw materials and production components (Stock and Boyer, 2009). In this sense, Giunipero et al. (2019: 1) defined sourcing as 'the process of fulfilling organisational buying needs by managing a supply base through strategic and transactional interactions with suppliers in alignment with corporate goals'. In

human resource management, sourcing refers to the processes and practices of finding highly skilled talent in the globalised environment and hiring locally (Farndale et al., 2021). Sourcing is also used in innovation management to refer to the process and practices of acquiring the technological know-how that enables a company to compete in its industry (Monteiro and Birkinshaw, 2017; Giunipero et al., 2019). Supply chain management literature has identified seven attributes characteristic of 'sourcing' practices: flow focus, coordination focus, stakeholder focus, relationship focus, value focus, efficiency focus (input reduction) and performance focus (Stock and Boyer, 2009; Ahi and Searcy, 2013). The analysis of existing works that have addressed the preincubation process and practices (von Zedtwitz, 2003; Aerts et al., 2007; Bruneel et al., 2012; Aaboen, 2009; Bank and Kanda, 2016; Bank et al., 2017; Klofsten et al., 2020; Theodoraki and Messeghem, 2020) has enabled us to identify six of the seven characteristics of sourcing already found in supply chain management (Ahi and Searcy, 2013; Stock and Boyer, 2009). The current analysis found three additional characteristics (exchange framework, organisational structure, and processual nature) identifiable in both the sourcing and the preincubation literature.

Table 12. Attributes of sourcing practices vs attributes of preincubation

Dimensions	Illustrations in the management science literature	Equivalence in preincubation processes and practices
Focus on the flow	Flow of materials, technologies, and talents	Flow of tenants entering the incubation process
Focus on value	Quantity, quality, and fluidity of production's resources	Volume, potential and fluidity of tenants' flow
Focus on relationships	Internal and external networks (input suppliers)	Networks of preincubation actors
Coordination axis	Cooperation and collaboration	Co-opetition with preincubation actors
Focus on stakeholders	Clients, consumers and suppliers of talent, materials, and technologies	Potential tenants (combination of talent, entrepreneurial means, and technologies) and preincubation actors
Focus on performance	Improving performance, improving competitiveness, monitoring, and achieving targets	Improving performance, achieving objectives
Framework for exchanges	Face-to-face and/or virtual	Face-to-face and/or virtual
Organizational structure	Porous and open to the outside	Porous and open in the ecosystem
Process nature	Detection and selection (suppliers) or identification and selection of inputs	Identification and screening of potential tenants or sourcing partners

Source: author

Table 12 shows that potential tenants' identification and screening process and practices share the same characteristics of existing sourcing processes and practices in management science (Giunipero et al., 2019). This comparative literature review allowed the transposition

of the sourcing to the identification and screening practices for potential tenants. This sourcing can be qualified as entrepreneurial because a potential tenant includes a potential entrepreneurial team (talents), a technology/knowledge or a business idea and entrepreneurial means (Lumpkin and Ireland, 1988; Aerts et al., 2007; Mian, 2021). Hence, this conceptualisation of entrepreneurial sourcing which is defined as:

A process with practices conducted by incubators in close collaboration with other external preincubation actors, whose objective is to regularly identify and screen in volume qualified tenants.

By borrowing sourcing from supply chain management (Narasimhan and Carter, 1998), innovation management (Monteiro and Birkinshaw, 2017) and human resource management (Farndale et al., 2021), entrepreneurial sourcing can be conceptualised at the intersection of these three historical fields of sourcing in management science. The literature addressing preincubation practices borrows concepts from sourcing of the three fields above in management science to implicitly refer to entrepreneurial sourcing practices (Baraldi and Havenvid, 2016; Hausberg and Korreck, 2018).

2.1.2. Practices of Entrepreneurial Sourcing

Baraldi and Havenvid (2016: 56) referred without much detail to 'scouting', which they implicitly consider as a practice of identifying potential tenants before the screening. This concept is well-studied in the context of technological innovations in large companies (Rohrbeck, 2010; Monteiro and Birkinshaw, 2017). It includes a set of practices such as channelling, matchmaking, translating and transforming (Monteiro and Birkinshaw, 2017).

By building on the work of Aaboen (2009), some works highlighted that an incubator engages in commercial (marketing) activities during the search for potential tenants (Hausberg and Korreck, 2018). These activities could involve techniques such as 'prospecting' that have been extensively studied in personal sales management (Dubinsky, 1981; Dwyer et al., 2000; Jolson and Wotruba, 1992).

Hausberg and Korreck (2018) add that the marketing activities aim to build an incubator brand to attract potential tenants that they have identified as incubation candidates. 'Application' and 'attraction' are concepts used in human resource management to refer to talent sourcing practices (Cober et al., 2004; Farndale et al., 2021). Therefore, incubators would use these practices, such as calling for applications and attraction during the identification of potential tenants. After identification, incubators screen potential tenants to retain the best ones (Lumpkin and Ireland, 1988; Aerts et al., 2007).

Based on these findings, this research assumes that entrepreneurial sourcing is a process with identification and screening practices that incubators use to recruit their potential tenants. Like sourcing practices in management science (Giunipero et al., 2019) and as an incubator-specific phenomenon, entrepreneurial sourcing practices are embedded in an interaction between incubators and some entrepreneurial ecosystem actors (Theodoraki and Messeghem, 2020).

2.1.3. Preincubation Ecosystems

Literature has shown that incubators interact with actors in their external environment to identify and screen potential tenants (Voisey et al., 2013; Bank et al., 2017; Klofsten et al., 2020). Recent works have shown that this external environment has evolved and can be considered as an ecosystem (Theodoraki and Messeghem, 2020). By studying the strategies of incubators following an ecosystem approach, they have found that incubators adopt co-opetitive strategies dominated by competition during the preincubation phase. This result shows that preincubation processes and practices, such as entrepreneurial sourcing, are ecosystem-dependent (Theodoraki and Messeghem, 2020). Thus, the ecosystem approach is a relevant perspective for an in-depth study of entrepreneurial sourcing.

Based on Carayannis et al. (2018: 148), this research considers the ecosystem as an '… agglomeration of organisational and institutional entities or stakeholders with socio-technical, socio-economic, and socio-political conflicting as well as converging (co-opetitive) goals, priorities, expectations, and behaviours that they pursue via entrepreneurial development, exploration, exploitation, and deployment [DEED] actions, reactions, and interactions.

Previous research has shown that the entrepreneurial ecosystem comprises several interconnected sub-ecosystems (Theodoraki and Catanzaro, 2022). The ecosystem can be analysed at micro, meso-and macro levels (Theodoraki and Messeghem, 2017). As such, this study considers that preincubation takes place in a sub-ecosystem called the preincubation ecosystem.

The preincubation ecosystem includes incubators (Voisey et al., 2013), research institutions and laboratories, funding entities, coworking spaces, and technologies transfer entities (Mian, 2021). This ecosystem's actors interact with each other to germinate potential tenants (Hillemane et al., 2019) that incubators identify and screen through entrepreneurial sourcing practices.

The current study deepens the understanding of the entrepreneurial sourcing by exploring its practices through a single case study of the interactions between a regional incubator and other actors in the preincubation ecosystem in the southwest region of France, Occitania.

2.2. Research method

This study explores the practices of entrepreneurial sourcing in the preincubation ecosystem: a new and understudied process with a how research question. Indeed, the analysis was focused on a single in-depth exploratory case study of a regional incubator in Occitania, France (Yin, 2018). The analysis adopts an ecosystem (Theodoraki and Messeghem, 2020) and process (Dubois and Gadde, 2002; Langley et al., 2013) approach to lead a stepwise analysis of the entrepreneurial sourcing practices that the incubator conducts alone or in interaction with other actors in the preincubation ecosystem (Theodoraki and Messeghem, 2020). This analysis aims to highlight the entrepreneurial sourcing practices and their functioning in the preincubation ecosystem. Building on grounded theory (Glaser and Strauss, 1967; Strauss and Corbin, 1990), an abductive qualitative analysis method was conducted to identify both entrepreneurial sourcing practices already addressed in the conceptual framework and other new ones emerged from data analysis (Dubois and Gadde, 2002).

2.2.1. Case description: the regional incubator and Occitania preincubation ecosystem

Many arguments show that the regional incubator tenants' identification and screening practices in Occitania's preincubation ecosystem constitute an extreme and complex case that captures the phenomenon of entrepreneurial sourcing (Baraldi and Havenvid, 2016).

The regional incubator studied here was created by the French government more than 20 years ago to promote the transfer of public research results through business creation in Occitania region. By aiming to transfer public research technologies, this is part of the incubator typology that displays complex inputs and practices at their preincubation stage, which studies have called for a deeper analysis (Hillemane et al., 2019; Mian, 2021).

In addition to the French State, local authorities, and socio-economic actors (funding entities, industries, research organisations, universities, chambers of commerce and industry) have joined together in the creation of the regional incubator. This incubator has more than forty-five members divided into four colleges: the college of state representatives, the college of the regional representatives, the college of academic actors and the college of socio-economic partners. Therefore, it is a public and regional incubator (von Zedtwitz, 2003; von Zedtwitz and Grimaldi, 2006) which is anchored in a rich and diversified ecosystem made by

its members with the reputation of the Toulouse agglomeration in the aerospace industry (AIRBUS, CNES, etc.) (Cohen, 2006; Isenberg, 2011; Theodoraki and Messeghem, 2017). By being embedded in an ecosystem, the analysis of preincubation practices of such an incubator can capture an ecosystem phenomenon such as entrepreneurial sourcing (Theodoraki and Messeghem, 2020).

This regional incubator is positioned across the entire chain of entrepreneurial support: preincubation, incubation, and acceleration. Therefore, it welcomes tenants at various stages of maturity. Thus, it embodies the 'umbrella' criterion of the incubator concept (Theodoraki and Messeghem, 2020; Mian, 2021) and would therefore mean adopting several more types of practice for identifying and screening potential tenants than would be the case for any other support entity that is more narrowly focused.

Furthermore, this incubator has just moved to larger premises reserved by its public sponsors under the condition of a large volume of tenants to be supported each year. Reconciling the mission of economic development, and the volume objective necessarily requires sophisticated identification and screening process with practices that enable the permanent recruitment of qualified tenants (Etzkowitz, 2002; Bank et al., 2017). The above description of this regional incubator's case shows that its potential tenants' identification and screening during preincubation are relevant for reporting on entrepreneurial sourcing in the preincubation ecosystem.

2.2.2. Data Collection

Data collection took place from November 2019 to August 2020 in the Occitania region through a process and ecosystem approach (Langley et al., 2013; Theodoraki and Messeghem, 2017). These data were collected through various sources to increase the validity of the results by a triangulation of the information (Mathison, 1988).

The bulk of the data comes from semi-structured interviews with internal and external incubator stakeholders who intervene in the sourcing within the preincubation ecosystem, including incubator staff, other preincubation ecosystem actors, and incubator tenant firms (Baraldi and Havenvid, 2016). The constitution of the theoretical sample is sought through an iterative collection-analysis process until data saturation was achieved (Bowen, 2008).

The 'snowball' technique was used to contact interviewees (Biernacki and Waldorf, 1981) because it was the only method that allowed a selective sample to be constituted to better inform on ecosystem practices and ensure it is centred on the incubator (Baraldi and Havenvid, 2016). The experience of the co-authors and an accepted partnership from the incubator to engage in

this research were an asset for the data collection. Indeed, a collective interview was performed to share information and provide insights on the preincubation ecosystem. A total of 22 interviews were conducted with 20 individuals, including three members of the incubator staff (the director was interviewed three times), ten incubator partners in the preincubation ecosystem, and seven tenant firms. Three semi-structured interview guides containing parallel questions allowing for triangulation of information were developed to interview the three groups in the sample (Baraldi and Havenvid, 2016). The questions for the incubator staff focused on three issues: the techniques for identifying and screening potential tenants, the sources of potential tenants in the ecosystem and the methods of entry. The partners in the preincubation ecosystem were questioned about their role in identifying and screening potential tenants at the regional incubator and the nature of the relationship with the incubator. The tenant firms were asked to retrace the history of their preincubation journey from the birth of the business idea to their entry into incubation at the regional incubator. Three interviews were conducted face-to-face. The others were conducted by videoconference due to the constraints of Covid-19.

All 22 semi-structured interviews, with an average duration of 57 minutes per interview, were recorded and fully transcribed. These data were complemented by participant and non-participant observation notes that one of the authors collected during seven events (entrepreneurial events in the ecosystem and entities' site visits) lasting a total of 43 hours 45 minutes. Secondary data, such as incubator activity and auditing reports, were also collected.

2.2.3. Data Processing and Analysis

An abductive qualitative analysis, like grounded theory, was used for data processing (Glaser and Strauss, 1967). First, the data were broken down into sense units using open coding. The sense's units were grouped into subcategories through a matching and comparison mechanism following axial coding. Then, the subcategories were grouped in themes following selective coding (Strauss and Corbin, 1990). The themes were synthesised under aggregate dimensions to facilitate the presentation of results. After considering the remarks and suggestions of the academic experts, the results were presented to the director of the regional incubator to enhance our analysis.

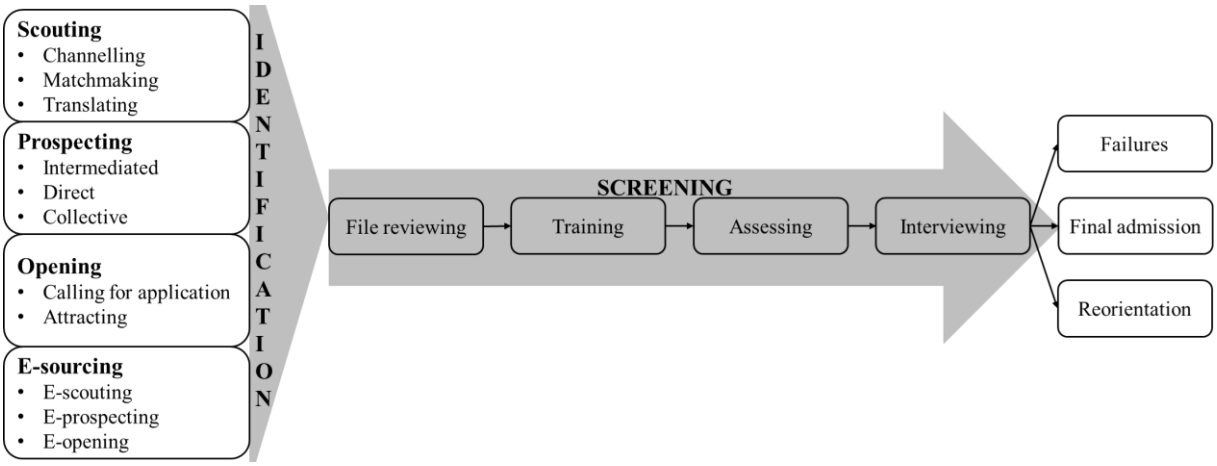
2.3. Findings

The results are organized in three subsections: entrepreneurial sourcing as process with practices; preincubation ecosystem's actors and their interaction with the incubator; and opportunities and constraints of entrepreneurial sourcing.

2.3.1. Entrepreneurial sourcing: a process with practices

The analysis presents the entrepreneurial sourcing and its practices as a two-step process: identification and screening (see Figure 17).

Figure 17. Entrepreneurial sourcing process and practices



Source: Author

Identification process

Identification is entrepreneurial sourcing stage at which the incubator detects potential tenants. These practices can be gathered into four groups: scouting, prospecting, opening, and e-sourcing.

- Scouting is a set of practices borrowed from technology sourcing: channelling, matchmaking and translating.
    - Channelling refers to the prescription of potential tenants without prior sorting by the incubator's formal partners (public research laboratories, universities, funding entities, etc.) such as explained by Interviewee 1.1: 'We have most of our formal members who are also prescribers to direct project holders (potential tenants) to us.'
    - Matchmaking is when the incubator shares its internal information (specialisation criteria) with partners in the preincubation ecosystem, which puts

it in touch with potential tenants fulfilling its specialisation criteria such as explained by Interviewee 5: 'By knowing what are [regional incubator]'s intervention criteria for hosting a project, … we can direct such and such a project (potential tenant) towards the incubator [regional incubator]'.

  - Translating is when some preincubation ecosystem actors act as expert intermediaries to either help the potential tenant to adapt its vocabulary and start-up's idea to the incubator's expectations or to explain to the incubator during the matching that the tenant fits their specialisation criteria, such as explained by Interviewee 13: 'They (potential tenants) can be a bit clumsy in their presentation, so I explain to [regional incubator] the interest of the project, especially on the specific technologies or market aspects of aeronautics or space that they do not necessarily know.'

- Prospecting is a practice borrowed from personal sales management. It consists of the incubator using inter-organizational (its preincubation partners) and interpersonal (its staff) networks for potential tenants' identification. Prospecting can be direct (meeting potential tenants' leaders) or intermediated (recommendation or prescription from the interpersonal or inter-organizational networks), or collective (meeting several leaders of potential tenants at a public event: workshops, social networking evenings, start-up weekend). In this way, Interviewee 14 explains that: 'we do round tables with the whole ecosystem. My colleague and I are also members of the jury of start-up competitions. The idea is to meet many project leaders (potential tenants) as possible to determine those who could be eligible for our incubation program.'
- Opening brings together two historical potential tenant identification practices of incubators: calling for application and attracting.
  - Calling for application consists of ad hoc recruitment announcements of potential tenants that are disseminated widely across partners' networks, such as explained by Interviewee 2: 'we have two timings a year where we launch small calls for projects directly via a network of partners. We disseminate them very widely to support all the partners.'
  - Attracting results from the effect of the incubator's brand image (its know-how, expertise, and success story) which attracts potential tenants in the form of spontaneous applications to the incubator. Interviewee 3 explains that: '[the regional incubator] is a historical player in the region, it is the oldest player in

project support. Thus, we have project holders (potential tenants) who come and submit their projects directly … who come and say, 'I have got an idea, etc.'

- E-sourcing is a set of practices that can take the form of opening to application, prospecting, or scouting, but they are virtualised thanks to the use of digital tools: social networks, websites, and digital platforms such as explained by Interviewee 3: 'I think that this year … with Covid-19 … calls for applications are made three times' … obviously, LinkedIn is sponsored to recap Toulouse with all the profiles that declare an interest in entrepreneurship. That will be all we can do. On Facebook, it works very well too. On Facebook we want to have better searches, to have profiles that are interested in entrepreneurship.'

Screening Process

Screening is the stage at which the incubator sorts potential tenants to retain the best ones for incubation. 'This preincubation phase is a progressive selection of projects' (Interviewee 1.3). A four-step process illustrates screening in the case of the regional incubator: file reviewing, training, assessing, and interviewing.

- The file reviewing is a basic sorting that consists of analysing the application files and checking whether the potential tenant reflects the basic criteria of the incubator's specialisation (deep-tech and B2B market at the regional incubator) such as explained by Interviewee 1.3: 'At this stage, we simply do an eligibility filter… The only eligibility filter we will use is that as we do not do B2C in incubation. If in the people who apply, we have projects whose economic model is B2C, we're going to say no to them.'
- Training is a free one-month maturation programme that the incubator offers to all tenants' leaders selected after the file reviewing. The objective of the training is twofold: to support the maturation of the tenants (training, market testing, prototyping, pitching, etc.) and to familiarise them with each other to get to know them better and avoid screening bias such as explained by Interviewee 1.3: 'We will also try to explain what we call an innovation of the economic model or not, so that they understand that in the end, what we want is a hypothesis of innovation of the economic model and it is on this basis that we will select them.'
- Assessing is a preselection that takes place at the end of each cohort of potential tenants who have followed the training programme. During this preselection, an internal jury

composed of all the coaches assesses the potential tenants based on their knowledge of their level of maturity and a 5-minute pitch per potential tenant such as explained by Interviewee 1.2: ‘in the end (end of training), there is an audition for each project with the whole [regional incubator] team. It is not the selection committee yet. And then we make a preselection.’ Potential tenants who pass this assessment are registered in the eligibility list.

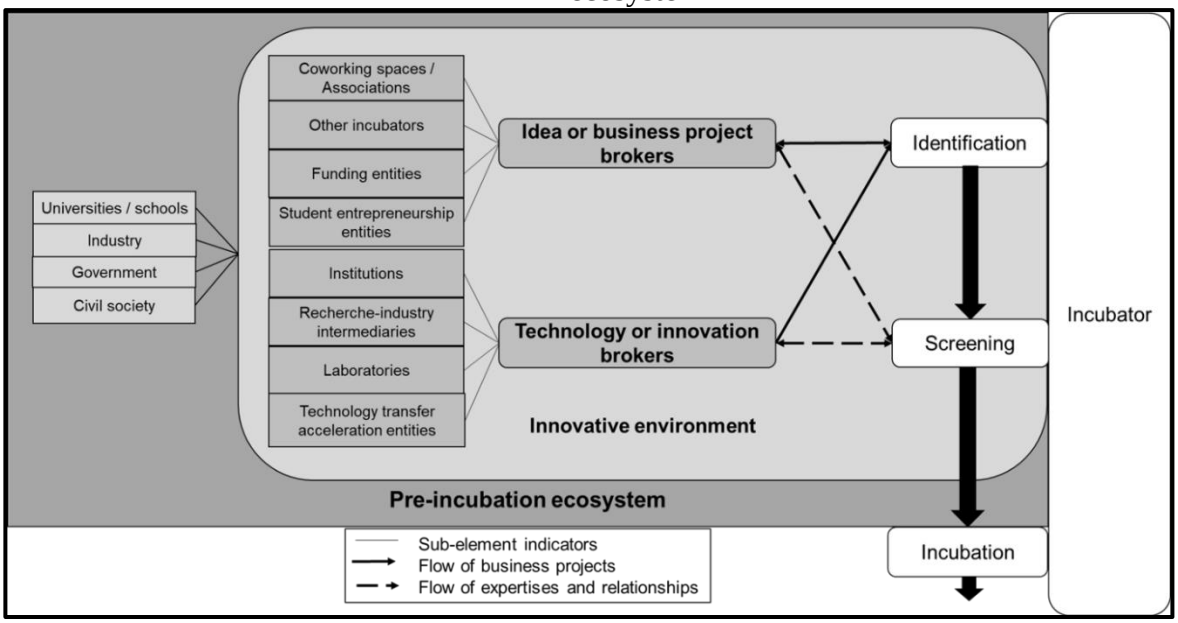
- Interviewing is the final stage of screening. At this stage, the potential tenants accumulated in the eligibility list since the last set of interviews are presented. A collegial jury composed of representatives of the incubator’s member colleges, internal coaches, former tenants, and external entrepreneurs meets twice a year at the regional incubator to decide on the two cohorts of potential tenants who will enter the incubator. Each potential tenant leader has 5 minutes of pitching time to convince the jury. At the end of the pitches, the jury members decide which potential tenants will enter the incubator and which failed potential tenants the incubator can reorient to other incubators. In this way, Interviewee 1.3 explains that: ‘at the end, there is a selection committee which is composed mainly of entrepreneurs, bosses of innovative companies and who are already in business. They are peoples who are currently running innovative companies. It is just a committee of experts who will decide on the selection. They only spend half a day auditioning the projects (potential tenants).’

The interviewing at the screening level and all identification practices show that the incubator interacts with other actors in the preincubation ecosystem during the entrepreneurial sourcing. The following section highlights the preincubation ecosystem’s actors and their links with the incubator.

2.3.2. Entrepreneurial sourcing and interactions in the preincubation ecosystem

This research identified three main actors in the preincubation ecosystem with whom the incubator interacts during its entrepreneurial sourcing activities: idea or business project brokers, technology or innovation brokers, and the innovative environment.

Figure 18. Entrepreneurial sourcing and interactions in the preincubation ecosystem



Source: author

- Idea or business project brokers are entities that identify in the ecosystem early-stage business projects and support them for the maturity. These structures have short-term support programmes, and their emerging business projects may need additional support for the launch or growth. Therefore, The incubator is positioned as a relay for supporting business projects coming out of idea brokers. Therefore, idea brokers can be considered as sources of business projects for the incubator. In return, the incubator can be involved for one-off training or as co-support within idea brokers. In addition, the incubator can redirect to idea brokers any business projects that do not correspond to their specialisation or reach them directly at the early stages of maturity. There is a relationship of complementarity and reciprocity between incubators and idea brokers.
- Technology brokers are entities that initially developed and sold innovative technology licenses to existing industries. These entities are currently developing practices for valuing their technologies through creating businesses. They, therefore, generate business projects by combining technologies, talents, and means. Not having an incubation vocation, these entities recommend the incubator to the business projects they create. In return, the incubator can engage from time to time in the activities of technology brokers by providing training courses delivered to the initiators of business projects.

- The innovative environment is a set of actors and factors that interact with each other and create favourable or unfavourable conditions for the emergence of business projects' components (funding, talents, technologies, regulations, state or local policies, culture). Some of innovative environment actors can be talent providers or even business projects (the university for its graduates and student entrepreneurs, industry with its intrapreneurs and civil society with its job seekers and market needs).

This description of the actors and their relationships with the incubator shows that the preincubation ecosystem can be defined as a place with actors and factors where potential tenants are self-created or created by entities and exchanged between actors based on multilateral relationships supported by sharing of expertise and information.

The analysis shows that entrepreneurial sourcing practices are part of interactions between actors in the preincubation ecosystem. During the identification, interactions are in the form of prescription, recommendation, takeover, or proposal for co-support of business projects. During the screening, the interactions consist of participating in the business project selection boards. This analysis allows a better understanding of the sources for identifying and selecting business projects. This research shows how incubators can develop closer relationships with their ecosystem at several levels. In fact, entrepreneurial sourcing requires a synergy of all preincubation ecosystem actors. In the following section, an analysis of the opportunities and constraints of the ecosystem approach to entrepreneurial sourcing is presented.

2.3.3. Constraints and opportunities of entrepreneurial sourcing: from territorial refocusing to hybrid practices

The analysis shows that incubators encounter some difficulties during sourcing. Faced with these difficulties, incubators have changed their practices by shaping the preincubation ecosystem. The main constraint in entrepreneurial sourcing is linked to territorial policies. These are policies for retaining business projects in their home territories for the purposes of creating local wealth and jobs. This often leads to a refocusing of entrepreneurial sourcing in the immediate territorial perimeter of the incubator. Indeed, despite the regional incubator's networking (physically and virtually) to identify business projects from several departments in the region, most business projects it supports come from the department where it is located (i.e., Toulouse).

To alleviate the effects of territorial policies for retaining business projects while maintaining its regional legitimacy, the regional incubator has launched its digital transition. It is, therefore, trying to invest in a hybrid support model (combination of physical and digital

practices) by digitising some of its activities as needed. The hybridisation (or phygitalization) of practices makes it possible to implement entrepreneurial sourcing without the fears of migration of business projects. It allows prospect tenants to be included when business projects are from other departments and would prefer to stay in their territories. In fact, it is a means of attenuating the effects of policies for retaining business projects because it strengthens links with other territories and helps boost entrepreneurial sourcing. The COVID-19 crisis would have allowed the regional incubator to experiment and successfully accelerate its digital practices.

The above results corroborate in places the findings of some previous work, but also provide new insights into the literature on the ecosystem approach of incubators' upstream activity (preincubation). In the following section, these results are discussed by presenting their theoretical contributions and practical implications. Then, research limitations and avenues for future research are presented before the conclusion.

2.4. Discussion

The conceptualisation of entrepreneurial sourcing is the main theoretical contribution that helps to alleviate the theoretical gap in the literature on incubator activity processes. Extant literature has shown that the preincubation phase was under-theorized (Hillemane et al., 2019; Mian, 2021). Several previous studies focused partly on screening without addressing the issue of the source of incubator tenants, and the practices by which tenants are identified (Lumpkin and Ireland, 1988; Aerts et al., 2007; Klofsten et al., 2020). The entrepreneurial sourcing shows an upstream phase during which the incubator identifies potential tenants through scouting (Monteiro and Birkinshaw, 2017), prospecting (Dwyer et al., 2000), opening to application (Farndale et al., 2021), and e-sourcing. If the calls for applications were an obvious expected result, the other practices are original results. The study also deepens the understanding of the screening by showing that it is a process with sequential practices including file reviewing, training, assessing, and interviewing.

Recent works have tried to observe preincubation practices following a process approach, but they have been remained a description or assumption of the phenomenon without conceptualisation (Etzkowitz, 2002; Bank et al., 2017). Entrepreneurial sourcing underpinned through ecosystem approach (Dubois and Gadde, 2002; Theodoraki and Messeghem, 2020) shows that the identification and screening of potential tenants are not only part of a process (Etzkowitz, 2002) but they are also embedded in an interaction between incubators and other

actors in a sub-ecosystem (Theodoraki and Messeghem, 2017; Theodoraki and Catanzaro, 2022): the preincubation ecosystem. The preincubation ecosystem actors include idea brokers, technology brokers (Nambisan and Sawhney, 2007) and stakeholders of the innovative environment (Carayannis et al., 2018). This conceptualisation unifies in a coordinated and pragmatic way knowledge about potential tenants' identification and selection during preincubation.

In practice, this study has implications for incubators and other actors in the preincubation ecosystem (technology brokers, idea brokers and the innovative environment stakeholders). For incubators, Figure 17 shows a pragmatic process for identifying and screening potential tenants. This process shows that in addition to conventional opening to application, other more sophisticated practices such as scouting, prospecting, and e-sourcing can be alternatives for the identification of potential tenants. This shows the need for organisational openness (for prospecting and scouting) and the adoption of digital technology for sourcing purposes. Similarly, by highlighting the preincubation ecosystem, the study identifies different actors who are sources of potential tenants in the preincubation ecosystem. It also shows that incubators can position themselves as complements, co-supporters, or relaters to recruit potential tenants who emerge from the preincubation ecosystem. Furthermore, the research shows that a process organisation can be adopted by incubators at the screening level. Hybrid support models are also recommended to incubators because digitisation opens perspectives towards digital entrepreneurial sourcing practices (e-sourcing) in complementarity with existing practices (scouting, prospecting, and opening to applications). These new practices breakdown geographical barriers and strengthen the territorial network of the incubator.

For the actors in the preincubation ecosystem (government, technology brokers, idea brokers, academia, industry, and civil society), this study does not find a reason for competition among them. The analysis of the preincubation ecosystem shows that positioning in terms of complementarity governs their interaction. The configuration of the preincubation ecosystem shows how actors can be grouped by categories and organise their relationships with each other for a win-win synergy of action.

This study has its limitations, as it raises questions whose answers are to be sought in future work. Indeed, the identification and screening practices identified in this research are based on a single case study of a regional incubator operating in a particular preincubation ecosystem (the Occitania region of France). This poses a problem of generalising the results, as each typology of incubators might adopt practices depending on internal and external factors. To

overcome this problem, future research could explore the external and internal antecedents that affect entrepreneurial sourcing practices. This will show conditions that need to be met to implement a given sourcing practice.

Nevertheless, academics and practitioners could retain that this research shows that potential tenants' identification and screening practices are embedded in a process with practices (entrepreneurial sourcing) within a subset of entrepreneurial ecosystems (preincubation ecosystem).

Conclusion

This chapter has made it possible to understand the composition of the entrepreneurial sourcing process and what happens as an interaction between incubators and other actors in the preincubation ecosystem. In practice, this first attempt offers a structured, replicable, and adaptable framework for incubators to better organise their process of identifying and selecting tenants, which constitutes one of their main current challenges (Bank et al., 2017). It also offers an understanding of the structuring of the preincubation ecosystem and the forms of interactions that take place between the actors. This should allow incubators to better understand their preincubation ecosystem and guide their collaborations to identify and select the tenants they need. In addition, this analysis has highlighted the existence of obstacles to entrepreneurial sourcing and proposes hybridisation (physical-digital) to remedy them. Despite the relevant contributions that this study brings to understanding the processes of identifying and selecting tenants during the preincubation phase, it has methodological limitations related to the single case study and does not respond to all the concerns underlined in the general introduction. Indeed, the analysis still leaves entrepreneurial sourcing as an independent process (Bettenmann, 2023; Eldering et al., 2023) and does not provide information on these outcomes either. The following essays address these limits based on the theoretical frameworks of RBV (Barney et al., 2021) and dynamic capability theory (Helfat, 2022; Helfat and Martin, 2015).

Appendix 2.1 List of interviewees

No.	Interviewee's function	Duration of interview	Ownership entities
1	Director	2 h09 min	Regional incubator's staff
2	Director	1 h21 min	
3	Director	1 h20 min	
4	Preincubation Program Manager	1 h01 min	
5	New Project Development Manager	1 h22 min	
6	CEO	1 h17 min	Regional incubator's partners in the preincubation ecosystem
7	Business Creation and Equity Monitoring Unit's director	1 h08 min	
8	Manager	0 h41 min	
9	Responsible for the Entrepreneurship Pole (PEPITE)	0 h54 min	
10	Regional Affairs Manager	0 h50 min	
11	Network Coordinator	1 h00 min	
12	Innovation and Entrepreneurship Officer	0 h45 min	
13	Funding Manager for Young Innovative Companies	0 h45 min	
14	Head of the Occitania Ouest Partnership and Promotion Department	0 h49 min	
15	Student Preincubation Entity Coordination Officer	1 h11 min	
16	CEO	0 h29 min	Regional incubator's tenant firms
17	Founder	0 h31 min	
18	CEO	0 h27 min	
19	CEO	0 h38 min	
20	President	1 h01 min	
21	Cofounder	0 h35 min	
22	CEO	0 h38 min	

CHAPTER III: RESOURCES WITHIN PREINCUBATION ECOSYSTEM AS ANTECEDENTS OF ENTREPRENEURIAL SOURCING

The effective identification and selection of tenants within the preincubation ecosystem are vital for incubators' performance. However, little is known about the specific processes and determinants of tenants' identification and selection within the preincubation ecosystem. We conceptualised tenant identification and selection as entrepreneurial sourcing within the preincubation ecosystem. Drawing on the resource-based view (RBV) as a theoretical framework, we conducted a multiple case study involving five types of incubators. Our research proposes a conceptual model that outlines the entrepreneurial sourcing processes within the preincubation ecosystem, including identification processes (scouting, prospecting, opening to applications, and e-sourcing) and screening processes (file reviewing, training, assessing, and interviewing). The effectiveness of these processes is influenced by a range of resources, both internal to the incubator (financial, human, relational, reputational, and technological resources) and external to the ecosystem (structure and condition of the preincubation ecosystem, socio-economic instability, local culture, national and local policies, local R&I, and industry). Our findings contribute to the theoretical understanding of entrepreneurial sourcing processes and offer practical implications for incubators and policymakers. Understanding the resources that impact these processes can help incubators optimise their strategies and improve performance, while policymakers can create a supportive environment for entrepreneurship and innovation.

Introduction

The identification and selection of tenants (business projects and start-ups) have an impact on incubator performance (Etzkowitz, 2002; Aerts et al., 2007; Eldering et al., 2023). While identifying and selecting a steady flow of tenants has become a growing challenge (Bank et al., 2017; Klofsten et al., 2020), a deep understanding of these preincubation processes is becoming an urgent need for incubators and their sponsors to enhance performances. Recent literature suggests that incubators' activities need to be analysed as processes within an ecosystem (Lindelöf and Hellberg, 2023). Building on extant literature (Theodoraki and Messeghem, 2017, 2020), we considered preincubation processes such as tenants' identification and selection as part of interaction between incubators and other actors of a subset of the entrepreneurial ecosystem (Roundy et al., 2018) that we called preincubation ecosystem. The preincubation ecosystem includes preincubators/pre-accelerators, coworking spaces, professional association, student entrepreneurship organisations, research laboratories, technology transfer organisations, innovation funding organisation (Voisey et al., 2013; M'chirgui et al., 2018; Theodoraki and Messeghem, 2020; Merguei and Costa, 2022), culture,

social capital, human capital, financial capital (Spigel, 2017; Theodoraki et al., 2018), and processes allowing circulation of resources within such ecosystem (Spigel and Harrison, 2018).

Incubator tenants' identification and selection within the preincubation ecosystem remain understudied (Hillemane et al., 2019; Klofsten et al., 2020). Some studies have focused on the impact of preincubation practices (selection criteria and sources of tenants) on incubators' performance and found that sources, and selection of tenants have an impact on incubators' performance, such as success of tenants, creation of jobs and wealth, and sponsors earning, innovation learning and societal returning (Lumpkin and Ireland, 1988; Aerts et al., 2007; Bettenmann, 2023; Eldering et al., 2023). Other studies have looked at the fit between selection criteria and tenants' characteristics within incubators and found that most of tenants did not respect the selection criteria of their incubators (Bank and Kanda, 2016; Klofsten et al., 2020). In addition, studies have looked at the composition of tenants and have shown that a tenant is a mix of talent (entrepreneurial skills), innovation or market solution and resources or financial and relational capital, etc. (Hillemane et al., 2019; Mian, 2021; Audretsch et al., 2022). Finally, studies have suggested that the identification and selection of tenants are processes (Thierstein and Wilhelm, 2001; Etzkowitz, 2002) that are part of interactions between incubators and other actors within their territories or ecosystem (Aaboen, 2009; Bank et al., 2017; Theodoraki and Messeghem, 2020). In short, the literature on the identification and selection of tenants within the preincubation ecosystem is fragmented, descriptive and even paradoxical. This shows that incubators lack integrated and in-depth knowledge to effectively tackle the challenge of the constant flow of relevant tenants and enhance their performance. Hence the interest of the current research aimed at providing an integrated framework of knowledge on tenants' identification and selection processes within the preincubation ecosystem.

The literature on the ecosystem approach to preincubation processes offers an exciting avenue to deeply analyse tenants' identification and selection processes, and their antecedents within the preincubation ecosystem. Indeed, this literature presents tenants as a mix of resources (Audretsch et al., 2022; Mian, 2021). Moreover, it has been suggested that the identification and selection of tenants are embedded in a process (Etzkowitz, 2002; Bank et al., 2017) that takes place within an ecosystem (Theodoraki and Messeghem, 2020). From the above statements, we propose to analyse the identification and selection processes in the preincubation ecosystem as entrepreneurial sourcing in reference to the activity of supply of material, immaterial, and human resources, as they share similar characteristics (Giunipero et al., 2019; Monteiro and Birkinshaw, 2017; Rohrbeck, 2010; Engelbrecht-Wiggans and Katok, 2006). The

entrepreneurial sourcing as conceptualised is part of a preincubation ecosystem (Theodoraki and Messeghem, 2020), and is also implemented by diverse types of incubators with varying requirements of tenants' criteria (Barbero et al., 2014; Sagath et al., 2019). Its implementation would vary depending on the incubators' resources within preincubation ecosystem. It is therefore relevant to explore the entrepreneurial sourcing processes of the main types of incubators and their strategic antecedents within preincubation ecosystem by building on RBV. Deepening the understanding of ES and their antecedents within the PE can serve as strategic support for incubators to deal with the challenge of volume and quality of tenants to ultimately improve their performance. Hence, our research question: How resources impact entrepreneurial sourcing processes within the preincubation ecosystem?

We explored entrepreneurial sourcing processes and antecedents within the preincubation ecosystem of France's southwestern region (Occitania) through a multiple case study of five types of incubators (Gehman et al., 2018; Yin, 2018). Our findings' theoretical contribution is the highlighting of identification (scouting, prospecting, opening to application, and e-sourcing) and screening (file reviewing, training, assessing, and interviewing) processes as entrepreneurial sourcing components. The antecedents of such processes are as incubator internal resources (relational, financial, human, technological, and reputational) and resources within the preincubation ecosystem (national and local policy, regulation, local economy and industry structure, local culture, and social in-stability). We suggest that to tackle the challenge of steady flow of relevant tenants and enhance their performance, incubators must implement entrepreneurial sourcing processes adapted regarding their internal resources, and resources within the preincubation ecosystem. Policymakers and sponsors could shape entrepreneurial sourcing and expected incubators' performance (innovation and territorial economic development) by endowing resources within the preincubation ecosystem. The remainder of our analysis is organised in four sections: 3.1) theoretical framework, 3.2) research method, 3.3) the findings, and 3.4) discussions and conclusion.

3.1. Theoretical Framework: Entrepreneurial Sourcing and RBV

We identified four research trends regarding literature on the preincubation processes. The first is focused on the link between tenant selection and incubator performance (Lumpkin and Ireland, 1988; Aerts et al., 2007; Klofsten et al., 2020; Eldering et al., 2023). These studies have shown that the selection of tenants during preincubation is based on three categories of criteria: financial ratios, personal characteristics of the entrepreneurial team and market factors

(Lumpkin and Ireland, 1988). The importance that incubators give to the three categories of criteria during selection determines the potential success of the tenants that they retain and, in turn, their performance (Aerts et al., 2007). Interested to the tenants' sources, Eldering et al. (2023) found that sponsors expected performance (earning, learning and social returning) from corporate incubators is impacted by tenants' sources. This first research trend leads to paradoxical conclusions showing that despite the link between selection criteria and performance, some incubators retain tenants that do not reflect their specialisation criteria (Klofsten et al., 2020). The second literature trend suggests that tenants' identification and selection practices are complex and are part of a process involving interaction between incubators and other actors in an environment (Etzkowitz, 2002; Bank et al., 2017). For example, Etzkowitz (2002, p. 121) has suggested that '*the application and decision-making process by which new enterprises are accepted into the incubator is important in identifying firms with potential for growth and other relevant criteria of success*'. This second trend is built on theoretical assumptions (Etzkowitz, 2002) and a descriptive analysis (Bank et al., 2017) laying the foundations of a path to understand in practice the processes of identifying and selecting tenants. It deserves to be analysed in depth to understand the ins and outs of these processes of identification and selection of tenants. The third trend has supported the idea that the identification and selection process is embedded in interactions with other actors (university, industry, institutions, coworking space, association, technology transfer entities, etc.) in an environment, adding that this environment has evolved and can be considered an ecosystem (Theodoraki and Messeghem, 2020; Lindelöf and Hellberg, 2023). The last trend has focused on tenants building, and suggested that business projects or start-ups are a mix of talents (entrepreneurs), innovation or technology of market solutions, and capital such as network, finance, knowledge, etc. (Mian, 2021; Audretsch et al., 2022). Although the literature suggests the existence of the ecosystem process of tenant identification and selection, it lacks the conceptualisation and definition of these processes with their ins and outs. The last two trends suggest that the identification and selection of tenants are part of interactions between incubators and other actors within an ecosystem and consider tenants as a mix of resources. As a result, they offer a relevant track for researching the ins and outs of tenants' identification and selection processes, considering the resources within the ecosystem where these preincubation processes are implemented.

This literature presents tenants as a mix of resources, including technology/innovation ideas, entrepreneurial talents/skills, and financial/social capital (Mian, 2021; Audretsch et al.,

2022). Moreover, it has been suggested that the identification and selection of tenants are embedded in a process (Etzkowitz, 2002; Bank et al., 2017) that takes place within an ecosystem (Theodoraki and Messeghem, 2020). Therefore, we propose to analyse the identification and selection processes in the preincubation ecosystem as entrepreneurial sourcing in reference to the activity of supply of material, immaterial, and human resources, as they share similar characteristics (Giunipero et al., 2019; Bettenmann, 2023; Eldering et al., 2023). We defined entrepreneurial sourcing as a process comprising several sequential activities carried out by incubators in close collaboration with other external actors in a preincubation ecosystem, whose objective is to regularly identify and screen a desired volume of qualified tenants corresponding to established criteria. Entrepreneurial sourcing as conceptualised is complex and is at the crossroad of talent sourcing, material sourcing and immaterial sourcing given the mixed nature of tenants (combination of talents, resources, and technologies). Our analysis aims to explore the entrepreneurial sourcing processes within the preincubation ecosystem and their antecedents to endow incubators with aggregated and structured knowledge which would allow the enhancement of their performance, such as innovation, and economic development (Messeghem et al., 2018; Eldering et al., 2023).

Extant literature suggests that incubators mobilise means such as their staff, organisational and personal relationship, and technology, etc. to create a network of partners within the preincubation ecosystem (Theodoraki and Messeghem, 2017, 2020; Lindelöf and Hellberg, 2023), to get in touch with sources of tenants in their different dimensions: talent, technology/innovation, and resources (Bank et al., 2017; Audretsch et al., 2022). Thus, these means can be considered as strategic resources which (un)availability in an incubator and within preincubation ecosystem should impact the effectiveness and performance of entrepreneurial sourcing processes (Lamine et al., 2018; M'chirgui et al., 2018). This leads us to build our analysis on the RBV (Barney, 1991) to identify the resources that determine effective implementation of each entrepreneurial sourcing process. According to RBV theory, strategic resources are assets whose availability (or accessibility) in an organisation enables it to take action to create competitive advantages and improve its performance (Barney, 1991; Newbert, 2007). These resources include financial capital, social capital, human capital, innovation (technology and processes), reputation (legitimacy, territorial anchorage, brand image and notoriety), and information or knowledge sharing (Barney, 1991; Newbert, 2007). Resources determining entrepreneurial sourcing within preincubation ecosystem should be analysed both internally (incubator inside) (Lamine et al., 2018) and externally (within preincubation

ecosystem). Internal resources (human resources, relational capital, financial capital, etc.) should allow the incubator to leverage entrepreneurial sourcing processes to sense and seize relevant tenants in the preincubation ecosystem. Regarding external resources (economy, policies, regulations, network, culture…) they should create the territorial conditions of entrepreneurship (networking of actors, resource allocation…) to which incubators should conform tenants' identification and selection processes to ensure their effectiveness to produce the expected innovation and economic development performance. In our study, we explored the entrepreneurial sourcing processes and their antecedents which should be resources in incubators and within preincubation ecosystem. Such a study aims to provide incubators with strategic decision-making guidelines for effective entrepreneurial sourcing processes, and ultimately enhance incubators' performance.

While previous work has shown that the different types of incubators are specific and have idiosyncratic practices (Sagath et al., 2019), a production of in-depth and generalisable knowledge should reflect a holistic approach that shows the manifestation of the phenomenon studied in different types of incubators (Barbero et al., 2012, 2014). Thus, we conducted our study on five main types of incubators established in the literature (Gehman et al., 2018; Hausberg and Korreck, 2020). The first type is technology incubators. These are incubators specialised in supporting tenants with critical technological innovations (Mian et al., 2016; Hillemane et al., 2019; Mian, 2021). They are sponsored by state and territorial public institutions. The second type includes academic incubators. Here, we refer to academic incubators as those whose vocation is the transfer of technologies from research laboratories (Aernoudt, 2004; Somsuk and Laosirihongthong, 2014) and those set up by universities and schools to support business projects owned by students (McAdam and McAdam, 2006). The third type is social incubators. They are considered incubators that support sustainable projects, projects owned by disadvantaged people and projects that create jobs for people with low employability (Aernoudt, 2004; Sansone et al., 2020). The fourth type contains economic development incubators. These are incubators that support tenants which aim to fill the gaps in economic development in their territories (Kuratko and LaFollette, 1987; Aernoudt, 2004; Carayannis and von Zedtwitz, 2005; Barbero et al., 2014). The last type includes private incubators. These are incubators founded by one or a group of individuals to support all types of tenants (Barbero et al., 2014; Hausberg and Korreck, 2020) or incubators created by companies to support the intrapreneurial projects for innovation purpose (Bettenmann, 2023; Eldering et al., 2023).

3.2. Research Method

Considering entrepreneurial sourcing processes as part of the interaction between incubators and their preincubation ecosystem (Theodoraki and Messeghem, 2020; Lindelöf and Hellberg, 2023), we conducted a multiple case study (Eisenhardt, 1989; Gehman et al., 2018; Yin, 2018) of the frequent types of incubators identified in the literature (Barbero et al., 2012, 2014). Through an inductive qualitative analysis (Gioia et al., 2022), we explored entrepreneurial sourcing processes and their internal and preincubation ecosystem-level determinants. In the following subsections, we present the selected cases, sampling and data collection, and data processing and analysis.

3.2.1. Occitania's Preincubation Ecosystem, Selection, and Description of Cases

The Occitania region is recognised as a rich and diverse ecosystem and abounds with multiple entrepreneurial support organisations (Theodoraki and Messeghem, 2017, 2020; Leendertse et al., 2021). The dynamic of the preincubation ecosystem in the Occitania region is maintained by several actors: a public network of 54 entrepreneurial support entities called Réso IP+, coworking spaces (At-Home, La mêlée numérique, etc.), preincubators (Lestarter, Starter-cerin, etc.), associations (La Cantine, etc.), universities and schools, institutions and laboratories (National Center for Scientific Research, etc.), industries (aeronautics with Airbus and Space with the CNES organization), corporate incubators (tech-the-moon, IoT valley, orange, Airbus Scale…), school incubators (TBSeeds…), and technology transfer acceleration entities (Toulouse Tech Transfer…). In 2022, the public investment bank of France (Bpifrance) registered 9435 business projects supported by incubators in the Occitania region.

This ecosystem has evolved in recent years with the opening in 2020 of a space for bringing together the various entrepreneurial support actors in Toulouse called '*La Cité*'. Considering such a preincubation ecosystem, our analysis of incubator tenants' identification and selection within Occitania region can capture entrepreneurial sourcing processes and their antecedents. In this ecosystem, we collected data regarding the five main types of incubators presented in the theoretical part. We therefore launched extensive data collection through semi-structured interviews with a question in the interview guide that invited interviewees to describe the characteristics of their incubators. The aim was to reach as many incubators as possible to select cases representative of the five main types identified in the literature. In total, ten incubators were selected for our analysis. These incubators are composed of two technology incubators, two academic incubators, two social incubators, two economic development incubators, and

two private incubators (see Table 13). With these 10 incubators, divided into five cases, we have put together a theoretical sample comprising incubator staff, incubator partners in the preincubation ecosystem and incubators' former tenants.

3.2.2. Sampling and Data Collection in the Occitania Preincubation Ecosystem

We built up a theoretical sample of 51 people through snowball data collection from the staff of the 10 incubators (some key people involved in preincubation practices were interviewed several times), incubator partners in the preincubation ecosystem and founders of incubators' former tenants. Considering incubators as central actors in the preincubation ecosystem of the Occitania region (Spigel, 2017; Theodoraki and Messeghem, 2020), we collected data by observing step by step, over a period of two years and half (October 2019 to April 2022), the interaction between the 10 incubators and their partners during the process of identification and selection of tenants (see table 13 for sample details).

Table 13. The composition of the theoretical sample

Nº		Coding references	Function and entities of membership	Duration of interviews
Technology incubators (Incub-Tech)	Taff	Incub-Tech1_E1	Director of a technology incubator	2 h 9 min
		Incub-Tech1_E2	Director of a technology incubator	1 h 21 min
		Incub-Tech1_E3	Director of a technology incubator	1 h 20 min
		Incub-Tech1_E4	Head of the preincubation program of a technology incubator	1 h 1 min
		Incub-Tech1_E5	New project development manager for a technology incubator	1 h 22 min
		Incub-Tech2_E43	Director of a technology incubator	0 h 38 min
	Ecosystem partners (Part-Incub)	Part-Incub3_E8	Project manager for the animation of an incubator network	1 h 00 min
		Part-Incub4_E9	Head of innovation and entrepreneurship at an engineering school	0 h 45 min
		Part-Incub5_E10	Coordinator of a student entrepreneurship support unit	1 h 11 min
		Part-Incub5_E17	Head of a student entrepreneurship cluster	0 h 54 min
		Part-Incub7_E13	Director of the business creation and shareholding monitoring department of a technology transfer entity	1 h 8 min
		Part-Incub7_E21	Business Development Officer of a technology transfer entity	0 h 36 min
	Incubated firms (Ent-Incub)	Ent-Incub10_E31	CEO of a company incubated in a technology incubator	0 h 37 min
		Ent-Incub12_E33	CEO of a company incubated in a technology incubator	0 h 30 min
		Ent-Incub13_E34	President of a company incubated in a technology incubator	1 h 1 min
Social incubators	Staff	Incub-Socia1_E45	Head of a social incubator	1 h 4 min
		Incub-Socia2_E46	Head of a social incubator	0 h 57 min
	Ecosystem partners	Part-Incub14_E35	Regional Research and Technology Officer of a private technology transfer entity	0 h 39 min

(Incub-Socia)		Part-Incub15_E37	Manager of a support unit for social and solidarity economy enterprises	0 h 42 min
		Part-Incub3_E38	Project manager for an incubator network	0 h 34 min
		Part-Incub16_E39	Head of a departmental business support unit	0 h 47 min
	Incubated firms	Ent-Incub4_E25	CEO of a company incubated in a social incubator	0 h 35 min
		Ent-Incub5_E26	CEO of a company incubated in a social incubator	0 h 38 min
		Ent-Incub6_E27	CEO of a company incubated in a social incubator	0 h 39 min
Academic incubators (Incub-Acad)		Incub-Acad1_E11	Coordinator and head of education and partnerships of an academic incubator	0 h 31 min
		Incub-Acad2_E44	Head of an academic incubator	0 h 43 min
		Incub-Acad3_E51	manager of an academic incubator	0 h 38 min
		Incub-Acad4_E53	Manager of an academic incubator	0 h 35 min
	Ecosystem partners	Part-Incub1_E6	Innovation officer of an organization	0 h 50 min
		Part-Incub2_E7	CEO of an entrepreneurial support entity	1 h 17 min
		Part-Incub6_E12	Innovation delegate of a public entity financing entrepreneurs in Occitania	0 h 35 min
		Part-Incub8_E14	Head of financing for young innovative companies in a seed funding entity	0 h 45 min
		Part-Incub9_E15	Manager of a coworking space	0 h 41 min
	Incubated firms	Ent-Incub7_E28	CEO of a company incubated in an academic incubator	0 h 38 min
		Ent-Incub8_E29	CEO of a company incubated in an academic incubator	0 h 40 min
		Ent-Incub9_E30	CEO of a company incubated in an academic incubator	0 h 35 min
Economic development incubators (Incub-DevEco)	Staff	Incub-DevEco2_E48	Head of an economic development incubator	0 h 58 min
		Incub-DevEco1_E47	Head of an economic development incubator	0 h 51 min
		Incub-DevEco3_E52	Manager of an economic development incubator	0 h 49 min
	Ecosystem partners	Part-Incub10_E16	Entrepreneurial referent of a university	0 h 47 min
		Part-Incub11_E18	Head of the partnership and valorization department of a public research institution	0 h 49 min
		Part-Incub12_E19	Head of a venture capital entity	0 h 31 min
		Part-Incub13_E20	Head of an innovation financing entity	0 h 31 min
	Incubated firms	Ent-Incub1_E22	CEO of a company incubated in an economic development incubator	0 h 35 min
		Ent-Incub2_E23	CEO of a company incubated in an economic development incubator	0 h 47 min
		Ent-Incub3_E24	CEO of a company incubated in an economic development incubator	0 h 42 min
Private incubators (Incub-Priv)	Staff	Incub-Priv1_E49	Founder of a private incubator	1 h 10 min
		Incub-Priv2_E50	Manager of a private (corporate) incubator	0 h 39 min
	Ecosystem partners	Part-Incub17_E40	Head of a departmental business support unit	0 h 55 min
		Part-Incub18_E41	Head of a departmental business support unit	0 h 51 min
		Part-Incub19_E42	Head of a student entrepreneurship entity	0 h 43 min
	Incubated firms	Ent-Incub11_E32	CEO of a company incubated in a private incubator	0 h 31 min
		Ent-Incub14_E36	CEO of a company incubated in a private incubator	0 h 35 min
	Total		53 interviews	43 h 20 min

Source: author

The data were collected through various sources (semi-structured interviews with the 51 people in the sample, participant and nonparticipant observations, information on websites and

activity reports). Following some interviews with incubator staff, we asked to attend key activities in the process of identifying and selecting tenants. Other interviewees invited us to take part in tenants' identification and selection events. Participating in the identification and selection practices and events allowed us to collect participant and nonparticipant observation notes. These data were complemented by secondary data collected from incubators' websites and from incubators' managers (activity reports). This diversification of data sources aimed to increase the validity of the results through triangulation of information (Mathison, 1988). We have followed the transparency criteria provided by Aguinis and Solarino (2019) to ensure the replicability of the study.

3.2.3. Data Analysis and Processing

The data set was analysed and processed with NVIVO 14 software following the method of Eisenhardt (Eisenhardt, 1989; Gehman et al., 2018). First, semantic coding by case allowed us to identify the different concepts (entrepreneurial sourcing processes and antecedents) appearing in the data concerning all types of incubators until we achieved theoretical saturation, i.e. no new concept appeared from the analysis of new additional data (Bowen, 2008). The results of this first analysis were used as a basis for a thematic analysis (Braun and Clarke, 2006) of the data set based on the types of incubators. This allowed us to understand which preincubation processes stand out in the data for each type of incubator and why. Finally, a cross-case analysis was used to integrate the identification and screening practices of the diverse types of incubators to arrive at a conceptual model of entrepreneurial sourcing.

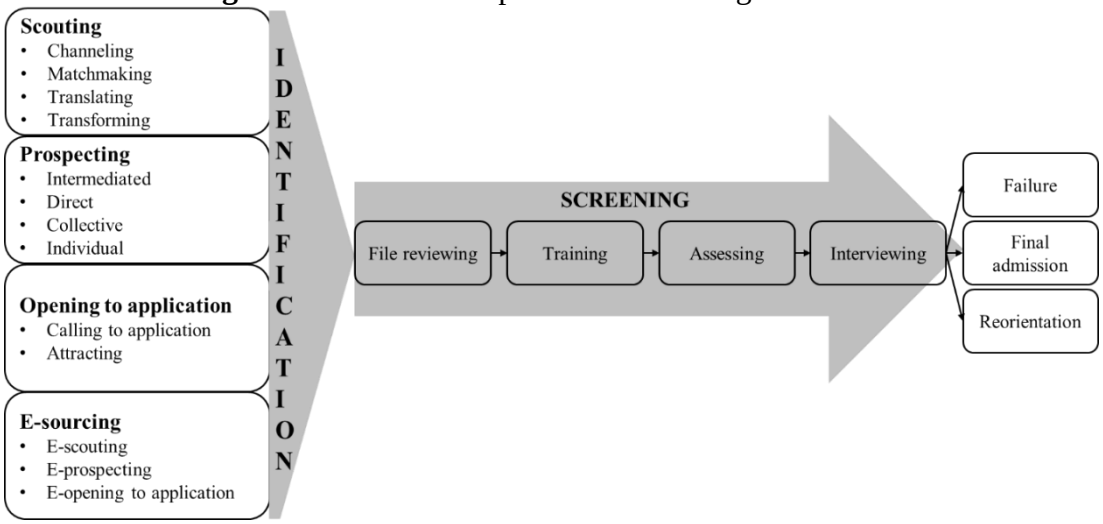
3.3. Findings: Discovering Entrepreneurial Sourcing Processes and Its Antecedents

The results show that entrepreneurial sourcing includes processes of identification (scouting, prospecting, opening to applications, and e-sourcing) and screening (file reviewing, training, assessing, and interviewing). At the end of this process, tenants are either admitted to incubation, redirected to other incubators, or simply deferred. The results also show that entrepreneurial sourcing processes are determined by incubators' resources within the PE (relational, financial, human, technological, and reputational). In the following subsections, after presenting the identification and screening processes of the ES (see Figure 19), we present the antecedents (resources) that determine these processes.

3.3.1. Entrepreneurial Sourcing Processes

Entrepreneurial sourcing is a two-step process involving identification and screening. Each stage of this process has its own specific sub-processes (see Figure 19).

Figure 19. Entrepreneurial Sourcing Processes



Source: author

Identification processes are actions intentionally implemented by incubators to detect and/or contact tenants that may need support. We found four main categories of identification processes: scouting, prospecting, opening to applications and e-sourcing (see Appendix 3.1 for data structure supporting these findings).

Scouting is a set of processes analogous to those identified in the literature on innovation management in large industries and includes channelling, matchmaking, translating, and transforming. Channeling is a practice initiated by players in the preincubation ecosystem who are members or partners of the incubator. The latter direct, without prior selection, any tenant whom they meet to the incubators that they know. Matchmaking is a process whereby incubators share their specialisation criteria with partners in the preincubation ecosystem who are in contact with tenants to benefit from referrals in the form of a match. Translation is a process initiated by an actor in the preincubation ecosystem who, thanks to his expertise on tenants and incubators, acts as a translator to facilitate matching and avoid misunderstanding between the incubator and tenant due to vocabulary problems. Transforming is an ingenious process that consists of drawing from the preincubation ecosystem the different components of a business project (a technology or innovation, a talent/entrepreneur, and financial resources) to build the business project.

Prospecting is an identification process borrowed from the literature on sales that consists of an incubator sending staff to invest in the preincubation ecosystem to contact tenants and offer them support services. Our results show that prospecting can be intermediated or direct, collective, or individual. Direct prospecting consists of meeting the tenants themselves without intermediaries. On the other hand, intermediated prospecting consists of prospecting managers working with any person or organisation that is a potential point of contact for tenants so that they can act as a relay to sell the incubator's services. Collective prospecting consists of organising or participating in events (start-up weekends, project competitions, etc.) during which the incubator can meet several tenants simultaneously. On the other hand, individual prospecting consists of meeting with each tenant individually.

Opening to applications is an identification process that consists of allowing tenants to apply for incubation on an ad hoc (calling to application) or spontaneous (attracting) basis. A calling to application follows a call for applications from the incubator. Spontaneous application, also known as attracting, involves receiving applications at any time without a call for applications. Tenants come to request support.

E-sourcing is the digitised form of the three main identification processes above. E-scouting includes the digital form (on the internet and social networks) of processes such as matchmaking, channelling, translating, and transforming. E-prospecting consists of reaching out to tenants on the internet or social networks through digital communication. E-opening is the practice of making ad hoc calls for applications or receiving spontaneous applications on the internet and social networks.

Screening is a form of progressive selection through elimination of tenants' applications with less potential. The results of our study show that screening involves progressive selection processes in four sequential steps: file reviewing, training, assessing, and interviewing (see Figure 19 and Appendix 3.2 for data supporting these findings). File reviewing is the first screening process after identification, as explained in the Incub-tech1_E3 interview: '[The incubator] *makes two calls for applications per year, and at this stage, we simply apply an eligibility filter*'. This practice consists of checking whether the tenant falls within the basic specialisation framework of the incubator. Training is the screening process that follows file reviewing. During the training, the incubator provides tenants with an introduction to the world of entrepreneurship, which enables them to mature their business projects that they can better defend themselves in the subsequent screening stages. Assessing is the process of screening after the training. During the assessing, the incubator forms an internal jury that assesses the

potential of the tenants, according to their progress during the training. At the end of the assessing, the incubator determines tenants that are eligible for the final screening stage. Interviewing is the last screening process. During this interviewing, the incubator brings together a collegial jury with external members who listen to the tenants defend themselves through pitches. At the end of the pitch, the jury deliberates and gives the results of the screening. At the end of the interviewing, there are three outcome options. The first option is that the jury gives a favourable decision, and the tenant is definitively admitted to the incubator. The second option is that the jury finds the project interesting but considers that it does not fit the incubator's specialisation. In this case, the tenant may be redirected to another incubator. The last option is that the jury finds that the project has less potential and decides to postpone it.

The entrepreneurial sourcing is a series of processes that actors in the preincubation ecosystem (including incubators) implement to identify and select tenants or start-ups for incubation. Our analysis shows that the composition of the pool of identification practices can vary from one incubator to another (see Table 14 below: ✓ = the process is observed, and N/A= not applicable).

Table 14. Identification processes by type of incubators

	Academic Incubators	**Economic Development Incubators**	**Private Incubators**	**Social Incubators**	**Technology Incubators**
Channeling	✓	✓	**N/A**	✓	✓
Matchmaking	✓	✓	**N/A**	✓	✓
Translating		**N/A**	**N/A**	✓	✓
Transforming	✓	**N/A**	**N/A**	**N/A**	✓
Intermediated prospecting	✓	✓	✓	**N/A**	✓
Direct prospecting	**N/A**	**N/A**	✓	✓	✓
Collective prospecting	✓	✓	✓	✓	✓
Individual prospecting	**N/A**	✓	**N/A**	✓	✓
Calling to application	✓	✓	**N/A**	✓	✓
Attracting	✓	**N/A**	✓	✓	✓
E-scouting	✓	**N/A**	**N/A**		
E-prospecting	✓	✓	✓	✓	✓
E-opening to application	✓	**N/A**	**N/A**	✓	✓

Source: author

Regarding screening processes (file reviewing, training, assessing, and interviewing) and their sequential arrangement, they are almost identical for all types of incubators. These screening processes are more formalised in some incubators than in others, but we were able to observe them in all types of incubators (see Table 15 below: ✓ = the process is observed).

Table 15. Screening processes by type of incubators

	Academic Incubators	Economic Development Incubators	Private Incubators	Social Incubators	Technology Incubators
File reviewing	✓	✓	✓	✓	✓
Training	✓	✓	✓	✓	✓
Assessing	✓	✓	✓	✓	✓
Interviewing	✓	✓	✓	✓	✓

Source: author

By deepening our analysis considering RBV theory, we were able to explain why the composition of the pool of entrepreneurial sourcing processes differs from one incubator to another. In other terms, we explored the antecedents that determine entrepreneurial sourcing processes of incubators.

3.3.2. Antecedents of entrepreneurial sourcing processes within the preincubation ecosystem: strategic resources

Based on the RBV, our analysis shows that the strategic resources in incubators and within preincubation ecosystem determine entrepreneurial sourcing processes.

Incubators' internal resources that determine the implementation of entrepreneurial sourcing processes are financial resources, human resources, relational resources, reputational resources, and technological resources (see Table 16 for findings synthesis, and Appendix 3.3 for data supporting these findings).

Table 16. Incubators internal antecedents of entrepreneurial sourcing processes

Resources		Relationship	Sourcing processes
Financial resources			
	Seed funds within incubators	Favourable	Attracting
	Non-binding funding available in incubators	Favourable	Attracting
	Financing of social and economic actors	Favourable	Attracting
Human resources			
	Technical and Business skills	Favourable	Transforming
	Business skills	Favourable	Prospecting
	Experienced staff	Favourable	Training
	High staff size	Unfavourable	Opening to application
	High staff size	Unfavourable	Training
	High staff size	Favourable	Prospecting
	A staff with diversified skills	Favourable	Attracting
Relational resources			
	Incubator networks	Favourable	Calling to application
	Incubator networks	Favourable	Prospecting
	Incubator networks	Favourable	Matchmaking
	Incubator networks	Favourable	Channeling
	Inter-organizational relations	Favourable	Interviewing
	Inter-organizational relations	Favourable	Matchmaking
	Inter-organizational relations	Favourable	Transforming
	Inter-organizational relations	Favourable	Calling to application
	Inter-organizational relations	Favourable	Channeling
	Interpersonal relationships	Favourable	Translating
	Interpersonal relationships	Favourable	Matchmaking
	Interpersonal relationships	Favourable	Attracting
	Interpersonal relationships	Favourable	Channeling
Reputational resources			
	E-reputation	Favourable	E-attracting
	Branding	Favourable	Channeling
	Branding	Favourable	Attracting
	Formal and moral legitimacy	Favourable	Attracting
	The experience	Favourable	Attracting
	The experience	Favourable	Assessing
	The experience	Favourable	Prospecting
	Specialization	Favourable	Attracting
	Success stories	Favourable	Prospecting
	Success stories	Favourable	Attracting
Technological resources			
	Production technologies	Favourable	Attracting
	Digitization	Favourable	E-sourcing
	Digitization	Favourable	Interviewing

Source: author

Table 16 above illustrates incubators' internal resources that influence different entrepreneurial sourcing processes. These findings show that the availability of financial resources within incubators such as seed funding, non-binding funding, and financial support from social and economic actors have a favourable impact on attracting potential tenants. These financial resources are significant incentives for tenants looking for funding support. Human resources such as technical and business skills, experienced staff, a high staff size, and diversified skills are factors that influence entrepreneurial sourcing processes such as transforming, prospecting, training, and attracting. However, a high staff size has unfavourable implications for the 'calling to application', as incubators with this resource tend to favour higher value-added tenants' identification processes such as transforming, prospecting, attracting. Relational resources include incubator networks, inter-organizational relations, and interpersonal relations of its staff. These resources are favourable for entrepreneurial sourcing processes like calling to application, prospecting, matchmaking, channeling, interviewing, translating, and attracting. Reputational resources such as e-reputation, branding, formal and moral legitimacy, experience, specialisation, and success stories can significantly enhance an incubator's appeal. These factors can be used to enhance the effectiveness of entrepreneurial sourcing processes such as e-attracting, channeling, attracting, prospecting, assessing. The availability of technological resources such as advanced production technologies and digital tools attract potential tenants who are looking for state-of-the-art technology to support their operations and growth. This technological advantage also enhances e-sourcing and interviewing processes, which are crucial in a digitally connected business world.

Table 16 provides a comprehensive overview of how different resources within incubators have favourable (or occasionally unfavourable) effects on various entrepreneurial sourcing processes. The table offers a roadmap for how an incubator could optimise these resources to identify and screen tenants effectively.

From the preincubation ecosystem level, our findings show that resources such as structure and condition of the preincubation ecosystem, socioeconomic in-stability, local innovation & entrepreneurship culture, national and local policies, local Research and Innovation (R&I) and industry are antecedents of entrepreneurial sourcing processes (see table 17 for findings synthesis, and Appendix 3.4 for data supporting these findings).

Table 17. Incubators external antecedents of entrepreneurial sourcing processes

Resources		Relationship	Sourcing processes
Structure and condition of the preincubation ecosystem			
	Funding available in the territories	Favourable	Attracting
	An ecosystem that is too dense and unstructured	Unfavourable	Identification processes
	A structured and dynamic ecosystem	Favourable	Attracting
Socio-economic instability			
	Competition	Favourable	Prospecting
	Socio-economic crises	Favourable	Identification process
Local innovation & entrepreneurship culture			
	A strong collaboration between territorial R&I and large industries	Unfavourable	Transforming
	Weak collaboration between territorial R&I and large industries	Favourable	Transforming
	The strength of the intention to undertake business in the territory	Favourable	Identification process
	The commitment of the actors of the innovation ecosystem for entrepreneurship	Favourable	Sourcing Process
	A steady flow of project leaders in volume in the territory	Favourable	Attracting
	A steady flow of project leaders in volume in the territory	Unfavourable	Opening to application
	A steady flow of project leaders in volume in the territory	Unfavourable	Prospecting
National and local policies			
	Administrative mergers of territories	Unfavourable	Identification processes
	Policies to promote entrepreneurship	Favourable	Local entrepreneurship culture
	Socio-economic policies	Favourable	Channeling
Local R&I and industry as sources of resources for transforming			
	Local R&I and education	Favourable	Transforming
	Local tech industry	Favourable	Transforming

Source: author

Table 17 illustrates the various resources available within a preincubation ecosystem and how these factors influence the entrepreneurial sourcing processes of incubator. It provides an overview of the influences of resources within the preincubation ecosystem – both favourable and unfavourable – on processes of sourcing potential tenants. These findings show that the availability of funding in territories (seed funding, public fund…) promotes an environment conducive to attracting tenants. Conversely, an overly dense and unstructured ecosystem may make it challenging to identify potential tenants. However, having a well-structured and

dynamic ecosystem promotes the creation and initiation of business projects, making the environment appealing for tenants and favouring incubators' attracting process.

In times of socio-economic instability, competition promotes prospecting, but incubators need to adapt their specialisation criteria giving that potential tenants become innovative and adaptive to new conditions. Simultaneously, socio-economic crises can create conditions that stimulate the identification of new business projects, as a response to new problems or needs arising from these crises.

A strong local culture of innovation and entrepreneurship significantly influences the entrepreneurial sourcing processes within the preincubation ecosystem. A high level of collaboration between territorial research and innovation (R&I) institutions and large industries reduces the opportunity for developing innovative tenants based on transformation of talents and innovation or technology coming from research laboratories. Conversely, a weak collaboration is favourable transforming process. Additionally, a strong entrepreneurial intention within a territory can stimulate the identification processes, while the engagement of innovation ecosystem actors in entrepreneurship may enhance all entrepreneurial sourcing processes. A steady flow of tenants within a territory favours attracting process, but saturates the preincubation ecosystem, reducing the importance of calling to application and prospecting processes given that attracting process could be sufficient.

National and local policies have a profound effect on the preincubation ecosystem. For instance, administrative mergers of territories could confuse or complicate the identification process for incubators, especially if there's ambiguity about jurisdiction or duplicated services. On the other hand, policies promoting entrepreneurship could boost local entrepreneurship culture and impact identification processes. Socio-economic policies may facilitate the channelling process.

Finally, local R&I and the local tech industry can be important sources of technology, innovation, and talent needed in the transforming process. Access to these resources could significantly enhance the transforming process, enabling the development of tenants build on a unique solution, strong teams, and with a competitive edge.

Table 17 emphasises the multifaceted impacts of various preincubation ecosystem aspects on entrepreneurial sourcing processes. The knowledge of these impacts must be utilised by incubators' managers to improve their sourcing strategies and improve their performance.

3.4. Discussion

The entrepreneurial sourcing processes within the preincubation ecosystem are crucial for incubators and ultimately affect their performance. These processes rely on specific vital resources. Identifying them and showing their interaction on different processes can be central. Hence, our research question: How resources impact entrepreneurial sourcing processes within the preincubation ecosystem? Theoretically, we wanted to aggregate the dispersed knowledge on the identification and selection of tenants (entrepreneurial sourcing) to offer incubators an adaptable process that meets their needs during preincubation and explain how resources impact these processes. The findings showed that entrepreneurial sourcing has two main stages: identification and screening. Identification includes the processes of opening to applications, prospecting, scouting, and e-sourcing. Opening to applications (calling to applications and attracting unsolicited applications) is an obvious component of the process. Channelling, scouting, and e-sourcing are sophisticated emerging practices that require special attention. In the literature, some works have already implicitly addressed some identification practices with little detail (Aaboen, 2009; Hausberg and Korreck, 2020) or by focusing on corporate accelerators (Bettenmann, 2023; Eldering et al., 2023). Adopting the firm analogy, Aaboen (2009) has studied incubators and highlighted that they engage in commercial practices during the preincubation phase. The prospecting processes developed in our work are in line with this logic of business practices adopted by incubators, as prospecting is a deeply developed concept in sales management. Similarly, the scouting processes holistically discussed in previous work (Hausberg and Korreck, 2020; Bettenmann, 2023) and largely supported in our analysis are in line with the analogy of incubator practices to those of firms with innovation scouting units (Monteiro and Birkinshaw, 2017). Research also focused on the complexity of tenants' identification and selection practices, highlighting the interaction between incubators and other actors in the preincubation ecosystem (Lamine et al., 2018; Theodoraki and Messeghem, 2020). The identified processes of scouting, prospecting, opening to applications, and e-sourcing are consistent with the theoretical assumptions and descriptive analysis in the literature (Etzkowitz, 2002; Bank et al., 2017). These processes align with the conceptualisation of entrepreneurial sourcing as a comprehensive and interactive process involving various stakeholders in the ecosystem (Etzkowitz, 2002; Bank et al., 2017; Theodoraki and Messeghem, 2020). The findings indicate that these practices are implemented by incubators intentionally to detect and contact potential tenants (scouting) or actively reach out to tenants and offer support services (prospecting, opening to applications, and e-sourcing). Our analysis shows that the

identification and selection processes are embedded in interactions with other actors, including universities, industry, institutions, coworking spaces, and technology transfer entities. This aligns with the concept of the ecosystem and the understanding that incubators operate within a broader network of actors and resources (Lamine et al., 2018; Theodoraki and Messeghem, 2020; Lindelöf and Hellberg, 2023). Research emphasised that tenants are a mix of resources, including entrepreneurial talents, innovation or technology, and various forms of capital. This aligns with the findings that highlight the composition of tenants as a combination of talents, resources, and technologies (Mian, 2021; Audretsch et al., 2022). The identification and selection processes aim to source and combine these different resources within the preincubation ecosystem, emphasising the role of entrepreneurial sourcing. In particular, the transformation process during identification endows entrepreneurial sourcing with a role as a resource orchestration system (human, technological and immaterial) for the purpose of creating potential tenants (corporate projects and start-ups).

Our analysis shows that the pools of identification practices differ from one typology of incubators to another. This makes sense, given the diversity of incubator types (Barbero et al., 2012, 2014) and the idiosyncratic nature of these organisations' practices (Sagath et al., 2019). Nevertheless, there are practices (opening to applications, prospecting, and e-prospecting) that are cross-cutting and incubators (technology incubators) that implement almost all the practices. Regarding screening practices, our analysis shows that they do not follow the idiosyncratic behaviour of incubators but rather are identical everywhere. While the absence of certain identification practices in some incubators seems to be linked to their emergent and complex nature, this phenomenon seems to be linked to resources in incubators and within preincubation ecosystem.

The application of the RBV theory to analyse the antecedents and resources influencing the entrepreneurial sourcing processes provides valuable insights (M'chirgui et al., 2018). Our findings demonstrate that strategic resources within incubators, such as financial resources, human resources, relational resources, reputational resources, and technological resources, influence the implementation and effectiveness of entrepreneurial sourcing processes. These resources are consistent with the RBV theory, which suggests that the availability and accessibility of strategic resources enable organisations to create competitive advantages and improve performance (Barney, 1991; Newbert, 2007). The internal resources within incubators, as identified in the findings, play a crucial role in determining the success of entrepreneurial sourcing processes. Additionally, the findings reveal the influence of resources at the

preincubation ecosystem level. The structure and condition of the ecosystem, socio-economic instability, local innovation and entrepreneurship culture, national and local policies, and local research and innovation (R&I) and industry are identified as antecedents that shape the entrepreneurial sourcing processes. These findings align with the RBV theory, as they demonstrate that resources within the ecosystem, both internal and external to the incubators, have significant impacts on the sourcing strategies and performance of incubators (M'chirgui et al., 2018).

The structured discussion of the findings presents contributions to existing knowledge body on tenants' identification and selection. The research findings corroborate the theoretical framework, providing a comprehensive understanding of the identification and selection processes within the preincubation ecosystem. The discussion highlights the importance of research trends, such as the complexity of identification and selection practices, the role of interactions within the ecosystem, and the recognition of tenants as a mix of resources. The application of the RBV theory elucidates the role of strategic resources within incubators and the preincubation ecosystem, emphasising their impact on entrepreneurial sourcing processes. The findings contribute to the knowledge base of incubator management and offer practical implications for enhancing performance in terms of innovation and economic development.

3.4.1. Theoretical Contributions

Our research introduces the concept of entrepreneurial sourcing as a comprehensive process comprising various sequential activities undertaken by incubators and other actors within the preincubation ecosystem. This conceptualisation builds upon the identified research trends and describes how the identification and selection processes are conducted to source and combine different resources. The findings provide empirical evidence supporting the conceptualisation of entrepreneurial sourcing and expand upon the existing knowledge (Bettenmann, 2023; Eldering et al., 2023). We identify and categorise four main types of identification processes: scouting, prospecting, opening to applications, and e-sourcing. These processes, supported by empirical data, provide a structured understanding of how incubators intentionally detect and contact potential tenants. The research findings enrich the theoretical framework by providing a detailed exploration of each identification process and its significance within the preincubation ecosystem (Etzkowitz, 2002; Bank et al., 2017). Our findings contribute to the theoretical framework by unveiling the sequential arrangement of screening processes: file reviewing, training, assessing, and interviewing. This sequential approach to tenant selection provides insights into the progressive elimination of tenants' applications based on their

potential. The research findings support and expand upon the existing literature, offering a deeper understanding of the screening processes involved in the identification and selection of tenants (Lumpkin and Ireland, 1988; Aerts et al., 2007; Klofsten et al., 2020; Eldering et al., 2023). By examining the internal resources within incubators (financial, human, relational, reputational, and technological resources) and external resources within the preincubation ecosystem (structure and condition of the preincubation ecosystem, socio-economic instability, local culture, national and local policies, local R&I, and industry), our research deepens our understanding of how these resources impact the effectiveness of entrepreneurial sourcing processes. Our findings provide empirical evidence and theoretical support for the RBV-based analysis of resources (Barney, 1991; Newbert, 2007).

These theoretical contributions enhance the existing understanding of the identification and selection processes within the preincubation ecosystem. The research findings provide empirical evidence and theoretical insights, advancing our knowledge of entrepreneurial sourcing, specific identification processes, sequential screening processes, and the role of antecedents (resources). The integration of these contributions into the theoretical framework strengthens its foundations and offers valuable implications for incubator managers, policymakers, and researchers in the field.

3.4.2. Practical Implications

The research findings have five practical implications for incubator managers and policymakers involved in the development and support of the preincubation ecosystem. The research provides valuable insights into the identification and selection processes, highlighting the importance of different identification processes and the sequential screening processes. Incubator managers would utilise this knowledge to make informed strategic decisions regarding their entrepreneurial sourcing strategies. They can evaluate and optimise their identification practices, considering the specific context and objectives of their incubator. This understanding would lead to more effective and efficient tenants selection, improving the overall performance of the incubator in terms of innovation and economic development. The application of the Resource-Based View (RBV) theory in the research offers practical implications for incubator managers in terms of resource optimisation. Managers must assess and leverage their internal resources, including financial resources, human resources, relational resources, reputational resources, and technological resources, to enhance their entrepreneurial sourcing processes. They must allocate resources strategically to attract potential tenants, facilitate the screening processes, and foster a supportive environment for tenant growth and

success. Additionally, managers can identify resource gaps and work towards developing or acquiring the necessary resources to strengthen their incubator's sourcing capabilities. The research underscores the importance of interactions with various actors within the preincubation ecosystem. Incubator managers must actively engage in collaboration and networking efforts with universities, industry partners, institutions, and other stakeholders. By establishing strong relationships and networks, incubators can enhance their access to resources, expand their reach for potential tenants, and improve the overall quality of their entrepreneurial sourcing processes. Collaboration should also facilitate knowledge sharing, co-creation, and support mechanisms within the ecosystem, fostering a vibrant and supportive environment for entrepreneurship. The research emphasises the significance of training and capacity building during the screening processes. Incubator managers can develop and implement training programs that equip potential tenants with essential skills, knowledge, and an understanding of the entrepreneurial journey. By providing comprehensive training, managers can enhance the quality of applicants and increase the likelihood of success for selected tenants. Additionally, capacity-building initiatives for incubator staff can help develop their expertise in identification and selection processes, ensuring they possess the necessary skills and knowledge to effectively identify and select promising tenants. Policymakers involved in incubator development should draw insights from our research to inform policy initiatives and support mechanisms. The findings highlight the influence of national and local policies on the preincubation ecosystem and the entrepreneurial sourcing processes. Policymakers can create an enabling environment for incubators by developing policies that facilitate funding availability, streamline administrative processes, promote entrepreneurship culture, and encourage collaboration between research institutions, industries, and incubators. By aligning policies with the identified antecedents (resource) requirements, policymakers can create favourable conditions for incubators to thrive and contribute to regional economic development.

Overall, our research provides practical implications for incubator managers and policymakers to enhance the effectiveness of their identification and selection processes, optimise resources, foster collaboration, align policies, and invest in capacity building. Implementing these implications can contribute to the success and performance of incubators in supporting innovative start-ups and promoting economic growth within the preincubation ecosystem, and regions.

3.4.3. Limit and Avenues for Future Research

While our research provides valuable insights into the identification and selection processes within the preincubation ecosystem, it has contextual limitations that should be acknowledged. Our analysis focuses specifically on the preincubation ecosystem in the Occitania region of France. Therefore, the findings may not be fully generalisable to other regions or countries with different socio-economic, cultural, and policy contexts. Future research could explore similar themes in different geographical contexts to uncover variations and similarities in the identification and selection processes.

Conclusion

This research has provided insights into the identification and selection processes within the preincubation ecosystem in the Occitania region of France. By analysing existing literature, identifying research trends, and conducting empirical research, the study has contributed to the theoretical understanding of these processes and their antecedents. Our research contributes to the understanding of the preincubation ecosystem in Occitania, France, and provides valuable insights for incubator managers and policymakers. It expands the theoretical framework, advances knowledge in the field, and offers practical recommendations for enhancing the performance of incubators in supporting innovative startups and driving economic development within the region. The main limitation of this chapter is that it does not provide information on the outcomes of entrepreneurial sourcing within the preincubation ecosystem. While this process calls for a form of co-specialization with the combination of the resources of different actors in the preincubation ecosystem, the latter would expect outcomes that benefit everyone. Knowing these outcomes would allow incubators to become aware of them and to be part of a logic of their maximisation to attract and maintain the actors of the preincubation ecosystem in the co-specialization. Therefore, Chapter IV draws on the theory of dynamic capabilities to understand the functioning of entrepreneurial sourcing and its outcomes within the preincubation ecosystem.

Appendix 3.1 Identification processes by type of incubator

	Academic Incubators	**Economic Development Incubators**	**Private Incubators**	**Social Incubators**	**Technology Incubators**
Channeling	Ent-Incub8_E29: At the creation, we quickly went to see the local ecosystems. Especially the region and sectors of activity such as Aerospace Valley, etc., and one of them submitted to us the fact of going through the incubator that I did not know practically. He submitted to us the idea of going to the incubator to be better accompanied, Ent-Incub9_E30: when we said that we wanted to launch our activity as an entrepreneur, the Aerospace Valley Pole told us, but for incubation there is this incubator, they are very effective go see them Incub-Acad2_E44: the reality is that project leaders come to us overwhelmingly on prescription. Incub-Acad3_E51: we also work with a lot of partners who send us all the candidates. For example, the CCI, the BGE which is part of actors who send us a lot of candidates	Ent-Incub2_E23: Let's say they keep us informed of everything that is being done in the region, what the possibilities are and then we are the ones who make our choices. Incub-DevEco2_E48: our partners identify us as specialists in support and innovation so can direct projects to us	N/A	Ent-Incub6_E27: a staff member from our former support entity encouraged us to go and apply to the incubator. Incub-Socia2_E46: I am in contact with partners who refer us project leaders. We have banks that send us the project leaders when they go to see them and they advise them, they are prescribers at this level.	Incub-Tech1_E1: the vast majority of our formal members are also prescribers to guide project leaders to us. Incub-Tech1_E2: So on this perimeter there (…), these partner organizations, when they have a project, it is to us that they will address it first Incub-Tech2_E43: they know us, so when they hear about an innovative project except the business leaders of the territory they say ah, get closer to the incubator it accompanies innovative projects

Matchmaking	Ent-Incub7_E28: He gave me the number of the director of the incubator, I called, Incub-Acad1_E11: There is the notion of technological and industrial innovation. That is why they joined the incubator. But what we do is that with this incubator, we are in touch and when I feel projects that can be potential, I pass on to her and then she meets them. Incub-Acad2_E44: the incubators and incubators in particular that are in the Réso IP+ know us well, so when they detect a project that is very upstream of the creation and that has technological needs but it sends them back to us	Ent-Incub2_E23: so, it is a student incubator, and we had to be put in touch with another incubator via this incubator. They will connect and that is it. Incub-DevEco1_E47: this convention means that they, automatically when they detect among the project leaders, there is an innovative project leader, they submit it to us so that then the person is eventually presented to an integration committee.	N/A	Ent-Incub4_E25: But it is thanks to the expertise of the starter, who knows according to the project that we carry orients us to apply in this or that incubator, Ent-Incub6_E27: it is precisely the technology transfer entity that put us in touch with the incubator. The application file was done in connection with the technology transfer entity, and then it still happens that this entity sits on the incubator selection committee,	Ent-Incub12_E33: they advised me, ‘For you, this incubator is the most relevant, you should go there it is what most resembles your activity.’ there was an Incub-Tech1_E1 connection: either the projects come to us through Toulouse Tech Transfer (which is a technology transfer entity), because they intervened upstream on the maturation topics and on the subjects of transition of technology from a techno lab to a pre-industrializable techno (which is their role) and at that moment, so that we can value by way of business creation, well he sends it to us naturally to take over Incub-Tech2_E43: We will redirect for us the projects towards this incubator and them in the same way if they have a project that reflects the energy transition so green industry sector, he sends us the projects or they offer us to co-accompany so we have like that projects that are sent back to us

Translating	N/A	N/A	N/A	Ent-Incub6_E27: we had a little varnish to be framed compared to what the incubator wanted but no more.	Ent-Incub12_E33: then in the preincubation entity we are pretty much immersed in the ecosystem the objective also of the accompaniment of this entity, it is to boost us at the exit. The goal is to go further to look for more things in the sense of having a good way out. So he was really talking to us about all the incubators that were around, a lot of presentations of everything that existed. So we were quite familiar with the different incubators. If I had not gone through the pre-incubator, I think that from the outset, I would not have had all the vocabulary adapted to succeed in my admission to the incubator, honestly not enough vocabulary except that having in mind all this ecosystem, everything around, everything that revolves around a company would have been a little complicated. When we first heard about the subject of business plan, business model, all these things, I learned them gradually in the preincubator.

Transforming	Ent-Incub7_E28: The role of the technology transfer entity was essential in guiding, in the preparation, in the connection with the incubator. Incub-Acad1_E11: We also have another way to integrate the incubator: it is to go through a preincubation device called TBSTART which is animated and coordinated by a facilitator. It prepares from the ideation phase to the project phase. After others want to fly from their own garlic and others on the other hand want to join the incubator.	N/A	N/A	N/A	Ent-Incub10_E31: the project comes precisely from the technology transfer entity since we are actually developing an innovation that was made by two Toulouse researchers, which was supported first by the technology transfer entity with means put in patents and then in technical evidence and it was decided in 2015 to create a startup in fact to continue the development of this discovery and so I co-founded the Start-up since 2016 with two scientists who were at the origin of the technology. After we were transferred to the incubator Ent-Incub13_E34: during my time when I was present at the technology transfer entity, they allowed me to work, and to continue to develop and technology, and to anticipate the creation of the company while I was still with them. Incub-Tech1_E2: They do not have an accompaniment like TBSeed, but they will look at the credibility of the business project upstream, they do each time a check upstream. They will reregard …, help the transition from upstream research to more applied research, see if there will be money or not. The technology transfer entity can put several hundred million to bring a technology to maturity. So there is still a real accompaniment also before sending them to us.

Intermediated prospecting	Ent-Incub7_E28: it is to see a tout, someone who identifies the new projects that emerge in the region to be able to take them in hand. Incub-Acad3_E51: when I have places that become available, I will make sure to contact the people with whom I was in contact by saying: we have places that become available if you are interested; or ask people in the ecosystem to pass the message to their Incub-Acad2_E44 network: it is mainly through others and on prescription that one has qualified contacts	Incub-DevEco1_E47: we actually have what is called the reagent, that is to say globally that we have partnerships and we have contractualized with all the entities that are led to meet the carriers. So it is an informal process that consists in recovering project leaders by relying on local entities Incub-DevEco2_E48: it is to be very present on the territory, on strategic committees, to be very present with partners when they need our competence for their events it can be through professional goes, thematic fairs, interventions in colleges, high schools, doctoral schools so on our territory of course, and indeed our partners identify us and can directly direct us projects.	Incub-Priv1_E49: I made connections little by little; I went to meet a lot of local companies that I knew and then tapped on the shoulder, if you know someone you make him sign thingie I am, papapapa and it has gone and it works. All entrepreneurs are local people.	N/A	Incub-Tech1_E4: a first level that is word-of-mouth that is maintained by visiting a number of regular actors who connect, in institutions, companies. We try to build relationships that are quite intimate that allow us to be visible. Concretely, it is individuals that have been identified that we have mapped and that we record regularly.
Direct prospecting	N/A	N/A	Incub-Priv2_E50: there is a lot of prospecting too; There is prospecting.	Ent-Incub6_E27: he gave me a business card and I called him, he was a business manager of the incubator	Incub-Tech1_E1: Direct prospecting has also started.

Collective prospecting	Incub-Acad2_E44: we will participate in actions more prospecting, promotions and there in this case it is mainly through the Réso IP+. So I talked about the business creation fair where there is a standard of Réso IP+, so all the incubators, incubators are present. We were there in September. Incub-Acad3_E51: we also did a lot of events to present the incubator, it is often events for example juries, competitions, fairs that I do in Montpellier each year which is one of the major shows for project leaders. Otherwise events can be workshops, weekend startups, student competition juries. So it allows me to meet a lot of project leaders.	Incub-DevEco2_E48: small competitions so we try to be present on these initiatives and then to carry on ourselves hum to be visible to carry ourselves this small contest or these calls for projects live or to detect new projects Incub-DevEco3_E52: The second is the organization of events, animation that generates communication. The animation is made to seek out project leaders from outside. We do one animation per month in addition to a big annual event that takes the form of a startup weekend. For example, we launched the event in spring 2021 and we had twenty-six candidates	Incub-Priv2_E50: the place Toulousaine on the event side by our daily mission.	Ent-Incub4_E25: The incubator came in February in a local to make a program, he actually came this day to the association in the François Vernier district to do a preincubation program in 48 hours during which he received about thirty entrepreneurs to work on the canvas and we worked on several points and it turns out that I registered there not knowing what it was going to give because I know that the incubator is very demanding, but I was curious to meet them and see what would come out. But it was not with a view to applying. Even though I knew I was on B2B. It turns out that at the end of these two days, where I discovered a little bit their way of thinking, the way of working, of being hybrid in relation to that, and of course I was very interested and I realized that it could make me move to a stage, so at the end of these two days, I submitted my applications for the incubation program. Incub-Socia1_E45: in the prospecting phase there is upstream the whole phase of dissemination, prospecting, project leader etc. And we rely a lot on, for example, schools, universities; We do a lot of intervention through these partners we will explain what social innovation is,	Incub-Tech1_E2: he intends to organize in Labège the exhibition ‘Occitanie innov’, Where we will have plenty of innovative business creation project leaders, bah there will be a common stand of Réso IP+, Where all our entities meet, and all project leaders who address this stand will be directed to us by the network team, Ent-Incub12_E33: the incubator launched a preincubation campaign in December – November 2019, So, I signed up for preincubation to see what they have and what they do not Incub-Tech1_E2: So within this program, we run two seminars for these students. The interest for us is a way for us to identify in this promotion if there are people who could be future tenants for us. It is we who speak in this seminar and who say ‘well, if he makes enough progress on his project, he could meet the criteria to return to us’; so we do direct tracking Incub-Tech2_E43: we did a contest. Where we offered to win a financial endowment and support by the nursery and its network and that, we do a lot of communication around that

Individual prospecting		Were Incub2_E23: I think we had already had individual interviews with the staff of the incubator. Who must have felt that the project was interesting, let us say we were recovered while we were in preincubation,	N/A	Incub-Socia2_E46: we have programs that we launch in fact we send emails to these people and often via the program of this information meeting they have a little more precise idea of which program they will apply.	Incub-Tech1_E2: So I can have a person from the international team for example, who meets a project leader and who addresses it to me. As it can be the teams teachers the network who will meet a project leader and address it to me.
Calling to application	Ent-Incub7_E28: we applied in February at the Incub-Acad2_E44 incubator: if we do it will be thematic calls for projects Incub-Acad3_E51: we made calls for applications every six months, we did recruitment campaigns	Incub-DevEco1_E47: specific targeted actions in the form of calls for projects, calls for expressions of interest. Ent-Incub1_E22: 6 months after we matured our project and we applied, Ent-Incub2_E23: we applied Ent-Incub3_E24: So there is an application, which we send Incub-DevEco1_E47: we launch campaigns of calls for projects in which people can submit their projects. Incub-DevEco2_E48: then for detection we make calls for applications,	N/A	Ent-Incub4_E25: the recruitment period of the incubator has begun and therefore it was necessary to make the application Incub-Socia1_E45: we make an annual call for projects that is to say that candidates can apply once a year; So in October we launch a call for projects, a call for social innovation project leaders; so it is the project leaders who come to us so they apply to join our Incub-Socia2_E46 incubator: we have applications to submit, this level we trigger the opening of the program.	Ent-Incub10_E31: there have been these calls for applications etc. Ent-Incub12_E33: there was a call for applications from the incubator, so I applied Ent-Incub13_E34: I think it did not surprise anyone that I applied to enter the Incub-Tech1_E1 incubator: we rewrote all our calls for applications, until early 2018, we operated by call for applications with a super simple file frame to fill: four pages, 12 different questions but the first: what is the market problem you claim to solve? two calls for applications per year Incub-Tech1_E4: the only structured process is that twice a year, a call for applications is launched; a concrete object which is a document that is disseminated with dates, protocols, a registration form etc … Incub-Tech2_E43: and then what we also do are calls for projects

Attracting	Incub-Acad1_E11: There are two (02) ways to return to the incubator: Either the student sends an application file completed by a video presentation of his project. Incub-Acad2_E44: It also suits us to have a project that arrives in the water. Then there are people who come in, there are people who go out throughout the year Incub-Acad3_E51: we try to communicate more to attract more people Incub-Acad4_E53: we do not identify them, they are the ones who come to us; That is to say, we welcome project leaders at the water queue, throughout the academic year	N/A		Incub-Priv2_E50: we take incoming calls from people who knew us	Incub-Socia1_E45: But basically we have twenty to thirty candidates applying every year.	Ent-Incub10_E31: we applied directly outside the calls for projects Incub-Tech1_E1: We had presented 12 candidates who were presentable directly to the selection committee but that was punctual. Incub-Tech1_E4: incoming solicitations that we will manage as best as possible Incub-Tech2_E43: we can have incoming projects that call us live or go to the nursery saying 'I come to see what you propose and know if I can fit into what you propose'.
E-scouting	Incub-Acad2_E44: Well, like everyone else, we went on video. Incub-Acad3_E51: in general they make connections by email, they write to project leaders, contacts.	N/A		N/A	N/A	N/A

E-prospecting	Incub-Acad3_E51: we had one of the advertisements to raise awareness that ran on the networks that brought us project leaders. There are many project leaders who discover us through Linkedin.	Do Incub1_E22: How was it discovered? Beuh, I think on the internet huh, it was on the internet. Incub-DevEco1_E47: Facebook and Google advertising campaigns we will test it does not cost very much and we will see. So, there we planned the first time so this is the first element it is a tool that will allow us to go proactive, this is clearly the COVID that made us accelerate this process that would necessarily have taken place we would have asked ourselves the question but the COVID forced to ask the question Incub-DevEco3_E52: Indeed, since the covid virtual, in digital so one animation per month we will address a theme, regional devices, market access, how to improve its commercial strategy. So, we do one a month. It allows us to meet them, to identify project leaders who may need our support.	Incub-Priv1_E49: So how do people come but they come through the informal procedures, a small website that has not changed for three years so you can see it, which sucks the website, but it is highly effective that is what is interesting	Incub-Socia2_E46: Women, so how do they get this information? They register on our site. This information meeting also constitutes a file of project leaders.	Incub-Tech1_E4: second level of communication actions that go through various digital channels, our website
E-opening to application	Incub-Acad2_E44: we communicate in a fairly traditional way, we have a website of our own now, it is a page dedicated to the incubator on the school's website. Incub-Acad3_E51: they apply directly via our website	N/A	N/A	Incub-Socia1_E45: calls for applications, we did everything digitally. Incub-Socia2_E46: This application file actually they register on our website. So, they are the ones who register on the internet on our website.	Incub-Tech1_E1: we have an online platform of our own, we only trust online. In fact, we broadcast the call for applications it is still we who give the start. We do not register over the water as we want eh. So, we have two timings a year where we do that. Or we launch it in the form of small calls for projects live on the Internet, social networks Incub-Tech2_E43: After us we communicate a lot on social networks, so people start to know a little more about the nursery. So, we can have incoming projects

Appendix 3.2 Screening processes by type of incubators

	Academic Incubators	**Economic Development Incubators**	**Private Incubators**	**Social Incubators**	**Technology Incubators**
File reviewing	Incub-Acad2_E44: we first have a contact phase where it is the project manager who will make one or two telephone appointments or face-to-face appointments and who will dig a little deeper into the question of the technological link with the school Incub-Acad3_E51: when the project leaders apply they fill out an application form that can be found on the site. It is a simple form we ask them to describe the project, the team, and the needs so we still ask them to put as much detail as possible so that we are sure to be the right actor to accompany them. There is this first form then I contact them to deepen certain points, there is a first selection on file. So, if the files are not filled enough, I ask them to tell me a little more Incub-Acad4_E53: when we immediately receive the registration form, we check that they are in the criteria that I have set out above, that is to say if they are students or graduates for less than three years or staff of the institutions and that they have an entrepreneurial project.	Incub-DevEco1_E47: that at the time at the beginning it was meetings in physics now we can have meetings also that will be in video. Globally… Except today when I did not have my camera it is not just me it is more it is people who do that. Uh what you need to know uh… How to say uh that this step, the person receives it he makes a report. Incub-DevEco3_E52: the first phase is what is called first reception appointment, and which goes beyond the first first reception appointment; We will qualify the needs of the project leader or the start-up company. And so the goal in qualifying this need is to realize; Is this project leader in the logic of the support offered by the incubator. So, we will collaborate with the person, his needs but also the characterization of his innovation, how it is an innovative project that will have a specific need for support	Incub-Priv2_E50: it is on the two points both on the exchange with the project leader but also the nature of his business.	Incub-Socia1_E45: So, candidates apply, there are a specification of applications that they fill out, they send it to us. We, the incubator team, first look at eligibility, are they in the framework in relation to our specifications and we will then look at what they are in the framework in relation to our selection criteria. And there we create a first preselection in Incub-Socia2_E46 team: For the GO program in fact, they register on our website so there for example for the September program I have seven people who are registered. There in the day I will send them an email to offer them to exchange by phone. It is an exchange of fifteen minutes to qualify the request and therefore to check if we fit into our indicator in terms of innovation, job creation and commitment over time, so this small pre-qualification meeting already allows us to see if people are in the right place.	Incub-Tech1_E1: out of each call for applications, 30–35 applications received, two-thirds rejected directly. they come as they want. And it is just who we are, his coordinates and two lines of summary of the project hypothesis but at this stage we do not care. It is just to check that it is not B2C. Incub-Tech1_E3: That makes us two annual calls for applications and at this point, we simply do an eligibility filter; So, we just do an eligibility sorting. And it may be written everywhere on all our documentation of calls for applications, that there are not B2C projects but there are still plenty of applicants. So, we are obliged to do this sorting Incub-Tech2_E43: there is a first filter that is usually made by the executive assistant who takes the call. It is a call or who receives the request that is made on the internet or when the project leader comes to the nursery so this first filter it is made by my collaborator who is already trying to understand the project if there is innovation already she explains again if there is no innovation it is not with us.

Training	Incub-Acad2_E44: the preparation phase for incubation we realized that it was really fundamental we are obliged in all cases even if there are fairly mature projects to go through this stage there remains only to see how the project leaders evolve. Incub-Acad3_E51: In general, we prepare them beforehand during this interview precisely as we do on the phone or it is at the second interview that we offer them. We prepare them to be sure that they have understood the exercise that they integrate all the elements	Ent-Incub1_E22: we were received, at the time, the staff of the incubator explained the process, Ent-Incub2_E23: we did the weekend, not the weekend but the day of the preincubation pitch-off and then they tell you that you have a month to do a whole bunch of actions that will be scheduled in front of a jury. That is how they cream a lot of people. we are supposed to have a me to perform a whole bunch of market interviews finally full of stuff Ent-Incub3_E24: there is a preincubation day, So in which we present, the incubator presents us. And then we have 1 month to improve our pitch and the presentation session. Incub-DevEco2_E48: there is a first level of advice, we propose to the person or the project team to benefit from a support that will be quite short six months to move forward and then passed before a committee	Incub-Priv2_E50: for a startup that has just arrived I asked him if he would like to come here for a week at the spaces and fully immerse himself in the incubator and then be able to start interacting, you see and there we have answers actually coming at that moment. And when all this is open, I have a good filling when the partners are ok, these future roommates are ok, we embark on the adventure.	Ent-Incub4_E25: they helped me, they allowed me to do a mock oral, I presented them with a pitch and they helped me on things that I could still have difficulties and points on which I had to press a little more, to have more luck, so it finally allowed me to go faster and I think it's just the preincubation program of the incubator Ent-Incub6_E27: they helped us prepare our application to the Incub-Socia1_E45 incubator: there is a preparation phase that is to say that we put them in conditions anyway, we explain to them how it will be organized and we ask them to present a support, they introduce themselves, they explain to us what they want to answer why, how they plan to respond	Ent-Incub12_E33: I conducted the preincubation period with training. I did the two days and two nights of training Incub-Tech1_E1: there is a lot of training, there is a problem of psychology. The beginning and in the preincubation, phase are what we do so it allows us to make a progressive selection and suddenly give the chance to those we rejected because they did not know how to answer the question. we start this process with a beautiful half-day Workshop in the morning. Incub-Tech1_E3: this is an enrollment in a preincubation seminar. So everything else we take. And there, we will deal with it over one (01) month where we will have half a day with a seminar. Which will consist of explaining what it means to establish an innovative customer problem, what it means to establish an added value of differentiation with very concrete examples, we will give them many examples. We will also try to explain what we call economic model innovation or not, so that they understand that in the end, what we want is a hypothesis of economic model innovation and it is on this basis that in the end, we will select them. Incub-Tech2_E43: On our first presentations the information provide it is a frame of files to tell them here are questions about what you must present, the different themes, basically it is in ten lines and you have to answer that, this and that what is your innovation in what is an innovation we can provide a matrix for example to help them identify characterize the innovation

Assessing	Incub-Acad2_E44: When we see that there is potentially a technological need that corresponds to our skills and that a priori we have in front of us a team that sends a project leader that he understands well, who is really in a logic where he wants to create a company not just create a product, in this case, It is the project manager who through two interviews will evaluate these dimensions. we will uh on proposal of the project manager who says here I think the project is ripe to go to the incubation juryIncub- Acad3_E51: either I call them to make a point a little more push and I have a lot of questions in general about their project and if at this interview the project seems interesting to me, I make them pass before the final jury	Ent-Incub2_E23: they made us go through all the preselection steps Incub-DevEco1_E47: there is an internal discussion; Eventually we ask for additional elements if there are missing elements and if we consider that the project is sufficiently mature and also that it meets all the innovation criteria, we also have the analysis grids for that, there is a part of subjectivity that relates both to the project, its innovative character, its ability to create in the long term, to develop to create jobs is important since we are in a territorial. The preselection to make it very simple it is a contact at least one appointment or two, we have a process a flowchart Incub-DevEco2_E48: if there is the relevance of the incubator has accompanied the project that is to say that there is really crossing here are needs, the project leader needs us, he must really pass certain steps and and check if there are no other structures that could be legitimate to do it And so we feel legitimate here to intervene as soon as there is this aspect we propose to the person or the project team to go before the jury	Incub-Priv2_E50: I exchange regularly with my partners, so we are close and I also see what is happening, I have echoes of the sudden, as given that I live with them I am on the spot, so from there I say if the lights are green and we go to the jury.	Ent-Incub4_E25: which is a kind of pre-selection of projects that are well advanced in their preincubation and that can integrate the incubation program Incub-Socia1_E45: then a second selection process is done and those that are selected are sent to the jury. Incub-Socia2_E46: we will check the maturity of the project; we will go more to see if they just have an idea. They were still able to dig if their target, on their market, on the economic model. At the end of this interview of 1h uh if we see that it works well, we send an application file uh that the project leaders we ask to. that we ask them to fill out to send it back to us generally they have between a week and three weeks to send it back to us. And this application file allows us to share. Uh what I was able to capture in interview is to be able to share the object on the paper uh sometimes we have people in interview and on the paper we realize that it is completely hollow or conversely there are some who are not at all comfortable orally and the file it is concrete so that there it will allow us to be able to check that. So, I just send uh… I wait for his return so here is at the end of the file once we have the file that has been uh returned uh, I read the file if I see that if it meets the criteria I do it in committee. We still have upstream steps that still allow us to check the adequacy between their needs, the need they express the need we have and check that it works well for the two in question. The appointment in validation file and after uh we really evaluate	Incub-Tech1_E1: So, there is this first test that aimed to get them to pick up. There is the second test did they interview correctly? what did they come out of it. And for us it will determine their levels of commitment. A bit like an exam. And it is as a team that we say go go to be presented to the final selection jury. Incub-Tech1_E3: It’s just a matter of measuring their engagement capabilities, their ability to understand what is expected and their ability to do this beginning of market exploration work, which they will have to do in the incubation phase. It is therefore for us a way to evaluate their capacities of commitment, understanding above all Incub-Tech2_E43: we ask them to explain to us how it is an innovation what is their target clientele what is the team that will carry the project and their expectation in terms of support in a number of things. and then they present

Interviewing	Ent-Incub9_E30: I met the Director of the incubator once and it was immediately really between us, and she quickly asked me to have an interview with the selection committee and I did the interview and it worked directly. Incub-Acad1_E11: We will assemble a jury that will make a selection of projects. Incub-Acad2_E44: the project leader represents his project to us in twenty minutes we check that indeed all the eligibility points are at the rendezvous, and we decide in this case if it is necessary to go to the jury. So, the incubation jury is chaired by the director of research of the school. It brings together our financial partners, it brings together a few people who have rather entrepreneurial profiles, teacher-researchers who are technology references. The projects are presented to the juries for twenty minutes, then questions and answers and the jury deliberates.	Ent-Incub2_E23: I think that there, you can not escape the last jury, you still have to go there. In any case it's a pitch, there are less than thirty people on the jury Ent-Incub3_E24: So, presentation to the committee, commitment committee, I think. We present before this committee, which is made up of about twenty people, in the ecosystem of the Occitanie region, so it is a great exercise because we are challenged, and it is a first visibility that we are given Incub-DevEco1_E47: we have a project leader for the creation of an innovative company and we have a project that is an economic project that can take place on the territory, at that time it is submitted to an integration committee, it is the real selection phase an integration committee that already involves the main partners Incub-DevEco2_E48: then passed before a technical committee. This technical committee will be legitimate to validate the relevance of the incubator has accompanied the project in the longer term two years three years.	Incub-Priv2_E50: Yes, it is done by different interviews we will say. Different interviews as I said it was with the partners	Ent-Incub4_E25: we must go before the Grand Jury of the incubator Incub-Socia1_E45: those we retain we send them before the jury. So, we have the final selection jury at the beginning of December and so there the project leaders we prepare come before our jury, there they have eight to ten minutes to present their project and after ten minutes ago a quarter of an hour of exchange with the members of the jury at the end Incub-Socia2_E46: We have a commitment committee which is composed of the member of the board and me. And so, I bring information more of the know-how to be on the personality on the project leader and the members of the board they have a clairvoyance on the file it is quite impressive	Ent-Incub10_E31: we had a commission in January where I presented the project, I presented the financing plan the needs of accompaniment. A deliberation and we were accepted Ent-Incub13_E34: I joined the incubator program; I made my Pitch, and I was accepted Incub-Tech1_E3: at the end of this phase, there is a selection committee that is composed mainly of entrepreneurs, and what is important is that they are all owners of innovative companies and who are already active. They are not retired entrepreneurs. These are people who are now working at the head of innovative companies. Once we have been selected by this committee, the incubation phase begins Incub-Tech2_E43: And then they can go to committee what we call commitment committees with us where they present their application files it is a committee where we will go find our expert partners to be able to appraise our projects so we will look in our networks all our partners who are able to appraise the project so business leaders, Partner entities, the Region, we will look for all the partners who are likely to be able to assess the project. After they (the project leaders) present and we ask them questions, or the members ask them questions and then we see if the project leaders meet all the eligibility criteria.

Final admission	Incub-Acad2_E44: it is the jury that makes the decision to enter the project for incubation.	Incub-Acad2_E44: we re-applied, and this time we were selected. Ent-Incub2_E23: we applied and then we were taken Incub-DevEco1_E47: the selection committee says ok, so it's good we can sign and then there will be an accompanying agreement	N/A	Incub-Socia1_E45: at the end of the shot we show the result, and we all discuss who we keep Incub-Socia2_E46: it is the commitment committee that constitutes the promotion. Following that we ask them for membership in the association of 150 euros and uh at the end of their membership we consider that here are charges, there are agreements that are signed we consider that they integrate the program with a launch day	Incub-Tech2_E43: we judge before and after we look at whether the project leaders meet all the eligibility criteria before entering into support
Failure	Incub-Acad2_E44: it is the jury that makes the decision not to enter the project for incubation.	Ent-Incub1_E22: we pitched, and we were not chosen. Incub-DevEco1_E47: either he says no it happens it's rare	N/A	Incub-Socia1_E45: we explain to them why they were not selected, and we give them advice from elsewhere Incub-Socia2_E46: it can be … negative answers that are given	Incub-Tech1_E1: there is everything we lose on the way and in what we lose on the way there are some that are definitely lost
Reorientation	Incub-Acad1_E11: So, either it's Tech projects and go to the technology incubator, for example, or to very specialized incubators. If not according to the number of them: if they are sufficiently numerous, they take premises. If there are one or two, they go to other incubators or co-working spaces. Now there will be the city of startups. Incub-Acad2_E44: sometimes there are projects there is no techno, so it sends us back, in this case we send them back to other structures	Incub-DevEco1_E47: either he adds a third possibility, which is to say he says your project may interest us but overall, we consider that he is not yet ready Incub-DevEco3_E52: if it is not an innovative project that does not necessarily need specific support that we provide, it will be to direct the project leader to another support entity that will also be able to accompany him	N/A	Incub-Socia1_E45: often we all redirect them, or we tell them go look for this side, such an initiative will register you Incub-Socia2_E46: If they are too upstream, we will direct them to a technology transfer program, if they are too downstream, too advanced we will direct them either to other incubators or to the acceleration program	Incub-Tech2_E43: we check whether the project leader meets all the eligibility criteria before returning to support or reorienting him.

Appendix 3.3 Incubators internal resources as antecedents of entrepreneurial sourcing processes

Financial resources

Seed funds in incubators are conducive to attracting

Ent-Incub10_E31: I think it goes more in that direction with really equity raising effects to have a subsidy and so I think that's the advantage that is very important to attract project leaders**.**

The non-binding funding available in the incubator is favourable to attracting

Ent-Incub7_E28: Then the model in particular of financing, to have a budget of fifty thousand euros even if it is a repayable advance that does not individually commit the founders. So, we can take the risk of not having a personal bankruptcy if it does not work, but in time that is all. I find it very fair if we work that we reimburse these fifty thousand euros.

Ent-Incub6_E27: We at the time it was a repayable advance on what had been spent and they would be paid on a percentage of the boursal advance. For a young incubator it is extremely hot, because there is no one who uses this type of mechanism anymore except incubators that are financed by public money.

Ent-Incub10_E31: I thought it would be positive to be able to benefit from the support of the incubator, but only the financial support that was also something that was put in place at that time.

Funding of social and economic actors in the incubator are favourable to attracting

Incub-DevEco1_E47: it evolved first because first when you create a structure at the beginning uh you can not do everything you do not necessarily have all the funding to do everything

Incub-Priv2_E50: Of course, we are always looking for sources of income to bring the model to life, of course we would like to have more partners who contribute financially to have balanced accounts.

Incub-Tech1_E3: The other important co-funder from the inception was the region. Today the Ministry of Research subsidizes us only on the part of projects that have a link with research not on others.

Human resources

Technical-commercial skills are favourable to translation and transformation

Incub-Acad2_E44: we have two slightly different profiles: there is one who has a business school profile and then the other who has a technical profile so who has a doctorate and she previously worked at the school for activities on technology transfer, partnership research. Then I trained as an engineer at the beginning and then I did an MBA for the future. An MBA a few years later.

Incub-Tech1_E4: I have almost twenty-five (25) years of professional life that are divided into two parts, half where I did marketing and business development

Incub-Tech1_E4: I had to jump on business creation, and it has now been more than ten (10) years that I work in the incubator where I valued my experiences and then I had to opt a few years ago by specializing in the initialization part of business models and strategies of business models

Commercial skills in the staff of the incubator are favourable to prospecting

Incub-Acad3_E51: there are only two of us in the incubator, one in Paris and me in Montpellier. Just recently we have a communication student who joined us who is based in Montpellier with me but who is currently at school, but this is the first time. Otherwise, we are two people at the national level to manage seventy people plus all the links with students and everything we have to do with the ecosystem etc. So that communication for identification is something that is left a little in the background unfortunately

Incub-Tech1_E3: commercial training. In any case, there are zero scientists here. So, there are no engineers. These are only people who have marketing profiles, commercial and that Bac +5, two others on business development subjects, very operational there for the moment

Incub-Tech1_E5: there had never been any external sourcing in the incubator, never! I was really recruited for the preincubation component

Experienced staff is supportive of training

A high staff size is unfavourable to Opening to Application

Incub-Tech1_E1: My colleague is in charge of the preincubation program who does the maturation. So here we have a guy who has been working for a long time on this subject who each time paufines the project leaders who apply.

Incub-Tech1_E4: My role today is a business manager role, and I am responsible for pre-incubator programs where I prepare project leaders who apply.

Incub-Tech1_E1: My colleague is in charge of the preincubation program who does the maturation. So here we have a guy who has been working for a long time on this subject who each time paufines the project leaders who apply.

Incub-Tech1_E4: My role today is a business manager role, and I am responsible for pre-incubator programs where I prepare project leaders who apply.

A high staff size is unfavourable to Opening to Application

Incub-Tech1_E1: last time we did not call for applications since we recently expanded the team.

A high size of staff is unfavourable to training

Incub-Tech1_E1: last time we did not do this preincubation phase (the training) since we recently expanded the team.

A high size of staff is favourable to prospecting

Incub-DevEco2_E48: internally, what happened is that we also had an evolution, a change in human resources and this allows us to do the prospecting

Incub-Socia1_E45: we had fewer applications because last year we had a person in the incubator who became pregnant, and we did not replace him. This means that there are things that we could not do typically in the upstream prospecting phase, the entire dissemination phase, project leader prospecting. So, there are three of us on the incubator and so if you lose one person necessarily the two will not do the same work as the three people. So here we are a little limited in terms of number we do as we can

Incub-Tech2_E43: if we had indeed one more person, additional resources, this person could better attend the meetings of the network, go on the ground to present the incubator in the groups of heads of enterprises such as employers' unions, associations of groups of entrepreneurs. Of course, it is a resource that can go into the field to explain what we are doing. As we are limited in human resources, our presence actions on the territory are more limited for the detection of projects

A staff with diverse skills is conducive to attracting

Ent-Incub3_E24: But we have a lot of small and big problems to solve and it is very useful and very legal to be able to meet them or have them by phone and in the incubator, there are experts who are more financed, people who are more marketing, people who are more technical, people who are more commercial. So, we have at our disposal a complete set of skills that are very immediate and very available. Then there are other structures that can accompany but it is that there, they have skills to meet all our needs

Incub-Tech1_E3: We have chosen profiles oriented towards support functions that will be transmitted to us by the project leaders.

Ent-Incub12_E33: that is to say, it is a team what, it is not just one or two people who take care of the incubator, there is a whole real team behind.

Relational resources

Incubator networks in the preincubation ecosystem support call-to-application

Incub-DevEco2_E48: What will be important, we have our network, but we also join larger networks than us, which will extend our promotion, our calls for applications in this territory, at regional, national, and European level.

Incub-Socia1_E45: 15% of the candidates come from our networks because we do a lot of communication via our social networks during the phase of the call for projects.15% of the communication of the pilots there means Toulouse metropolis and France active and 10% which is not nothing anyway by our former project leaders

Incubator networks in the preincubation ecosystem are conducive to prospecting

Incub-Priv2_E50: there is a lot of networks and I have the impression that in Toulouse it is really the engine today. Then when I say the network, it is the third places animated by the local authorities that constitute biotopes in all the territories. So, it makes a network of biotopors. Prospecting is to work the network as I told you earlier.

Incub-Tech1_E5: I'm in charge of prospecting, so it's really looking for projects that we wouldn't see. For me there are two big poles. The first is the network, that's what I have, basically I know pretty much the entire innovation ecosystem in Toulouse, all the players in the bank, all the accountants, all the entities that at some point will be in contact with the projects. I need to know them because they are the ones who will push me the projects by telling me, listen I saw this happen I think the thing is not bad, the guy would need help. My job is to make a lot of phone calls to my network so that they remember that we exist. Before covid it was to have lunch with one, have coffee with the other, etc. To really have this network that permanently when he sees a new project arrived, in his head, go, maybe I have to push him to the incubator that can be interesting. So, it is a network that brings together about fifty people in Toulouse, which goes from everything that is innovation banking, all banking players accustomed to managing innovation files.

Incubator networks in the preincubation ecosystem support matchmaking

Incubator networks in the preincubation ecosystem are favourable to channelling

Incub-Socia2_E46: After that, we did a lot of work to meet the various partners in the ecosystem to share the fact that we intervene upstream and therefore, I am in contact with actors who send us project leaders when they are very upstream.

Incub-Acad3_E51: Our strengths I think it will be the network that we each have in our ecosystems especially me in Montpellier because as the ecosystem is small once again we often meet the same people and as I said it is often the people of the ecosystem who sends us back the project leaders so that's really our strength.

Incub-DevEco2_E48: it is a whole network work that we know how to mobilize but that must be maintained. So, we are in partnership with agreements that bind us with the Chamber of Chartered Accountants, we rub shoulders with banking partners so that as soon as they are going to be faced with a new project, they have the reflex to send it to us; And obviously, we are part of other networks.

Incub-DevEco3_E52: the first point is this work of the ecosystem, being present in all networks, whether local or regional; It is part of my work and also the work of the girls who go to the accreditation committees of the Local Initiative platform, who go into all the economic networks that may exist. We try to go as often as possible, to be present, to be active and then to play this logic of partnership so that people think of us when there are project leaders who arrive.

Inter-organizational relationships are conducive to interviewing

Incub-Acad1_E11: in the jury that selects potential projects, there is Signature, which is an audit and accounting firm, there is also Société Générale, AT-Home which is an association of former students of TBS, the Region and the Chamber of Commerce and lawyers… I have been working for the incubator for four (04) years. But before there were already relations between these organizations and the incubator.

Incub-DevEco1_E47: All banks are on executive engagement committees (interview panels), so we have an agreement with the financiers, the coaches.

Inter-organizational relationships are favourable to matchmaking

Ent-Incub9_E30: how did you meet the incubator? I think it's through the Aerospace Valley Pole; we were already very supported by the Areo Space Valley Pole which had relations with the incubator, so it was by connecting

Incub-Acad2_E44: often the creators when they want to start a business, they turn to the incubator, or to the local economic development agency. So, the incubators and incubators in particular who are in the Réso IP+ know us well we are very applied in all the dynamics of the network, and we feed this relationship with all the structures. So, when they detect a project that is very upstream of the creation and that has technological needs, they send them back to us. Half of our projects are Montpellier they come to us by the BIC (Business & Innovation Centre) of Montpellier coming from everywhere.

Incub-DevEco1_E47: We have an agreement for example with the main accompanist called BGE so the management shops that were very well known, and so this agreement makes that automatically when they detect among the project leaders, an innovative project leader they submit it to us

Incub-DevEco2_E48: indeed, over the years our partners identify us as specialists in support and innovation so can direct us projects

Incub-Priv2_E50: Then we try to play the synergy between different incubators. For example, I regularly interact with the Lestarter entity. We also have exchanges with the 'village by CA' which just before the COVID crisis, we were mutual partners. That is to say that they were partners of the ethics biotope we were partners of the village by CA team, and we exchanged project leaders by prescription

Incub-Socia1_E45: so, there are enough visits and 30% arrived through our prescribers.

Inter-organizational relationships are conducive to transformation

Ent-Incub10_E31: There has also been a lot of discussion since… For a long time on uh how the technology transfer entity can work with the incubator.

Inter-organizational relations are favourable to calling to application

Incub-Tech1_E1: We now have 45 members divided into colleges: the college of representatives of the state, the college of representatives of the region and other communities, the college of all academic actors, research organizations, universities and schools and the college of all that is socio-economic partners. A

Ent-Incub13_E34: The connections between the technology transfer entity and the incubator already existed 4 years ago, the relationships, the bridges exist. Between these organizations, I think that at the time the files were already discussed very regularly in committee.

large part of our official members, therefore active members of the association, are also institutions to which we relay (I am talking about processes) all our calls for quandidatur

Inter-organizational relationships are favourable to channelling

Incub-Acad3_E51: as I say it is a small ecosystem so it is important to keep links with everyone and then every time, we do these events we think of new potential collaborations with other actors who could transfer project leaders to us.

Incub-DevEco3_E52: So, we said the main partners will be all the support structures for creation that we were talking about earlier, but basically there are consular chambers globally, there are also all the support structures such as the BGE that you may also know that refer the project leaders to us.

Incub-Tech1_E2: as we are an association with members, they are all members of the association. So, we are contractually partners. Their relationship with the incubator is direct in the sense of the orientation of the project leaders.

Incub-Tech2_E43: Yes, so it is a lot through the network, so we are already a network of fifty-four support entities that are federated in the Réso IP+ which is the network of incubators, accelerators, and incubators in Occitanie. Then there is our network also Biterrois that is to say the network of accompanying entities, consular chambers or management shops that refer projects to us.

Interpersonal relationships are conducive to translating

Ent-Incub7_E28: Why this incubator? It was simply advised by someone I trusted, so he directed me to where we felt that's what we needed.

Interpersonal relationships are favourable to matchmaking

Incub-Acad2_E44: it happens increasingly often that teacher-researchers who are in contact because people have contacted them because of their scientific competence and there they can answer on the scientific part but on the economic part, so they put them in touch with us

Incub-Acad3_E51: I work a lot with a person at the CCI who deals with funding so I send them a lot of project leaders who need support on this subject and she does the same when she has project leaders who are looking for incubators, she tells them to come and see me

Interpersonal relationships are conducive to attracting

Incub-Acad2_E44: they are d'allumni, they know the school, who get in touch with the school to find out if they could be accompanied on their project

Ent-Incub12_E33: I have a friend who also launched his company who told me let us discover the world of the association, and coworking spaces comes one day and you see if you like it and that is how I was at the association

Ent-Incub13_E34: I knew well one of the business managers of the incubator with whom I had started a discussion before the creation of a company. the one who would become my partner used to work at Nubbo as an account manager too, and so the connections from a human point of view were quite simple,

Interpersonal relationships are favourable to channelling

Incub-Tech1_E3: Myself, apart from my incubator and external relations management functions, I participate in the identification of projects through the prescriptions of my network.

Incub-Tech1_E4: in all cases organizations do not exist as such, they are embodied by humans with whom we have more or less effective relationships. Our relationships are intuitu personae relationships and it is through this that we are sent back the project leaders

Reputational resources

E-reputation is in favor of e-attracting

Incub-Socia1_E45: Well, I tell you this because there are other names, on the internet if you type the name of the incubator, you will come directly to us… And you see it is the channels of

The brand image of the incubator is favourable to channelling

Incub-Socia2_E46: That's uh I think we have a good reputation that also makes it easier for us to make contact with project leaders when they come from outside

diffusion that is to say by what means the project leaders arrived because if we ask them the question where 30% of the projects arrived anyway through our website

Incub-Socia2_E46: we have a lack of referencing on the internet. We can not work on natural referencing on our website, we are not good at it, and it is part of the evolutions to be made to attract project leaders

Ent-Incub12_E33: there was also the reputation of the incubator that helps a lot anyway, a very famous level on Occitania,

The brand image of the incubator is favourable to attracting

Ent-Incub9_E30: the incubator is one of the companies that are well referenced for the accompaniment especially uh at the level of Occitanie, so we really made this choice to present our application to this incubator

Ent-Incub7_E28: the fact that it's something public or even semi-public, it's something that's reassuring where you don't feel like a startup as a product., which was driven by a renowned startup acceleration structure. So, we chose this acceleration program because for the brand already. For the brand when a startup that is part of the community of international starups who have passed through this accelerator is something that matters that has a weight.

Incub-Tech1_E2: When we say that we are an incubator that benefits from the assistance of the space agency of aeronautics and that we can invest €25,000 on projects, It makes it possible to display a notoriety and attractiveness of the structure vis-à-vis a certain number of project leaders which is Superior to the notoriety that we would only have.

Incub-Tech1_E2: identify the structure that is labeled by the European Space Agency rather than the others (…), indeed it gives a brand image effect that is important. But unlike all the previous cases, it is not the Space Agency that sends us a project leader. it's because we have the label of the space agency, A space project leader who arrives from outside the region will come to us on his own, it will give us visibility, so it's the brand image.

Formal and moral legitimacy is favourable to attracting

Ent-Incub7_E28: the fact that it is something public or even semi-public, it is something that is reassuring, so we chose this acceleration program.

Incub-DevEco2_E48: we were the only entity that was dedicated to innovation, and we are integrated into networks, and we are labeled for that, so this is a first thing that attracts project leaders

Incub-Priv2_E50: As such, in our missions, the environmental concern is to be able to contribute to the attractiveness of the territory and economic competitiveness through innovation. So that also attracts young companies to us. They say to themselves: here is an entity on the territory that wants to be an entity with an environmental social mission, which wants to support innovation, to support competitiveness on the territory, which is something that is quite in quotation marks that is quite salesy.

Incub-Socia1_E45: we benefit a little from the legitimacy of the metropolis because indeed when we are concocted by a public power bah, we say behind there are anyway, bah it is victims, there is an obstacle on the territory, the metropolis supports, etc. what. And what is interesting is that I am being a civil servant of the community, employee of the community, I can directly make the link with my colleagues, and it goes faster to be a term for experiments and project leaders it goes much faster because we are concocted by the metropolis. Because we have specificity is that 100% of the projects, we support are related to the skills of the community … 100% of the projects we support uh the problems to which the project leaders respond uh are the problems that the communities must respond.

Incub-Tech1_E2: identify the structure that is the Labelled by the European Space Agency rather than the others (…), there for the moment indeed it gives an effect of legitimacy that is important. But unlike all the previous cases, it is not the Space Agency that sends us a project leader. This is because we have the label of the space agency. A space project leader who arrives from outside the region will come to us on his own,

The experience is favourable to attracting

Ent-Incub6_E27: for us it was their job, they had been doing this for years and you have no reason to question it.

Experience is favourable to assessing

Incub-Socia2_E46: after it is the feedback so suddenly the eleventh promotion. We have eleven experiences before … laugh!!! On which typology of the project will be complicated to follow or which typology of project leader can be complicated to follow. That's it, and that's experience.

Experience and professionalism are favourable to prospecting

Incub-DevEco1_E47: now that we have an experience that we have professionalized thanks to the Réso IP+ which has helped us a lot to professionalize; now the next step is to get people and so it means that the third step is fair in particular it is there squarely we want to go to the shows.

The specialization of the incubator is favourable to attracting

Ent-Incub6_E27: there is a very good relationship between the technology transfer organization and the incubator, which is the pretty logical sequence. In 2016 in any case, it was the quite logical sequence for techno called Deep-Tech because we were on techno, we did not make the app. So, we are really on this type of technology and more of us for our application in the industry, so the incubator was the one that seemed to be the most adapted in the

Ent-Incub10_E31: the incubator it is historical in the region, so it also has a network, a very important access traffic	region and the easiest to access and with an accompaniment that was quite easy too. Ent-Incub12_E33: Then there was B2B… This is a good plus the fact being that the condition to specialize in a sector is where it is most interesting.

Success stories are favourable to prospecting	**Success stories are in favour of attracting**
Incub-DevEco3_E52: So why I talk a lot about supported companies, for me these companies in two ways are very important for prospecting. This makes it possible to show people that we are trying to source the type of companies we support and the more we support startups in particular that are successful.	Ent-Incub7_E28: I found that the results of the incubator, the companies that had gone through the incubator, the successes that came out of it, the success rates, I found it rather serious. Incub-DevEco3_E52: So, we try to communicate about our successes to show who we can accompany and make people want to see us. So that's why we try to really put 'historic success' in advance. Ent-Incub10_E31: I think that most of the startups that have operated recently I think almost all have passed through this incubator in numbers. Ent-Incub12_E33: finally on the feedback I had, honestly about what took off, those who took off, they mostly went through this incubator Ent-Incub10_E31: there have been many entrepreneurs who have gone through the incubator so there is this network of knowledge that accumulates, and it is something extremely positive that attracts project leaders.

Technological resources

Production technologies are favourable to attracting in technology incubators	**Digitalization is good for e-sourcing**
Ent-Incub10_E31: what is missing in this incubator is the fact that they do not work on plants, so we need that but, on the other hand, on the production technology they have everything they need all the means what. So, from the beginning quite early I got closer to one of his staff and then that is how it happened.	Incub-Priv2_E50: and then eeeuuuh what we call resonance, i.e. sourcing on social networks

Digitalization is good for interviewing
Incub-Acad3_E51: with COVID we also changed our park recruitment system as we did everything in video, but it was easier to organize juries a little when we needed them. So now we make juries every month. Before, the juries we did it face-to-face, we invited five, ten people from the ecosystem, it was official while now the juries we do them by video and we are much fewer. In general, we are four fives, and it is the people of the team and some of our mentors who are there too, but we mobilize much fewer people, and we make juries much more often.

Appendix 3.4 Preincubation ecosystem resources as antecedents of entrepreneurial sourcing processes

Structure and condition of the preincubation ecosystem

The funding available in the territories creates inter-territorial competition between incubators in attracting project leaders

Part-Incub5_E10 (1): some project leaders go to business angel funds that will be different from one territory to another, there is regional aids that will be specific and very different from one region to another so it will be up to you to settle in Toulouse or Paris. So, the competitors of the incubator of a region it may be the regional incubator of the region next door or the island of France.

an overly dense and unstructured ecosystem is unfavourable to identification processes (disrupts identification processes for start-ups and incubators)

Part-Incub8_E14 (1): Project leaders are very dispersed in this ecosystem. So, it is an ecosystem that is very fragmented.

Part-Incub13_E20 (1): there are different actors that have been created. There are many structures and I think that for companies it is not always easy to find each other.

Part-Incub10_E16 (1): I think there are a lot of pre-incubators and incubators that have been set up, and that's why I think Pépite has a problem with the starter to recruit because there are really a lot of pre-incubators outside higher education that exist

Part-Incub7_E13 (1): There are a lot of aid and structures in the region. It's quite disturbing: incubators, helpers, coaches … they are there in phenomenal quantities

Part-Incub2_E7 (1): To put it in context we were still talking too much about startups, the ecosystem was not meshed.

Part-Incub5_E17 (1): For me, there are too many actors,

A structured and dynamic ecosystem is favourable to attracting (the creation of business projects in volume and attracts them for incubators)

Part-Incub8_E14 (1): it is that we have a problem of sourcing innovative projects on the west side unlike the east side where we have the BIC in Montpellier which is a big ultra-structured file sourcing system and that we do not have that on the west side. I have fewer files and some difficulties. Sometimes I have a lot of project leaders who call me directly, but I refer them to support structures and who do not always come back in fact.

Part-Incub1_E6 (1): the ecosystem of Occitania has a dynamic from the point of view of entrepreneurship that is very important. So, we have a lot of devices that are huge. There is an association called the Galaxy Club which brings together the order of ninety companies. And the galaxy prize selects projects to which they give prizes which for the first prize is ten thousand euros and support in the sense that the companies select, the project leaders select are members of the club for two years. The capacity of this ecosystem that makes entrepreneurship in Occitania is rather good.

Part-Incub12_E19 (1): everyone knows my point of view! the innovation support ecosystem in Toulouse it is still big. That is to say, there are many actors, are there too many? I will not be able to judge but it is true that there is something to do between the somewhat official structures. So, it is good to insist on all the people who gravitate around start-ups to accompany them. We are not lacking

Part-Incub2_E7 (1): there was little support offered by one: the region's incubator. 2009 first coworking space in Toulouse, the canteen. 2012, we change the place we go to the scrum. 2014 explosions of coworking spaces and it continues even now. There are other models a little hybrid that arrive.

Part-Incub7_E13 (1): Obviously practices and processes are very important, but it is the ecosystem that makes up the DNA of project leaders. So, if you have a poor ecosystem compared to your market positioning, indeed we are very, very dependent on these fashion effects of the start-up ecosystem.

Socio-economic instability

Competition encourages prospecting but harms the territorial system of support for entrepreneurship

Part-Incub12_E19 (1): Then we must understand that in this ecosystem they are all a little competitive. So, they still have sales teams to get projects.

Part-Incub13_E20 (1): From my point of view, I think that there is competition between certain incubators, there is a lack of cohesion between incubators.

Part-Incub5_E17 (1): there are often competitive relationships, even if sometimes they are asked, they will tell you no, but partly yes, the number of incubators has exploded; We have a number of structures today that are created everywhere, it's amazing, and what I know is that there is an incubator that is almost empty, when you ask them they will tell you that it is full, but when you go there is no one; So I think the difficulties are that we actually have the incubation and preincubation system partly supported by territorial authorities, the region, etc. With a form of competition, I am not sure that it is as effective as possible, and that in the end there will be no breakage because there may be too much surface too many square meters; Too much room.

Socio-economic crises as stimulators of business creation but can change the profile of projects

Incub-tech1_E1 (1): We learned with the crisis of 2008… We did not have as many technologies' projects anymore. We had begun to see the arrival of non-technological projects of applications, platforms, E-Commerce, and the like. It was not in our DNA at all, but at some point, there was only that to maintain volume. We took a little bit. From the moment we started to see the return of projects a little more structured and a little more technological, we clearly stated on our site, and it is written everywhere that: You have a note of 'Good Plan' or 'Going Out Tonight' is not us! (Laughter)

Part-Incub3_E8 (1): The Covid-19 crisis will also inevitably impact the profile of business creators. So, the more the structures they adapt to this, and they respond to these new challenges, to the Covid crisis, and the economic crisis that awaits us, this will necessarily have a strong impact on the capacity of the incubators. Because we are going to be in a crisis that will reduce budgets, which will strain the budgets of local authorities, especially those that will have economic competence.

Part-Incub4_E9 (1): there is a crisis in the aeronautic industry at the moment so there will be unemployment in the sector, there will be downsizing, students will not also find work. I think we will have executives who are forty, fifty, thirty years old, who know the sector well who will themselves want to create companies or who will take advantage of a social plan to create companies and people think that in our network we can have things to do when we are executives from the school who are anywhere in the world and we could perhaps try to do them to come back to Toulouse saying that we offer you the Innov'Space to start.

Local innovation & entrepreneurship culture

A strong collaboration between territorial R&I and large industries is unfavourable to transformation (the creation of tech start-ups)

Part-Incub13_E20 (1): Then there is a dynamic of innovation it is true we have Aquitaine which is different from Occitania and also from ex Midi-Pyrénées. Euuuh probably because Midi-Pyrénées we have aeronautics which is uh very strong which is uh… Which is uh so I think at least allows startups to grow because a lot of talent remains.

Incub-tech1_E3 (1): the first is that the Toulouse ecosystem at that time, sets projects related to research through the creation of companies. And we finally have quite little compared to what the research potential is because the Toulouse research potential has well-established habits of economic valorization old but rather with existing companies.

Part-Incub2_E7 (1): But in 2013–2014 startups were not the potential at the time. In 2014 we heard about a startup called Yup that had raised a million euros, everyone was waiting for it! It's unbelievable! What a fortune! Wahoo! Amazing in 2014 what! There is now raising to twenty million euros is commonplace in people's minds. To put it in context, we were still talking too much about startups, the ecosystem was not meshed, there was little support offer

Part-Incub4_E9 (1): That's it! So, students, EEUH employers and guardians are finally pushing in the same direction to take an interest in entrepreneurship.

Weak collaboration between territorial R&I and large industries is favourable to transformation through the transfer of research technologies through the creation of companies.

Part-Incub1_E6 (1): The issue of technology transfer that I mentioned earlier is also something that has been identified and that we want to further improve even if the incubator is on good alert for this good start.

Part-Incub7_E13 (1): after several years, we realize that the ways to value results and obtain a license, but to obtain the license of a customer, it is easier to go and create a customer, so that we are sure that the customer will buy something from us, since it is we who created the customer. So, helping to create a customer means helping to create a company that will become a customer of our technology. We want to put more emphasis on business creation, I want to restructure a little bit all this business creation.

The strength of the intention to undertake in the territory is favourable to the identification processes (the creation of business projects)

Part-Incub2_E7 (1): In 2015 I do not know what happened, but everyone wanted to launch their startup, the real launch. In 2016 it stopped a little, but it had started so strong that it did not really stop what. After that we come back a little bit.

Part-Incub4_E9 (1): we also have the students themselves, this whole generation that is still a little more attracted by entrepreneurship that we see every time there are surveys that young students are more attracted to this issue even if they know nothing about it, but in any case they express an interest in the issue.

The commitment of the actors of the innovation ecosystem for entrepreneurship is favourable to sourcing processes (stimulates the creation of companies and makes it possible to identify and select in quantity and volume)

Part-Incub11_E18 (1): researchers are becoming more and more aware of the interest that may be to go to the end of their research in the sense not to the end of their scientific research but to see these transformations of scientific research in contribution for society, in contribution for socioeconomic valorization I think that too it is something that they become aware it is very interesting

Part-Incub11_E18 (1): this is something that is developing more and more. When we think of the CNRS we do not necessarily think of the valorization but especially of scientific publications, but the transfer of research results by way of business creation is still the second mission of the CNRS

Part-Incub4_E9 (1): finally, there is one last point it is for us more specifically it is that employers want ISAE SUPAERO to train engineers for aeronautics and space, and the employers with whom we are in contact, it is large aeronautical and space companies. There are councils, bodies where these industrialists can express their needs and they ask quite clearly young people who are better trained or who have a mindset towards innovation and business creation.

Part-Incub2_E7 (1): I think that the specifications of the region are to provide an answer to all project leaders who apply and to fill this beautiful city with start-ups… To finish the fact that the city of start-ups is erected there will be a new strong point, point of anchoring and national and international resonance. It inaugurates that very good things for the future are here.

Incub-tech1_E3 (1): In fact, the context is favourable, and the typology of project leaders and the nature of the projects we are looking for. Currently it is favourable because there is a big national plan to return support to deep-Tech uh… Which is very hammered in the ecosystem uh … and that actually promotes uh … an influx of new projects.

A constant flow of project leaders in volume in the territory is favourable to attracting and unfavourable to opening to application and prospecting

Incub-tech1_E3 (1): We have a natural flow of applications that is more than sufficient without having to proceed by call for applications and without having to prospect.

Incub-Tech1_E5: none of the incubator's business managers had taken their pilgrim's staff to look for external project leaders who could return. All simply because they had the number of projects of sufficient quality that came from themselves.

National and local policies

Administrative mergers of territories negatively impact entrepreneurial sourcing processes (duplication of incubators and conflicts of territorial jurisdiction)

Part-Incub3_E8 (1): it is still an operation that has been greatly impacted by the merger of the regions and especially because there was a strong departmental involvement in economic development. The departments that have lost this competence have been able to… The entire ecosystem has been strongly impacted and transformed. There was much more for example nursery carried by departments on the Midi-Pyrénées side than there was on the Languedoc-Rousillon side. It means that there are changes in governance and there is a

Policies to promote entrepreneurship are conducive to stimulating entrepreneurial culture in the territories

Incub-Acad1_E11 (1): With the opening of the city of startups, we have shown that the region invests a lot in entrepreneurship, and this allows us to be part of this ecosystem. It is therefore an environment that is dynamic

Part-Incub1_E6 (1): So, it is an accompaniment that CNES provides within the framework of an association called NEREUS, a European association that is based in Brussels and

strong change in the organization of the ecosystem. So, the more the incubators adapt to that …. they respond to these new challenges

CNES brings its contribution and its expertise. These are space agencies, regions, territories that are members of NEREUS. Currently NEREUS is chaired by a regional councillor of Occitanie.

Part-Incub4_E9 (1): there is a desire of the supervising ministry finally we will say of the state in the broad sense to promote entrepreneurship among students including you know the PEPITE device I imagine. And so, we can see that the state wants to develop entrepreneurship sensitivity and therefore also business creation directly with all students, so the grandes écoles are no exception to the rule.

Part-Incub3_E8 (1): Midi-Pyrénées It is still an operation that has been very impacted by the merger of the regions and in particular because there was a strong involvement of department in economic development.

Part-Incub5_E17 (1): The team ended on April 1rst, 2020, this team aims to prefigure the future call for projects that will normally come out in June 2020 and from that we will fill out files that will allow the nuggets to have the additional means given by the State, so as to promote a much more widespread awareness, on the part of students knowing that institutions have this obligation and we will support these institutions. Normally from the beginning of the 2020 academic year, the nuggets will have much more means to generalize awareness since, the minister had announced in October 2019 a new plan for the spirit of entrepreneurship in which she wanted 100/100 of students to be aware.

Part-Incub7_E13 (1): it is an effect of government directive or others, but there was a need to put the package on business creation that revealed itself at the end of the year (2019).

Socio-economic policies impact channelling processes

Part-Incub1_E6 (1): you see this with the recovery plan today in France and in other countries as well. Obviously, there are distinct kinds of help it can really be at moments of incubation or preincubation, it can then be in a phase of acceleration. And the incubator is one of those who observe this. So, we obviously do it with them and so we work properly.

Part-Incub4_E9 (1): the supervising ministry is defense, so in this context every five years I believe, an orientation plan is negotiated with the supervising ministry. And so, the plan that is underway, the strategy of the school was to rely on training of course, research and a third pillar which is innovation. So, they initiated certain actions, they created the position where I was hired to supervise everything related to it, related to innovation and entrepreneurship.

Incub-tech1_E3 (1): It (the channeling processes) is not automatic because it was generated by a number of findings and national plans conducted by France, rather interesting. So, there are a lot of processes behind it. There is a process that is not our own, that goes far beyond us, which is a national process. Which is therefore extremely favourable. us.

Local R&I and industry as sources of resources for transforming

Local R&I and education as sources of technology, innovation, and talents for transforming (to tenants/entrepreneurs)

Part-Incub8_E14 (1): the territories that are doing very well in terms of innovation are particularly with the Castres technopole… And here, we see that it is dynamic. On the other hand, in other territories, it is a little more complicated. And yet we went to these territories to really try to do missions.

Local tech industry (source of entrepreneurial talent) is favourable to transforming

Part-Incub13_E20 (1): there is a dynamic of innovation in Aquitaine that is different from Occitania. Surely because in Occitania we have the aeronautical industry, which is strong, this allows start-ups to develop because a lot of talent remains.

Part-Incub2_E7 (1): I find the ecosystem powerful because we have economic basins strongly supported by aeronautics,

Part-Incub11_E18 (1): I think it is unpretentious that we are still an essential technology transfer organization for incubators. When we talk about Toulouse research, we are still present in more than sixty research units, and we represent a Occitanie west delegation of 10% of CNRS researchers at the national level. So, we are an important research and valorization force in the ecosystem.

Part-Incub2_E7 (1): we have sectors, powerful economic pools that make a powerful student and study pool and in fact if we think about it, the best entrepreneurs there is a part that are students. medical so there are people who prepare to go in and then they say no I am going to make a start-up. Armoured with competence so it's cool for us and there are people who have been working for ten, fifteen years and who bother in their work and suddenly it's cool for us because they come like that and then there are satellite people more or less built, entrepreneurs born and everything. Very powerful,

CHAPTER IV: UNRAVELLING ENTREPRENEURIAL SOURCING PROCESSES IN THE PREINCUBATION ECOSYSTEM: A DYNAMIC CAPABILITY PERSPECTIVE

Incubators play a pivotal role in fostering entrepreneurship and innovation. Recent literature underscores their significance within entrepreneurial ecosystems, especially in the preincubation phase. This research delves into the dynamic processes through which incubators identify and select tenants within the evolving preincubation ecosystem. Drawing upon the principles of dynamic capability theory – including adaptability, reconfiguring competencies, and addressing rapid environmental changes – we study the incubators' use of sensing and seizing capabilities in identifying and selecting tenants within the entrepreneurial sourcing framework. Emphasising the continuous interactions between incubators and various actors in the preincubation ecosystem, this single case study sheds light on the outcomes of entrepreneurial sourcing processes. Notably, we highlight the potential reconfiguration of the preincubation ecosystem, marked by mutualising resources and enhancing their provision. Furthermore, our analysis emphasises the relationship between tenants' identification and selection processes and incubator outcomes, such as improving resources' endowment, enhancing collaboration, occasioning tenants' germination, and streamlining technology transfer. By framing our study within the dynamic capability theory, we offer fresh insights into the intricacies of entrepreneurial sourcing and their implications for the preincubation ecosystem. This research contributes to understanding how incubators can maximise their impact, underscoring the need for adaptive, forward-looking strategies in an ever-changing entrepreneurial landscape.

Introduction

In the last decades, incubators have gained prominence worldwide as economic development tools, with growing expectations for their performance (Udell, 1990; Messeghem et al., 2018; OECD, 2019; Hu et al., 2023). They play a crucial role in kickstarting and nurturing their tenants, such as start-ups and business projects (Hausberg & Korreck, 2018) and are vital for enhancing entrepreneurship in specific territories (Audretsch et al., 2015; Mian, 2021; Wurth et al., 2022; Rosado-Cubero et al., 2023). These incubators operate within the entrepreneurial ecosystem, a self-sustained community focused on business development (Roundy et al., 2018). They work through three-step activity: preincubation, main incubation, and post-incubation (Hillemane et al., 2019; OECD, 2019; Mian, 2021). By understanding incubators as a central core of the entrepreneurial ecosystem, their multifaceted interactions become clearer (Spigel, 2017; Theodoraki & Messeghem, 2017, 2020; Goswami et al., 2018). This leads to segmenting the entrepreneurial ecosystem into three sub-ecosystems based on

incubators' activity phases for deeper analysis: preincubation, incubation, and post-incubation ecosystems.

There is controversial knowledge on optimising incubators' outcomes within the entrepreneurial ecosystem. While most studies have focused on the main incubation and post-incubation stages (Hu et al., 2023), an emerging research stream highlights the need to shift our focus to preincubation ecosystem activities, such as interactions between upstream actors and factors of the entrepreneurial ecosystem (preincubation ecosystem) for tenants' (business projects and start-ups) identification and selection (Klofsten et al., 2020). While some previous work has found that the adjustment of selection criteria (technological, human, and financial) depending on the specialisation of incubators determines the quality of their tenants and their performance (Lumpkin & Ireland, 1988; Aerts et al., 2007), others have found that there are more tenants within incubators which do not reflect their specialisation criteria (Klofsten et al., 2020). This literature shows inconsistencies and paradoxes regarding the role of incubators in the preincubation ecosystem. Even though they are expected to influence incubator outcomes (Etzkowitz, 2002; Hackett & Dilts, 2004; Aerts et al., 2007), there is still limited study and understanding of this topic (Hillemane et al., 2019; Mian, 2021). The activity of the incubator within the preincubation ecosystem deserves in-depth analysis for several reasons. First, it is theoretically relevant to have a conceptual and theoretical framework able to explain the divergences in the results of previous work for an in-depth understanding of the activity of incubators in the preincubation ecosystem and its outcomes. Second, identifying and selecting a steady flow of tenants that fit an incubator's specialisation is becoming increasingly challenging (Bank & Kanda, 2016; Bank et al., 2017; Klofsten et al., 2020) and deserves particular attention.

Previous works have highlighted that to identify and select tenants, incubators connect to the preincubation ecosystem through collaboration with other actors such as funders, coworking spaces, laboratories, universities, associations, and technology transfer entities (Voisey et al., 2013; Vanderstraeten et al., 2020; Merguei & Costa, 2022; Theodoraki & Catanzaro, 2022). Although this literature remains fragmented (Hillemane et al., 2019), mostly descriptive (Bank et al., 2017), and often contradictory (Klofsten et al., 2020), it offers an exciting avenue to analyse the relationship between the processes of identifying and selecting tenants, and outcomes such as widening incubators' network of tenants' sources (Knox & Arshed, 2022; Wurth et al., 2022). Indeed, this literature presents tenants as incubators' inputs (Aaboen, 2009; Mian, 2021). Therefore, we propose to analyse tenants' identification and selection as a process

in the preincubation ecosystem that we conceptualise as entrepreneurial sourcing in reference to the activity of supply of material, immaterial, and human resources, as they share similar characteristics (Cober et al., 2004; Ahi & Searcy, 2013; Giunipero et al., 2019; Farndale et al., 2021).

This study aims to conceptualise tenants' identification, selection and retention as a process of entrepreneurial sourcing from a dynamic capability perspective (Gehman et al., 2013; Lütjen et al., 2019; Roundy & Fayard, 2019). In such a dynamic process, incubators sense and seize opportunities in the preincubation ecosystem to improve their outcomes (Audretsch et al., 2022; Wurth et al., 2022). Tenants are analysed as talented individuals along with other resources such as technology, financial and social capital (Mian, 2021; Audretsch et al., 2022). Incubators search for all these resources that are held by different actors in their preincubation ecosystem, such as public programs, intermediary organisations, universities, funding entities, research laboratories, civil society, etc. (Carayannis et al., 2018; Audretsch et al., 2022). These actors might be willing to direct or not such resources to the incubator or other types of support organisations. Such a preincubation ecosystem is likelier to be very competitive for incubators to access the best talents, technology, financial and social capital. Therefore, incubators must implement dynamic capabilities processes to sense and seize these resources in close interaction with multiple actors in the preincubation ecosystem (Bank et al., 2017; Etzkowitz, 2002). Such capabilities are more likely to affect the outcomes of the incubator in the preincubation ecosystem (Messeghem et al., 2018; Wang et al., 2020). Hence, the following research question: How does entrepreneurial sourcing impact incubators' preincubation ecosystem outcomes?

In our exploration, we delve deep into the practices of Nubbo, a regional incubator in the southwestern France region, Occitania (Yin, 2018), using an ecosystem approach (Theodoraki, 2021). Data processing was facilitated using Nvivo 1.7, and analysis was steered by the Gioia method (Gioia et al., 2022).

The research contributions reveal that entrepreneurial sourcing, involving identification and screening activities, profoundly influences the outcomes at the preincubation ecosystem level, ranging from project germination to fostering collaborations. Our primary contributions are threefold: elucidating the dynamic nature of entrepreneurial sourcing within the preincubation ecosystem, emphasising the link between entrepreneurial sourcing processes and preincubation ecosystem outcomes, and instigating a dialogue surrounding the integration of individual actor (incubator) and collective preincubation ecosystem capabilities. By doing so, we offer a peek into the intricate workings of the entrepreneurial ecosystem.

The remainder of the paper is as follows: Section 4.1 describes the theoretical framework, and section 4.2 explains the research method. Then, section 4.3 presents the findings, and we end up with the discussion in section 4.4.

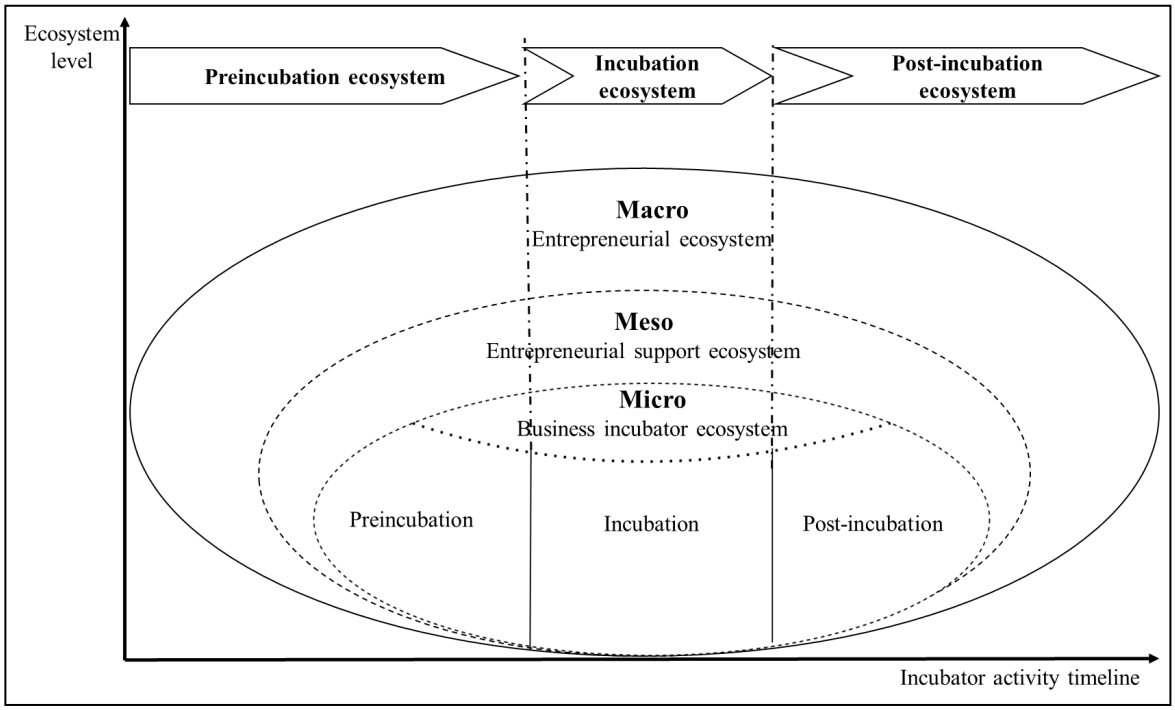
4.1. Entrepreneurial sourcing within preincubation ecosystem, and dynamic capability

The present study views the preincubation ecosystem as an upstream sub-ecosystem of the larger entrepreneurial ecosystem in which incubators identify and select tenants. Drawing from established literature (Bank et al., 2017; Mian, 2021), tenants' identification and selection within the preincubation ecosystem are conceptualised as "entrepreneurial sourcing" that this research aims to analyse in detail. By seeing entrepreneurial sourcing as a constantly changing set of practices that influence the outcomes of incubators in the preincubation ecosystem, our analysis is grounded in dynamic capability theory (Teece et al., 1997; Helfat & Martin, 2015; Helfat, 2022).

4.1.1. Preincubation ecosystem as sub-ecosystem of the entrepreneurial ecosystem

The entrepreneurial ecosystem is a dynamic system of actors and factors that drive resource allocation by creating and operating new ventures (Cunningham et al., 2019). Incubators are part of intermediaries that contribute to the relational dynamic of the entrepreneurial ecosystem (Giudici et al., 2018; Stam & van de Ven, 2019; Alaassar & Laure, 2022). In the current research, we propose theorising the contribution of incubators to the upstream entrepreneurial ecosystem (preincubation ecosystem) dynamics. To understand the preincubation ecosystem, this thesis combines the multi-level vision of the entrepreneurial ecosystem (Theodoraki & Messeghem, 2017) and the strategies of incubators during the three phases of their activity (preincubation, incubation and post-incubation) within the entrepreneurial ecosystem (Theodoraki & Messeghem, 2020). By considering the incubator as the central core (the micro level) of the entrepreneurial ecosystem, the distinct phases of its activity can be analysed by considering the interactions with the actors and factors in the micro, meso and macro levels of the entrepreneurial ecosystem (Spigel, 2017; Theodoraki & Messeghem, 2017, 2020; Goswami et al., 2018). A breakdown of the entrepreneurial ecosystem according to the three phases of incubators' activity gives three sub-ecosystems: the preincubation ecosystem, the incubation ecosystem, and the post-incubation ecosystem. Given that entrepreneurial sourcing is part of the preincubation phase, it is analysed within the preincubation ecosystem in the current research (see Figure 20 below).

Figure 20. A multi-level perspective of the preincubation sub-ecosystem



Source: adapted from Theodoraki & Messeghem (2017; 2020)

According to Figure 20, the preincubation ecosystem is assumed to be a sub-ecosystem associating all the actors (academics, institutions, industries, organisations, other incubators, technology transfer entities, funding entities, innovation/technology brokers…) and sociocultural factors of the entrepreneurial ecosystem within which incubator sources it tenants to feed the incubation phase (Voisey et al., 2013; Bank & Kanda, 2016; Bank et al., 2017; Theodoraki & Messeghem, 2020). It could be considered a physical and virtual place where tenants are self-created or created by and exchanged between actors based on multilateral, interpersonal and inter-organizational relationships supported by the sharing of expertise and information. The current research analysed the intrinsic contribution of incubators in the preincubation ecosystem dynamic by focusing on their tenants' (business projects and start-ups) identification and selection (Hillemane et al., 2019; Mian, 2021).

4.1.2. Limits of tenant's identification and selection literature and origin of "entrepreneurial sourcing"

Existent knowledge of tenants' identification and selection is fragmented (Hillemane et al., 2019; Mian, 2021) and sometimes even paradoxical (Klofsten et al., 2020). A major part of this literature is partially focused on the impact of potential tenants' screening on incubator performance with no consensual results (Lumpkin & Ireland, 1988; Aerts et al., 2007; Klofsten

et al., 2020). Others have shown that when incubators do not find enough potential tenants that match their specialisation criteria, they widen the screening criteria to retain other potential tenants (Bank & Kanda, 2016), leading to the paradox that Klofsten et al. (2020) exposed as follows: despite the positive relationship between incubators' size (the number of tenants) and their specialisation criteria, there is no fit between most tenants and their incubators' specialisation criteria. The contributions of the existing literature on tenants' identification and selection are insightful but fragmented, contradictory, and under-theorized. The current research aims to relate these contributions in a framework to elaborate tenants' identification and selection process theory for a deeper understanding.

The literature presents tenants as a mix of resources, including technology/innovation ideas, entrepreneurial talents/skills, and financial/social capital (Mian, 2021; Audretsch et al., 2022). Moreover, studies have suggested that the identification and selection of tenants are embedded in a process (Etzkowitz, 2002; Bank et al., 2017) that takes place within a preincubation ecosystem (Theodoraki & Messeghem, 2020). For example, Etzkowitz (2002, p. 121) suggested, "*The application and decision-making process by which new enterprises are accepted into the incubator is important in identifying firms with potential for growth and other relevant criteria of success*." Prior research has shown the need to collaborate with members of the preincubation ecosystem (Bank et al., 2017; Theodoraki & Messeghem, 2020). Therefore, from the above statements, we propose to analyse the identification and selection processes in the preincubation ecosystem as entrepreneurial sourcing in reference to the activity of supply of material, immaterial, and human resources, as they share similar characteristics (Newell, 2009; Rohrbeck, 2010; Monteiro & Birkinshaw, 2017; Giunipero et al., 2019). We defined entrepreneurial sourcing as a process comprising several sequential activities carried out by incubators in close collaboration with other external actors in a preincubation ecosystem, whose objective is to regularly identify and screen qualified tenants corresponding to established criteria in volume. However, while comprehensive, this conceptualisation of entrepreneurial sourcing within the preincubation ecosystem has limits.

While providing a broad framework, the current conceptualisation of entrepreneurial sourcing within the preincubation ecosystem leaves tenants' identification and selection practices relatively unexplored. This lack of specificity keeps the entrepreneurial sourcing as a 'black box' within the ecosystem. Keeping entrepreneurial sourcing as a 'black box' within the preincubation ecosystem can have several implications.

- Inefficiencies in sourcing strategies: Without a clear understanding of the intricacies of the entrepreneurial sourcing process, it is difficult for incubators to assess or optimise the effectiveness of their sourcing strategies. This could lead to inefficiencies and missed opportunities for sourcing high-potential tenants.
- Difficulty in replicating success: If the methods that led to the successful sourcing of promising tenants are not explicitly outlined, it becomes challenging for other incubators, or even the same incubator, to replicate the success in different scenarios or contexts.
- Limited understanding of outcomes: keeping entrepreneurial sourcing as a 'black box' also means that it is hard to ascertain the impact of different sourcing strategies on the success or failure of tenants, thereby limiting opportunities for learning and improvement (Bank et al., 2017).

Keeping entrepreneurial sourcing as a 'black box' can create a range of challenges, from transparency problems and inefficiencies to difficulties in replication and understanding of outcomes. Opening this 'black box' can lead to better, more efficient, and more equitable entrepreneurial sourcing processes within the preincubation ecosystem. Hence, the relevance of the current research.

4.1.3. Entrepreneurial sourcing under dynamic capabilities' view

Extant literature suggests that incubators mobilise their resources (human, network, technology, etc.) to create a network of partners within a sub-ecosystem, the preincubation ecosystem (Theodoraki & Messeghem, 2020), to get in touch with sources of tenants in their different dimensions: talent, technology/innovation, and resources (Bank et al., 2017). As these identification activities are embedded in the preincubation ecosystem, which is changing over time (Spigel & Harrison, 2018), they are called to be adapted to the evolution of this ecosystem (Bank & Kanda, 2016). Thus, this activity is non-routinized; it can be considered a sensing capability allowing incubators to identify tenants within the preincubation ecosystem (Giudici et al., 2018). After identification, tenants are filtered through a screening process to retain those that fit the incubator's criteria and have the potential to succeed during incubation (Etzkowitz, 2002; Aerts et al., 2007). As these selection processes are continuously adapting to change in the preincubation ecosystem (Bank & Kanda, 2016; Klofsten et al., 2020), they can be considered a seizing capability, allowing incubators to seize within the preincubation ecosystem the tenants that correspond to their criteria. While these identification and selection processes are embedded in the interactions between incubators and other actors within the preincubation

ecosystem (Bank et al., 2017; Theodoraki & Messeghem, 2020), collaborating with external actors during entrepreneurial sourcing (tenants identification and selection process) can lead to preincubation ecosystem outcomes reconfiguring such as resources' mutualisation (technology, knowledge, financing, skills, etc.) and the improvement of their endowment within the preincubation ecosystem. Therefore, the outcome of the entrepreneurial sourcing process can be analysed through their impact on preincubation ecosystem entrepreneurial performance, such as the improvement of resource endowment, the demand for these resources, or the allocation barriers between the actors and even technology transfer (Audretsch et al., 2022). The above arguments show that we can frame our analysis within the dynamic capability (sensing, seizing, and reconfiguring) theory (Teece et al., 1997; Helfat & Martin, 2015; Giudici et al., 2018; Roundy & Fayard, 2019; Barney et al., 2021; Helfat, 2022) to answer our research question by highlighting the relationship between tenants' identification and selection processes and incubator outcomes within the preincubation ecosystem.

The relevance of framing the analysis in the principles of dynamic capability theory becomes evident when assessing the multifaceted, evolutionary nature of entrepreneurial sourcing within the preincubation ecosystem. Firstly, the adaptive nature of dynamic capability theory mirrors how incubators adjust to the evolving preincubation ecosystem. Incubators must nimbly move resources, whether human, technological, or network-based, to connect with diverse tenant sources, encompassing talent, technology, and resources (Bank et al., 2017; Theodoraki & Messeghem, 2020). Such adjustments and adaptions are paramount, especially given the temporally changing nature of the preincubation ecosystem (Spigel & Harrison, 2018).

Secondly, the ability to reconfigure internal and external resources resonates with the way incubators interact with multiple actors within the preincubation ecosystem. Their collaborations during the entrepreneurial sourcing process can lead to outcomes reconfiguring the preincubation ecosystem, especially regarding mutualising resources like technology, financing, skills, and knowledge (Barney et al., 2021).

Addressing rapidly changing environments is a cornerstone of dynamic capability theory (Helfat, 2022) and is evident in how incubators continuously modify their tenant selection processes. As the preincubation ecosystem continually changes, incubators must be astute in altering their selection processes to ensure that they seize the right tenants who align with their criteria (Bank & Kanda, 2016; Klofsten et al., 2020).

Furthermore, the ability to retool and reshape strategic orientations can be seen in how incubators sense and seize opportunities within the preincubation ecosystem. The identification of tenants is a sensing capability, letting incubators understand who resides within the preincubation ecosystem and could be a potential match (Giudici et al., 2018). Once identified, the incubators then shift to seizing, filtering through potential tenants, and selecting those who align with their objectives (Etzkowitz, 2002; Aerts et al., 2007).

The forward-looking and flexible approach of dynamic capability theory is epitomised in the outcome-oriented perspective of the entrepreneurial sourcing process. Analysing outcomes, such as the improved resource endowment, increased demand for these resources, and any barriers in resource allocation between actors, showcases a proactive, outcome-driven approach (Audretsch et al., 2022). This perspective aligns with the dynamic capability theory's emphasis on understanding and influencing future trajectories (Barney et al., 2021; Helfat, 2022).

Given the adaptive, reconfiguring, and outcome-driven processes embedded in entrepreneurial sourcing within the preincubation ecosystem, employing the dynamic capability theory is fitting. This theory, with its principles of sensing, seizing, and reconfiguring (Teece et al., 1997; Helfat & Martin, 2015; Giudici et al., 2018; Roundy & Fayard, 2019; Barney et al., 2021; Helfat, 2022), provides a comprehensive framework to explore the intricate relationship between tenant identification and selection processes (entrepreneurial sourcing) and the consequent outcomes within the preincubation ecosystem.

4.2. Research Method

This study explores the entrepreneurial sourcing process and analyses its relationship to incubators' outcomes: a new and under-studied process with a "how" research question. Indeed, the analysis is focused on a single in-depth exploratory case study (Yin, 2018) of a regional technology incubator (Nubbo) in the Occitania region of France. This work adopts an ecosystem (Theodoraki & Messeghem, 2017; 2020) and process (Langley et al., 2013) approach by observing in a stepwise manner the entrepreneurial sourcing process (identification-selection) conducted by the incubator in interaction with other actors in the preincubation ecosystem. Our analysis aims to map and explain the entrepreneurial sourcing process within the preincubation ecosystem (Baraldi & Havenvid, 2016) and its link with the incubator's outcomes. Building on the Gioia qualitative analysis method (Gioia et al., 2022), we extracted from empirical data first-order concepts that are subsequently grouped in second-order themes borrowed from the

vast literature on sourcing, tenants' recruitment, and incubator outcomes. Then, we organised second-order themes into the three components of dynamic capabilities theory.

4.2.1. Case Description: Nubbo and Its Preincubation Ecosystem

Nubbo is one of France's first incubators created by national policymakers to promote the valorisation of public research results (technologies) through business creation. Indeed, Nubbo is a technology incubator (Hausberg & Korreck, 2018). Thus, Nubbo is part of the incubator type with complex inputs and activities at the preincubation stage that have been called to be studied deeply (Hillemane et al., 2019; Mian, 2021).

The governance of Nubbo is led by four parties: the state, the southwestern region of France's (Occitania) local authorities, academic actors, and socioeconomic partners. Therefore, Nubbo is also a regional incubator (Grimaldi & Grandi, 2005; von Zedtwitz & Grimaldi, 2006) that gathers stakeholders of the entrepreneurial ecosystem (Isenberg, 2011; Theodoraki & Messeghem, 2017). Furthermore, Nubbo is anchored in a rich, highly indexed, and diversified entrepreneurial ecosystem (Leendertse et al., 2021). Indeed, the Occitania region is famous in the aerospace industry (AIRBUS, CNES, etc.) and is full of many research and innovation laboratories working on various technologies (Théodoraki & Messeghem, 2017; Théodoraki, 2021). Nubbo's activities, such as tenants' identification and selection, are embedded in interaction with ecosystem actors and factors (Hausberg & Korreck, 2018), which analysis can capture a phenomenon such as *entrepreneurial sourcing* processes and their relation to incubators' ecosystem-level outcomes.

Nubbo started with an activity focused on incubation in the strictest sense. Today, it is positioned on the entire chain of entrepreneurial support: preincubation, incubation, and acceleration. Therefore, Nubbo welcomes tenants at various levels of maturity. In addition, Nubbo has just launched a seed fund called OCSEED (Occitania seed). Nubbo's offerings cover many services that all entrepreneurial support entities can offer their tenants. Thus, Nubbo embodies the "umbrella" criterion of the incubator concept (Theodoraki & Messeghem, 2020; Mian, 2021) and, therefore, adopts several activities for identifying and selecting tenants that can reflect the practices of many other support entities.

Furthermore, in addition to public funders that entrust Nubbo with the mission of economic development (Aernoudt, 2004) through the support of innovative and job-creating start-ups, the seed fund (OCSEED) that it has launched in partnership with private funders adds a mission of profitability of funds to be injected into its tenants (Allen & McCluskey, 1991; Hackett & Dilts, 2004; Bøllingtoft & Ulhøi, 2005). Moreover, Nubbo has just moved to larger premises reserved

by the Occitania region in *La Cité des start-ups* (a newly developed space to host start-ups in the region) under the condition that a large volume of tenants will be supported each year. Reconciling the mission of economic development, the profitability of funds, and the objective of volume necessarily requires sophisticated identification and selection processes to allow the permanent recruitment of qualified tenants (Etzkowitz, 2002; Bank et al., 2017). The above description of Nubbo shows that this incubator is a revelatory case whose tenants' identification and selection processes during preincubation are relevant to account for the relationship between entrepreneurial sourcing and incubators' ecosystem-level outcomes (Yin, 2018).

4.2.2. Data Collection

Considering Nubbo as the central actor in the preincubation ecosystem of the Occitania region (Spigel, 2017), data were collected and analysed through a process and ecosystem approach (Langley et al., 2013; Baraldi & Havenvid, 2016; Theodoraki & Messeghem, 2017). The data collection was conducted in the Occitania region from November 2019 to April 2022. This period covers three complete campaigns involving identifying and selecting tenants at the Nubbo incubator. Working closely with the incubator by participating or assisting in tenant identification and selection activities during these three campaigns allowed us to observe the cycle of the entrepreneurial sourcing process three times. The data were collected through various sources.

The bulk of the data comes from semi-structured interviews with internal and external incubator stakeholders that intervene during the preincubation phase or are linked to Nubbo in the preincubation ecosystem: incubator staff, tenant firms, and other entrepreneurial support entities that collaborate with Nubbo during tenants' identification and selection (Baraldi & Havenvid, 2016; Theodoraki & Messeghem, 2017). The constitution of the theoretical sample is done through an iterative collection/analysis process until data saturation is achieved (Bowen, 2008). The "snowball" technique was used to contact interviewees (Biernacki & Waldorf, 1981) because it was the only method that allowed for a selective sample to be formed to better inform on ecosystem processes centred on Nubbo (Baraldi & Havenvid, 2016). The experience of the co-authors and an accepted partnership from the incubator to engage in this research were necessary assets for data collection. Indeed, to identify the incubator's partners in the preincubation ecosystem, one author conducted a working session with the incubator's director on mapping the inter-organizational network of its entities. Furthermore, a collective interview was performed to share information and provide insights into the preincubation ecosystem. To

get in touch with tenant firms, contact requests were made at the end of each interview with members of the incubator staff and Nubbo's partner in the ecosystem.

A total of 33 interviews were conducted with 31 individuals, including three members of the incubator staff (the director (interviewed three times), the prospecting manager for new tenants, and the preincubation program manager), 17 incubator partners in the preincubation ecosystem, and 11 tenant firms (see table 18 for the interviewees' list and references). Three semi-structured interview guides containing parallel questions that allow for information triangulation were developed to interview the three groups in the sample (Baraldi & Havenvid, 2016).

Table 18. Interviewees' list

Groups of interviewees	References	Interviewees' function	Duration of interview
Nubbo's staff	Interviewee 1	Director	2 h09 min
	Interviewee 2	Director	1 h21 min
	Interviewee 3	Director	1 h20 min
	Interviewee 4	Preincubation Program Manager	1 h01 min
	Interviewee 5	New Project Development Manager	1 h22 min
Nubbo's partners in the preincubation ecosystem	Interviewee 6	CEO	1 h17 min
	Interviewee 7	Occitania Innovation Delegate	0 h35 min
	Interviewee 8	Director of the Business Creation and Equity Monitoring Unit	1 h08 min
	Interviewee 9	Manager	0 h41 min
	Interviewee 10	Responsible for the Entrepreneurship Pole (PEPITE)	0 h54 min
	Interviewee 11	Regional Affairs Manager	0 h50 min
	Interviewee 12	Network Coordinator	1 h00 min
	Interviewee 13	Manager	0 h31 min
	Interviewee 14	Coordinator and Pedagogical and Partnership Manager	0 h31 min
	Interviewee 15	Innovation and Entrepreneurship Officer	0 h45 min
	Interviewee 16	Funding Manager for Young Innovative Companies	0 h45 min
	Interviewee 17	Manager	0 h31 min
	Interviewee 18	Head of the Occitania Ouest Partnership and Promotion Department	0 h49 min
	Interviewee 19	Student Preincubation Entity Coordination Officer	1 h11 min
	Interviewee 20	Business Development Officer - Business Creation	0 h36 min
	Interviewee 21	Student Entrepreneurship Referent	0 h24 min
	Interviewee 22	Occitania Regional Delegate for Research and Technology	0 h23 min
tenant firms	Interviewee 23	CEO	0 h29 min
	Interviewee 24	Founder	0 h31 min
	Interviewee 25	CEO	0 h27 min
	Interviewee 26	CEO	0 h38 min
	Interviewee 27	President	1 h01 min
	Interviewee 28	CEO	0 h19 min
	Interviewee 29	Cofounder	0 h35 min
	Interviewee 30	CEO	0 h18 min
	Interviewee 31	CEO	0 h19 min
	Interviewee 32	CEO	0 h17 min
	Interviewee 33	CEO	0 h38 min
Total	33 interviews	0 h47 min per interviewee	25 h36 min

Source: author

The questions for the incubator staff focused on three issues: processes for identifying and selecting tenants, sources of tenants in the ecosystem and methods of entry, and the outcomes of these preincubation processes. The partners in the preincubation ecosystem were questioned about their role in identifying and selecting tenants at Nubbo, their relationship with Nubbo, and the internal and external factors determining this relationship. Tenant firms were asked to retrace the history of their preincubation journey from the birth of the business idea to their entry into incubation at Nubbo. Three face-to-face interviews were conducted, while the other interviews were conducted via videoconferences due to the constraints of COVID-19.

All 33 semi-structured interviews for a total duration of 25 h 36 min (i.e., an average time of 00 h 47 min per interview) were recorded and fully transcribed. These data were complemented by participating and nonparticipating observation notes collected during eight events (entrepreneurial events in the ecosystem and entities' site visits) lasting a total of 51 h00 min. Secondary data such as incubator activity and auditing reports (5 incubator internal documents) were also collected.

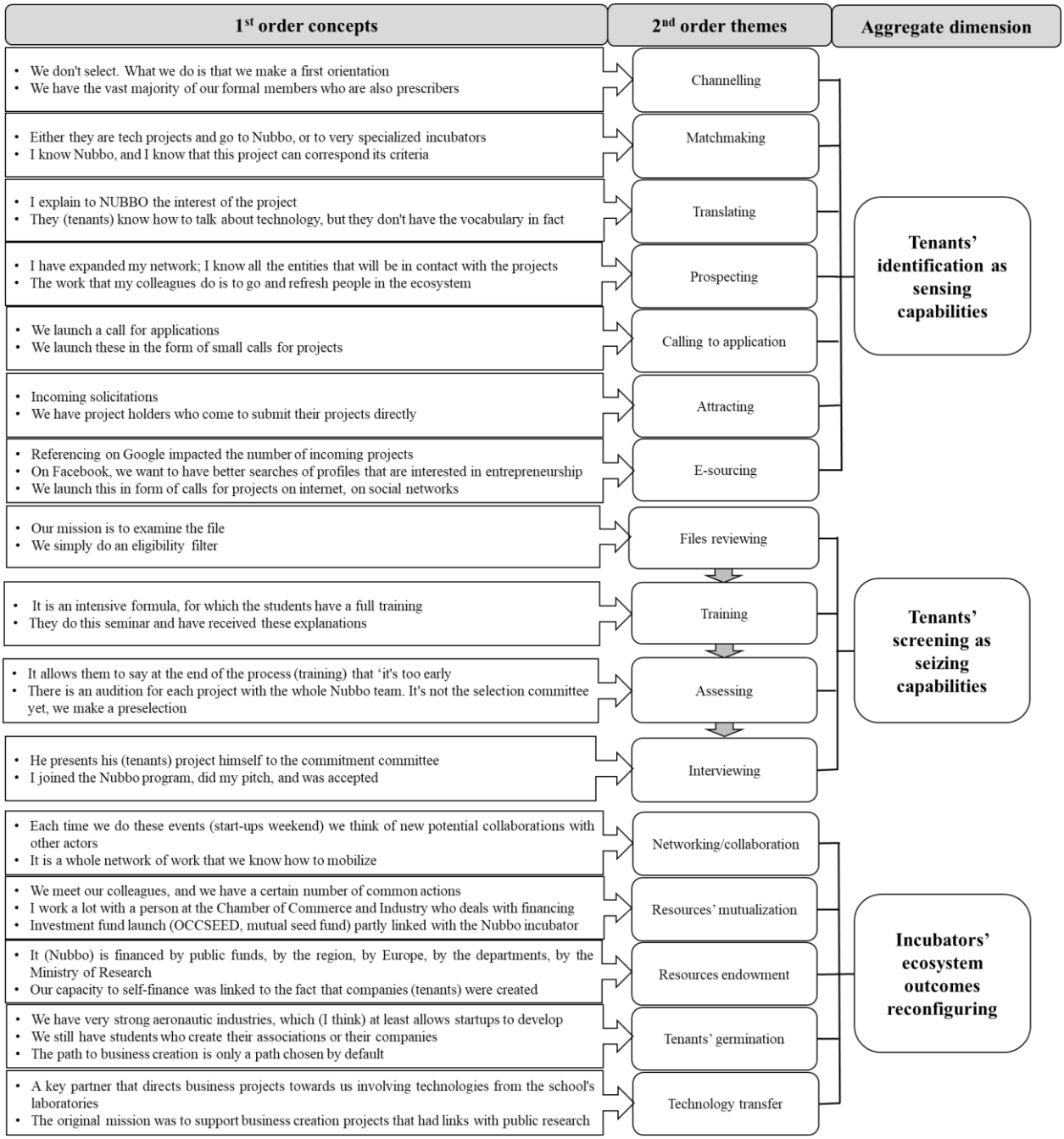
The above description of data collection shows how we implemented data (persons: incubator staff, incubator partners, incubated firms, and time: three seasons of tenants' identification and selection) and methodological (interviews, observation, archival data) triangulations to seize concretely and impartially the entrepreneurial sourcing processes within the preincubation ecosystem (Mathison, 1988; Vogl et al., 2019).

4.2.3. Data processing and analysis

A qualitative analysis based on the Gioia method was used for data processing (Gioia et al., 2022). All primary and secondary data (interview transcripts, observation notes, incubator's internal documents, and website information) were coded and grouped using Nvivo 1.7 (Bazeley & Jackson, 2013). Data were previously broken down into sense units using open coding (Glaser & Strauss, 1967). Subsequently, the sense's units were grouped into first-order concepts through a matching and comparison mechanism (Strauss & Corbin, 1994). The first-order concepts were grouped under second-order themes, which were extracted from the extensive literature of the theoretical framework (Spieth et al., 2021; Gioia et al., 2022). The second-order themes were synthesised under aggregate dimensions following the dynamic capability theory's components (see the data structure in Figure 21 and the justifications' verbatims in Appendix 1). To improve the relevance of the results, they were presented at the meeting of the "entrepreneurship and strategy pole" of a research centre for academic experts' opinions. After considering the remarks and suggestions of academic experts, the results were

presented to the incubator's director for his opinion as a practice expert. That leads to *"shared intelligence,"* whereby the empirical work integrates a practitioner's knowledge to obtain a constructed explanation that enhances the credibility of the findings (Denzin & Lincoln, 2011).

Figure 21. Data structure



Source: authors

4.3. Findings

The findings are organised into three subsections. The first two subsections, i) tenants identification processes as sensing capabilities and ii) screening processes as seizing capabilities, highlight entrepreneurial sourcing processes. The last subsection presents iii) the outcomes of entrepreneurial sourcing within the preincubation ecosystem (see Figure 21).

4.3.1. Tenants' Identification Activities as Sensing Capabilities

Identification is the *entrepreneurial sourcing* stage at which the incubator detects tenants. These activities can be gathered into four groups: scouting, prospecting, opening, and e-sourcing (see Figure 21). Scouting is a set of sophisticated activities borrowed from technology sourcing: channelling, matchmaking, and translating. Channelling is when incubators' formal stakeholders/sponsors direct by prescription, without prior sorting, any tenant, as explained by Interviewee 1: "*We have the vast majority of our formal members who are also prescribers to direct project holders* (tenants) *to us*." Matchmaking is the activity whereby the incubator shares its internal information (specialisation criteria) with its partners in the preincubation ecosystem. When the latter meets a tenant that fits the incubator's criteria, it proceeds to put the tenant in touch with the incubator, as explained by Interviewee 7: *"By knowing what Nubbo's intervention criteria are for hosting a project, (...) we can direct such and such a project towards the incubator Nubbo"*. Translating is when an actor in the preincubation ecosystem intervenes as an interpreter between tenants and the incubator during the matching process, such as explained by Interviewee 15: *"They* (tenants) *can be a bit clumsy in their presentation, so I explain to Nubbo the interest of the project, especially on the specific technologies or market aspects of aeronautics or space that they do not necessarily know."*

Prospecting is an activity borrowed from personal sales management that consists of the incubator using its inter-organizational (its preincubation partners) and interpersonal (its staff) networks to identify tenants. Prospecting can be direct (meeting with tenants), intermediated (recommendation or prescription from the interpersonal or inter-organizational networks), or collective (meeting several tenants at a public event: workshop, social networking events, an end-of-promotion evening of other support entities, and start-up weekends). These activities are explained by Interviewee 16 as follows: *"We do round tables with the whole ecosystem. My colleague and I are also members of the jury of start-up competitions. The idea is to meet as many project holders* (tenants) as *possible to determine those eligible for our incubation program"*.

The opening brings together two historical tenants' identification activities of incubators: calling for application and attracting. The call for application is explained by Interviewee 2 as follows: *"We have two times a year when we launch small calls for projects directly via a network of partners. We disseminate them very widely to support all the partners".* Attracting or spontaneous applications is explained by Interviewee 3 as follows: *"Nubbo is a historical player in the region; it is the oldest player in project support. Thus, we have project holders* (tenants) *who come and submit their projects directly (...), who come and say, 'I have got an idea,' etc. ".*

E-sourcing is a set of activities that can include opening for application, prospecting, or scouting. Still, they have digitalised thanks to the use of social networks, websites, and digital platforms, as explained by Interviewee 5: "*I think that this year (...) with COVID-19, (...) calls for applications have been made three times.* (…) *obviously, LinkedIn is sponsored to recap Toulouse with all the profiles that declare an interest in entrepreneurship. That will be all we can do. On Facebook, it works very well too. On Facebook, we want to have better searches and to have profiles that are interested in entrepreneurship".*

Identification and its outcomes can be considered dynamic capabilities within the preincubation ecosystem due to their adaptive nature, their ability to reconfigure internal and external competencies, and their role in addressing rapidly changing environments. Dynamic capabilities are characterised by their ability to retool and reshape strategic orientations. In the context of the preincubation ecosystem, the "Channeling and Matchmaking" processes exemplify this (see Appendix 1 for verbatims supporting that). Interviewee 10 emphasises the adaptability in channelling based on geographical constraints. Similarly, Interviewee 12 points out the distinction between tech projects and those directed towards specialised incubators in the case of matchmaking. This classification and redirection of resources highlight an adaptive approach to addressing the diverse needs of potential tenants. Translating these orientations into actionable insights is crucial. Interviewees 13 and 1.1 both identify a fundamental challenge: While potential tenants might possess technical expertise, they often lack the necessary vocabulary to pitch their projects effectively. This gap identification and subsequent bridge-building by preincubation ecosystem intermediaries, such as helping potential tenants effectively convey the significance of projects in specialised fields like aeronautics, manifest the dynamic capabilities in action. Prospecting further underscores the preincubation ecosystem's agility. Interviewee 3's reference to an expansive network that identifies and supports promising projects is an apt demonstration of the preincubation ecosystem's capability

to tap into diverse resources and reconfigure them to suit emerging needs. The preincubation ecosystem's embrace of digital platforms for e-scouting and e-prospecting showcases its adaptability to evolving technological landscapes. Interviewee 3's mention of the impact of branding on online visibility, coupled with the use of platforms like LinkedIn and Facebook for targeting specific entrepreneurial profiles of tenants, embodies the forward-looking and flexible approach of dynamic capabilities. Thus, we theorise identification activities as the sensing capabilities of incubators during entrepreneurial sourcing within the preincubation ecosystem.

4.3.2. Screening Activities: Seizing Capabilities

Screening is a set of sequential activities for tenant selection, as explained by Interviewee 3: *"This preincubation phase is a progressive selection of projects."* Screening in the case of Nubbo illustrates a four-step process: file reviewing, training, assessing, and interviewing (see **Figure 21**). File reviewing is a basic sorting process illustrated by the words of Interviewee 3: *"At this stage, we simply do an eligibility filter. (…) The only eligibility filter we will use is that as we do not do B2C in incubation. If in the people who apply, we have projects whose economic model is B2C, then we're going to say no to them"*. Training is a free one-month maturation program offered by the incubator to all tenants selected after file reviewing. This activity is explained by Interviewee 3 as follows: *"We will also try to explain what we call an innovation of the economic model or not so that they understand that in the end, what we want is a hypothesis of innovation of the economic model, and it is on this basis that we will select them."* Assessing is an internal preselection process (jury composed of all incubator coaches) at the end of each tenant cohort who has followed the training program. This activity is explained by Interviewee 2 as follows: *"At the end* (end of training), *there is an audition for each project with the whole Nubbo team. It is not the selection committee yet... it is the whole Nubbo team. In addition, then, we make a preselection"*. Tenants who pass this assessment are registered in an eligibility list. Interviewing is the final screening stage. At this stage, each tenant in the eligibility list has five minutes of pitching time to convince a collegial jury composed of representatives of the incubator's member colleges, internal coaches, former tenants, and external entrepreneurs. This jury decides which tenants will enter the incubator. This activity is explained by Interviewee 3 as follows: "*At the end, there is a selection committee, which is composed mainly of entrepreneurs, bosses of innovative companies, and those who are already in business. (…) It is just a committee of experts who will decide on the selection. They only spend half a day auditioning the projects* (tenants)*"*.

Screening processes, too, are evidence of dynamic capabilities in motion. The multistep procedure, as alluded to by Interviewees 3, 10, and 16 of files reviewing, training, and then refining ideas based on feedback, highlights the preincubation ecosystem's iterative approach. The continual feedback loop ensures that potential tenants and their projects remain aligned with evolving market demands. Assessing and interviewing serve as validation mechanisms for these capabilities. Processes like auditions, as mentioned by Interviewee 2, or pitch sessions, as shared by Interviewee 16, underscore the preincubation ecosystem's actors' commitment to ensuring only the most viable and adaptive projects (tenants) progress. This ensures sustainability and emphasises a forward-looking vision consistent with the essence of dynamic capabilities. Therefore, the practices that allow seizing opportunities (tenants/project holders screening) that emerge in the preincubation ecosystem refer to incubators' dynamic capabilities. We, therefore, theorise sourcing processes (especially screening) as a materialisation of seizing capability.

4.3.3. Outcomes of entrepreneurial sourcing within the preincubation ecosystem

The data from various interviews shed light on the outcomes of entrepreneurial sourcing within the preincubation ecosystem (see Figure 21). A prominent theme is the emphasis on networking and collaboration. Entities within the preincubation ecosystem, as described by Interviewee 11, place significant importance on maintaining regular interactions with other preincubation ecosystem stakeholders. Such an approach underscores the interconnected nature of the preincubation ecosystem actors. Furthermore, events like Startups' Weekend are not mere occasions but serve as platforms where potential partnerships and collaborations take shape. Interviewee 20's experiences draw attention to the strategic partnerships and agreements formed with entities outside the preincubation realm, such as the Chamber of Chartered Accountants and banking partners. These collaborations not only strengthen the preincubation ecosystem's collaborative fabric but also guarantee a consistent flow of resources and prospects (tenants).

Resource mutualisation and endowment also stood out as crucial in preincubation. The sentiments expressed by Interviewee 3 about a regional network of preincubators that actively collaborate elucidate that pooling resources could be instrumental in reaching shared goals. In line with this, Interviewee 5's narrative paints a picture of a mutually beneficial relationship with the Chamber of Commerce and Industry, highlighting the reciprocal nature of referrals and resources within the preincubation ecosystem. On the financial front, the role of public funding cannot be overstated. As per Interviewee 7, entities like Nubbo receive financial support from diverse sources, including regional, European, and departmental funds, as well as from the

Ministry of Research. The strategic advantage of establishing ties with banking institutions, as emphasised by Interviewee 5, transcends mere financial support for the incubator. It extends to facilitating financial avenues for tenants nurtured within the preincubation ecosystem.

Regional influences and tenants' germination patterns also emerge as compelling themes. Major industries, such as aeronautics in regions like Occitania, act as catalysts for tenants' germination. Interviewee 17 believes that such sectors play a role in retaining regional talent, which propels startup evolution and adds another layer to this narrative. In a contrasting perspective, Interviewee 3 touches upon the motivations of entrepreneurs who turn to business creation (potential tenants), often as an alternative when other promotional pathways are inaccessible.

Lastly, the synergy between technology transfer and the promotion of research becomes evident. Incubators, as narrated by Interviewee 1, often foster strong ties with research institutions. Institutions like the Regional School of Aeronautics, which prioritise preincubation, are invaluable as they channel business projects (potential tenants) to incubators, especially those that leverage proprietary technologies. Further cementing this notion, Interviewee 3 reflects on the mission of backing business initiatives that have roots in or associations with public research, emphasising the conversion of academic research into viable tenants for incubators.

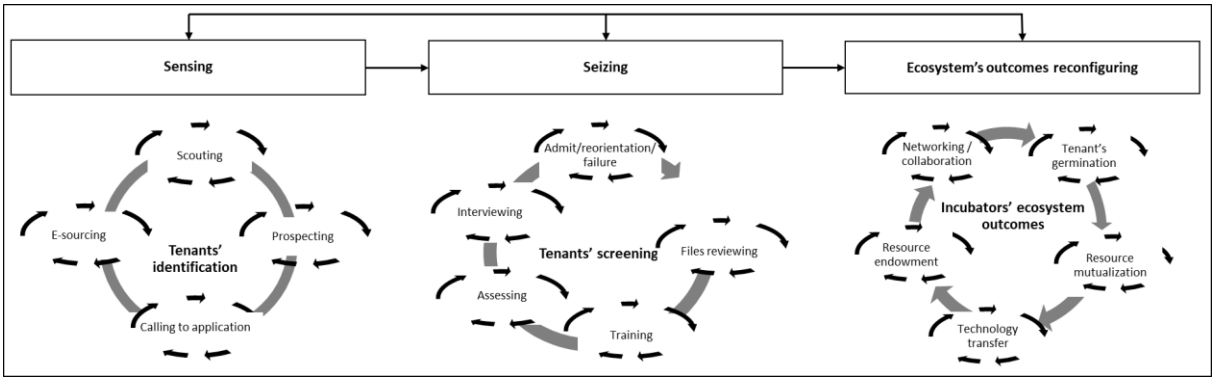
In wrapping up, these revelations highlight the diverse roles played by incubators within the preincubation ecosystem, from championing entrepreneurship and nurturing collaborations to judiciously allocating resources and acting as a bridge between academia and industry to transfer technology through tenants' germination. To summarise, entrepreneurial sourcing processes impact incubators' preincubation ecosystem outcomes, such as fostering actors' collaboration (networking), resource (human, technology, and financial) mutualisation and endowment, and territory entrepreneurial performance improvement through the germination of tenants (business projects and start-ups) and technology transfer.

The interconnectedness of identification, screening, and outcomes is evident in the intricate network of collaborations, resources, and technology transfers. The emphasis on regular interactions, partnerships, and collaboration, as shared by Interviewees 11 and 20, underlines the symbiotic relationships within the preincubation ecosystem. Moreover, the relationship between incubators and academic institutions, as cited by Interviewee 1, exemplifies the seamlessness of technology transfer and the convergence of research and entrepreneurial pursuits.

4.4. Discussion

In essence, the identification, screening, and resulting outcomes within the preincubation ecosystem are not just isolated processes; they are dynamic capabilities, each feeding into the other, ensuring the preincubation ecosystem's agility, adaptability, and sustainability. The interviewees' testimonies underscore this intricate dance of capabilities, making it evident that their dynamism and interconnectedness drive the preincubation ecosystem forward. After showing that the identification and screening of tenants has a strategic aspect and can be analysed as an entrepreneurial sourcing process, we sought to demonstrate that the latter is part of a dynamic system that impacts incubators' preincubation ecosystem outcomes (see Figure 22 below).

Figure 22. Integrated entrepreneurial sourcing processes



Source: author

The findings allow us to theorise entrepreneurial sourcing as part of a dynamic process. While tenant identification processes are materialised by sensing capabilities, and screening processes refer to seizing capabilities, both lead to the improvement of incubators' outcomes, such as preincubation ecosystem actors' collaboration (or networking), resource (human, technological and financial) mutualisation, resource endowment, tenants' germination, and technology transfer. To clarify, our analysis has three contributions: deepening understanding of tenants' identification and selection at the preincubation level, highlighting the contribution of incubators to preincubation ecosystem outcomes and extending the scope of dynamic capability theory in the studies of the preincubation ecosystem and its actors.

The existing literature described the process of identifying and selecting tenants in incubators with sometimes contradictory results (Bank & Kanda, 2016; Bank et al., 2017; Hillemane et al., 2019; Klofsten et al., 2020). By conceptualising entrepreneurial sourcing and placing it within the theoretical framework of dynamic capabilities, our analysis offers an understanding of the divergent conclusions of previous work concerning incubators' tenants'

identification and selection. Indeed, these divergences of findings would be linked to the dynamic nature of the processes of entrepreneurial sourcing. Our results, therefore, defend a thesis according to which the identification (scouting, prospecting, calling to application, and e-sourcing) and selection (files reviewing, training, assessing, and interviewing) of tenants are part of continuously changing processes according to the circumstances of the preincubation ecosystem. While Messeghem et al. (2018) highlighted incubator performance indicators by showing how to evaluate them, our analysis shows how incubators, in interaction with actors at the preincubation ecosystem level, can work toward achieving their desired outcomes.

In addition, our research responds to previous work that calls for analysing a possible relationship between preincubation processes and incubators' outcomes (Etzkowitz, 2002; Hackett & Dilts, 2004; Aerts et al., 2007; Hillemane et al., 2019). Our findings confirm this relationship by showing that tenants' identification (sensing) and screening (seizing) contribute to the preincubation ecosystem outcomes reconfiguring (actors' collaboration/networking, resource mutualisation, resource endowment, tenants' germination, and technology transfer). Building on dynamic capability theory and ecosystem approach (Teece, 2012; Giudici et al., 2018; Heaton et al., 2019; Roundy & Fayard, 2019), our analysis fills the gap in the literature by showing how the entrepreneurial sourcing processes at the preincubation stage impact incubators' outcomes. These outcomes are admitted in the literature as those that all preincubation ecosystem actors communally pursue through their separate but interconnected activities (Audretsch et al., 2022; Wurth et al., 2022). Our research shows how incubators participate in the common outcomes of the preincubation ecosystem through their entrepreneurial sourcing activities.

Moreover, our findings introduce a new debate on applying dynamic capability theory to incubators and preincubation ecosystem studies. The conventional wisdom supposes that dynamic capability is analysed at the entrepreneur, incubator, or ecosystem levels (Lütjen et al., 2019; Roundy & Fayard, 2019). By linking tenants' identification (sensing capabilities) and screening (seizing capabilities) at the incubators' level to preincubation ecosystem-level outcomes (reconfiguring capabilities), our research findings suggest a possible interconnection between actors' intrinsic dynamic capability processes and entrepreneurial ecosystem aggreged dynamic capability.

4.4.1. Theoretical contributions

The analysis and findings expound upon the intricate nature of entrepreneurial sourcing within the preincubation ecosystem, which is characterised by dynamic capabilities. Theoretical

contributions are apparent when examined through the lens of the provided framework and existing literature.

The identification processes, embodied by sensing capabilities, and the screening processes, synonymous with seizing capabilities, are pivotal to the operational efficiency of incubators. Bank & Kanda (2016) and Klofsten et al. (2020) hinted at the complex mechanisms behind tenant identification and selection. However, by perceiving these processes through the prism of dynamic capabilities, the analysis transcends the hitherto ambiguities and contradictions present in prior works. Instead of viewing tenant identification and selection as static procedures, they emerge as dynamic processes (Helfat, 2022) contingent on the evolving circumstances of the preincubation ecosystem (Rosado-Cubero et al., 2023).

An inherent linkage between preincubation processes and incubator outcomes has been debated in prior studies (Etzkowitz, 2002; Hackett & Dilts, 2004; Wang et al., 2020). Confirming this relationship, the findings delineate how the identification and screening processes, rooted in the ethos of sensing and seizing (Teece et al., 1997; Teece, 2012), directly contribute to achieving desired preincubation ecosystem outcomes. Drawing inspiration from the dynamic capability approach of the entrepreneurial ecosystem (Giudici et al., 2018), the analysis fills existing lacunae in understanding how entrepreneurial sourcing at the preincubation stage translates to tangible incubator outcomes in the preincubation ecosystem.
This research also pioneers a discourse on the applicability of dynamic capability theory in the domain of incubators' tenants' identification and selection and their impact on preincubation ecosystem outcomes. Instead of compartmentalising dynamic capability at distinct levels, such as entrepreneurs or ecosystems (Lütjen et al., 2019), the findings champion an interconnected vision. By harmonising sensing capabilities with seizing capabilities and subsequently correlating them with preincubation ecosystem reconfiguring capabilities, a holistic view of the preincubation ecosystem emerges.

4.4.2. Practical implications

The research on entrepreneurial sourcing within the preincubation ecosystem has notable managerial implications, offering insights and guidance for incubators, entrepreneurs, and those dedicated to promoting innovation. A core insight is the need for a strategic evolution in processes. The ever-changing nature of entrepreneurial sourcing means that incubators should be ready to revise and adapt, moving away from static models and being receptive to the evolving dynamics of the preincubation ecosystem.

Understanding the direct relationship between entrepreneurial sourcing processes and the outcomes of an incubator is vital. Such comprehension allows managers to make strategic choices regarding resource allocation. Whether prioritising investments in advanced e-sourcing tools or pooling resources for mutual benefit, the goal is to boost efficiency and desirable outcomes. A strong emphasis on collaboration and networking emerges from the study. To harness the full potential of the preincubation ecosystem, fostering relationships with tenants, mentors, investors, and support agencies is paramount. This collaborative approach can be facilitated through regular networking events and other platforms designed for joint ventures between incubators, technology transfer entities, funding entities, universities, etc., for tenants' germination within the preincubation ecosystem (Wang et al., 2020).

The research further suggests that managers should shift their focus from traditional metrics, like the sheer number of supported startups or allocated funds, to more outcome-centric indicators. Metrics such as technology transfer rates, the success rate of nurturing startups (tenant germination), and the collaborations resulting from the incubator's efforts provide a clearer picture of performance. In line with dynamic capabilities, a continual learning model that revolves around a feedback loop can be invaluable. By consistently evaluating processes and outcomes, managers can refine their strategies.

Engaging with policymakers is another highlighted area, intending to craft a more innovation-friendly environment. By showcasing the contributions incubators make to the broader entrepreneurial scene, managers can push for beneficial policies and resources. In the sphere of entrepreneurial sourcing, diversifying channels is critical. Managers can tap into various sources, from universities and research bodies to industry professionals, to enrich the pool of potential tenants.

Addressing the diverse needs of each tenant or startup is another crucial area. Whether through mentoring, training, or specific networking opportunities, customised support can significantly aid tenants' success in the preincubation journey. As the research underlines the significance of dynamic capabilities, capacity building is essential for incubator managers. This might mean training their teams in the latest methodologies or acquainting them with new market trends and technologies.

Communication remains central to all these processes. Keeping an open dialogue with stakeholders, be they sponsors or investors, ensures alignment of goals and continued backing. In essence, this research offers a comprehensive lens on entrepreneurial sourcing in the

preincubation ecosystem. By understanding the interconnectedness of dynamic capabilities, managers can chart a course for enduring success in a constantly shifting entrepreneurial world.

4.4.3. Limits and research avenues

Nevertheless, it is essential to acknowledge the study's intrinsic constraints. The research's context within a singular preincubation ecosystem may not be universally applicable. As each ecosystem exhibits unique characteristics influenced by geographical, cultural, and economic variances, further research across multiple ecosystems becomes indispensable. By expanding the scope, future studies can offer more affluent, more nuanced insights, fostering a more comprehensive understanding of entrepreneurial sourcing in the context of dynamic capabilities.

Conclusion

The research on entrepreneurial sourcing within the preincubation ecosystem emphasises incubators' pivotal role in shaping innovation and promoting growth through entrepreneurship. By highlighting the dynamic interplay of processes, resource allocation, collaboration, and outcome-driven metrics, the study provides a fresh perspective on how incubators can adapt and thrive. Emphasising the need for continual learning, diversification of sourcing channels, and tailored support, the findings present a roadmap for incubators to harness their full potential during the preincubation phase. Moreover, the research accentuates the importance of stakeholder communication and policy engagement in fostering a conducive environment for entrepreneurial success. In sum, this research allows an understanding of the intricacies of the preincubation ecosystem, offering valuable insights for incubators, entrepreneurs, and policymakers alike.

Appendix 4.1 Verbatims supporting data structure**.**

Tenants' identification as sensing capabilities

Channelling

Interviewee 10: 'We don't select. What we do is that we make a first orientation mainly geographical since it is the first strong constraint.'

Interviewee 1.1: 'We have the vast majority of our formal members who are also prescribers to direct project holders to us.'

Matchmaking

Interviewee 12: 'So, either they are tech projects and go to Nubbo, for example, or to very specialized incubators.'

Interviewee 11: 'I am the entrepreneurial referent of the institution; I know Nubbo, and I know that this project can perhaps correspond to Nubbo's criteria. I am going to do it as simply as with an email or a little phone call to get in touch.'

Translating

Interviewee 13: 'They (potential tenants) can be a little clumsy in the presentation of the pitch; there, I explain to NUBBO the interest of the project as well, notably on the technological or market aspects specific to aeronautics or space, which they don't necessarily know about.'

Interviewee 1.1: 'Knowing that there is a profile (potential tenants) that is specific to engineering, they know how to talk about technology, but they don't have the vocabulary in fact. That said, they just lack the vocabulary. Sometimes, and in many cases, when we discover them, we know that as they have been trained and have experience of selling technology, they do not manage to understand that a startup is something else.'

Prospecting

Interviewee 3: 'The first is the network; that's what I have. I have expanded my network, but basically, I know all the entities that will be in contact with the projects at some point. In addition, I need to know them because they are the ones who are going to push the projects on me and say, 'Listen, I saw this going on, I think it is not bad, the guy needs help. Can you … can you talk to him?'

Interviewee 2: "The work that my colleagues do is to go and refresh the ideas regularly of all the people in the ecosystem to remind them a little of the few precepts that they have. There may be three or four, five, six hundred people who bring us projects if we really spread them out widely."

Calling to application

Interviewee 2: "The only structured process is that twice a year, we launch a call for applications."

Interviewee 1.1: "We launch these in the form of small calls for projects directly via a network of partners. We disseminate them very, very widely to support all the partners."

Attracting/spontaneous applications

Interviewee 2: "There are different internal processes such as incoming solicitations, which we will manage as well as possible."

Interviewee 3: "We have project holders who come to submit their projects directly to the platform, who come to say, 'I have an idea', etc."

E-scouting

Interviewee 3: "Even if referencing on Google is not very good for an agency, the Nubbo change has inevitably impacted our referencing. In addition, it finally impacted the number of incoming projects. Because when someone searches for support structures, we appear at the top of the list."

E-prospecting

Interviewee 3: "This year, with COVID-19, LinkedIn is obviously sponsored to recap Toulouse with all the profiles that declare an interest in entrepreneurship. On Facebook, it works very well too. On Facebook, we want to have better searches and to have profiles that are interested in entrepreneurship."

E-opening for application

Interviewee 1.1: "We launch this in the form of small calls for projects directly on the Internet, on social networks."

Tenants' screening as seizing capabilities

Files reviewing

Interviewee 16: "So. our mission is to examine the file and, depending on the maturity of the file, to put it through the commitment committee."

Interviewee 3: "At this stage, we simply do an eligibility filter. We do not judge the body of the projects."

Training

Interviewee 10: "We have developed a third level called the "PEPITE Starter", which is undoubtedly a preincubator; it is an intensive formula, which takes place in four months for which the students have a full training."

Interviewee 3: "Once they do this seminar and have received these explanations, we then work on a half-day in small groups on their project hypotheses."

Assessing

Interviewee 5: "It allows them to say directly at the end of the process (training) that 'it is too early, your

Interviewing

Interviewee 16 "He presents his (potential tenants) project himself to the commitment committee."

project is interesting, but come back in six months because it is not advanced enough for us'. Or the other one is to say, 'ok, it's impossible, but it can be reintroduced to the committee.'"
Interviewee 2: "And in the end (of the training), there is an audition for each project with the whole Nubbo team. It is not the selection committee yet … it is the whole Nubbo team. In addition, then, we make a preselection. We will do this sorting work ourselves."

Interviewee 27: "I joined the Nubbo program, did my pitch and was accepted."

Incubators' ecosystem outcomes reconfiguring

Networking/collaboration

Interviewee 11: "As I say, it's a small ecosystem so it's important to keep in touch with everyone. And then each time we do these events (weekend start-ups) we think of new potential collaborations with other actors."
Interviewee 20: "It is a whole network of work that we know how to mobilize but that must be maintained. So, we are also in partnership with agreements that bind us with the Chamber of Chartered Accountants, we regularly rub shoulders with banking partners so that when they are going to be faced with a new project and they do not see who could accompany it, what they have the reflex to send it to us."

Resource endowment

Interviewee 7: "It (Nubbo) is a public entity that is financed by public funds, by the region, by Europe, by the departments, by the Ministry of Research. "
Interviewee 5: "Our capacity to self-finance was linked to the fact that companies (tenants) were created. However, beyond that, their financing is also interesting because it comes from a bank, and if some part of the project we are supporting has a financial need, we already know the bank, which is the one that pushed the project on us."

Technology transfer

Interviewee 1: "The great school of aeronautics in the region has a very strong internal development of entrepreneurship. It has an internal incubator that does preincubation, especially technical support, and is a key partner that directs business projects towards us involving technologies from the school's laboratories."
Interviewee 3: "So, the original mission was to support business creation projects from public research**.** Promoting public research activities."

Resource (human, Technology, finance) mutualization

Interviewee 3: "We have a network of regional incubators in which we meet our colleagues, and we have a certain number of common actions."
Interviewee 5: "I work a lot with a person at the Chamber of Commerce and Industry who deals with financing. So, I send them a lot of project leaders who need financial support and she likewise, when she has business projects looking for incubators, she tells them to see me."
Interviewee 17: "There is an investment fund launch (OCSEED, mutual seed fund) partly linked with the Nubbo incubator."

Tenants' germination

Interviewee 17: "There is a dynamic of innovation due to the fact that in Midi-Pyrénées (one part of Occitania), we have very strong aeronautic industries, which (I think) at least allows startups **to develop** because a lot of talent stays."
Interviewee 8: "We still have students who create their associations or their companies so yes it contributes to that."
Interviewee 3: "The path to business creation is only a path chosen by default, for lack of having found a way to promote technologies by contracting with well-established companies."

CHAPTER V: GENERAL CONCLUSION

The rapidly evolving entrepreneurial landscape requires an effective approach for early-stage business identification and support (Maus and Sammut, 2023), a role typically fulfilled by incubators (Bank and Kanda, 2016; Bank et al., 2017; Klofsten et al., 2020; Bettenmann, 2023; Eldering et al., 2023). However, the dynamics of this process remained inadequately explored, particularly in relation to incubators' strategic capabilities in sensing potential business projects (identifying tenants) and seizing opportunities (screening potential tenants) within the preincubation ecosystem (Hilleman et al., 2019; Lütjen et al., 2019). This lack of in-depth understanding of the upstream processes known as preincubation raises concerns about the importance and performance of this phase of incubators' activity in the entrepreneurial dynamics of territories (Hackett and Dilts, 2004; Messeghem et al., 2018). Therefore, it was relevant to conduct an in-depth analysis of the preincubation phase of incubators' activity, in particular, the identification and selection of tenants (business projects and start-ups) to provide a deep understanding of this phenomenon with its antecedents and outcomes. The aim was to fill the theoretical gap while providing incubators with knowledge that should enable them to improve their outcomes through structured and informed processes during the preincubation phase. In this perspective, this thesis problematised the entrepreneurial sourcing processes (Bettenmann, 2023; Eldering et al., 2023) within the preincubation ecosystem and how these dynamics influence the outcomes of incubators. Hence, the research question: **How does the entrepreneurial sourcing within the preincubation ecosystem impact incubators' outcomes?**

The study aimed to delve into these entrepreneurial sourcing processes, treating tenant identification activities as 'sensing capabilities' and the subsequent selection procedures as 'seizing capabilities'. By examining these processes within a real-world context, the current research intended to understand how incubators build on dynamic capabilities (Teece et al., 1997; Teece, 2012; Helfat and Martin, 2015; Giudici et al., 2018; Roundy and Fayard, 2019; Helfat, 2022; Maus and Sammut, 2023) in the preincubation ecosystem to identify and select their tenants. The research also seeks to explore how these processes are impacted by resources (Barney, 1991; Newbert, 2007; Somsuk et al., 2012; Somsuk and Laosirihongthong, 2014; Theodoraki et al., 2018; Neumeyer et al., 2019) within the preincubation ecosystem and impact in turn the incubator's outcomes (Barney et al., 2021).

The relevance of this research lies in its potential to advance our understanding of entrepreneurial sourcing processes and their implications for incubator success and broader ecosystem outcomes. The deep understanding of the dynamics of this process provided by the

current analysis gave valuable insights into how incubators can optimise their operations and contribute more effectively to their preincubation ecosystem performance. Furthermore, it can inform policy and practice in the entrepreneurship support sector, guiding the development of strategies that enhance the effectiveness of entrepreneurial sourcing and ultimately drive regional entrepreneurial performance. In the following subsections are presented respectively the consolidated results of the thesis, an integral discussion, the theoretical contributions, the practical implications, as well as the limits and perspectives of research.

Consolidated Findings

This thesis investigations across three different papers presents compelling findings regarding i) the identification and selection processes of tenants, and the intricate interactions among preincubation ecosystem actors, ii) the antecedents of these processes, and iii) the subsequent outcomes of this process. In essence, incubators employ dynamic capabilities of sensing and seizing for the identification and selection of potential tenants. The sensing capabilities manifest in the form of sophisticated activities such as scouting, prospecting, opening to application, and e-sourcing, leading to the identification of tenants. In the context of seizing capabilities, incubators use sequential screening activities (file reviewing, training, assessing, and interviewing) to select tenants who align with their incubation criteria.

The identification of potential tenants is a crucial initial step in the entrepreneurial sourcing within the preincubation ecosystem. This stage, also known as ‘sensing’, is characterised by four distinct activities:

- Scouting (channelling, matchmaking, translating and transforming): Incubators scout potential entrepreneurs/tenants within the preincubation ecosystem in various events and forums, leveraging their network and partnership connections.
- Prospecting (direct, intermediated, individual, and collective): involves building relationships and investing the preincubation ecosystem to detect potential tenants through formal and informal meetings.
- Opening to application: Incubators launch calling to application or conduct opening events like open house days, webinars, etc., to create awareness and attract potential tenants.
- E-sourcing: Incubators use digital tools and platforms, including social media and online forums, to source potential tenants from the preincubation ecosystem.

The tenant selection process, referred to as ‘seizing’, is equally critical in the incubator’s entrepreneurial sourcing within the preincubation ecosystem. This process is sequential and involves various stages:

- File Reviewing: Initial assessment of prospective tenants based on their application file, evaluating their alignment with the incubator’s focus area.
- Training: Shortlisted potential tenants undergo preselection training, where their business ideas are refined, and business skills are honed.
- Assessing: This involves a more rigorous assessment of the applicants post-training, based on various parameters including business model viability, team dynamics, and potential for growth and success.
- Interviewing: The final selection is based on an interview with a selection committee comprising incubator staff and external experts.

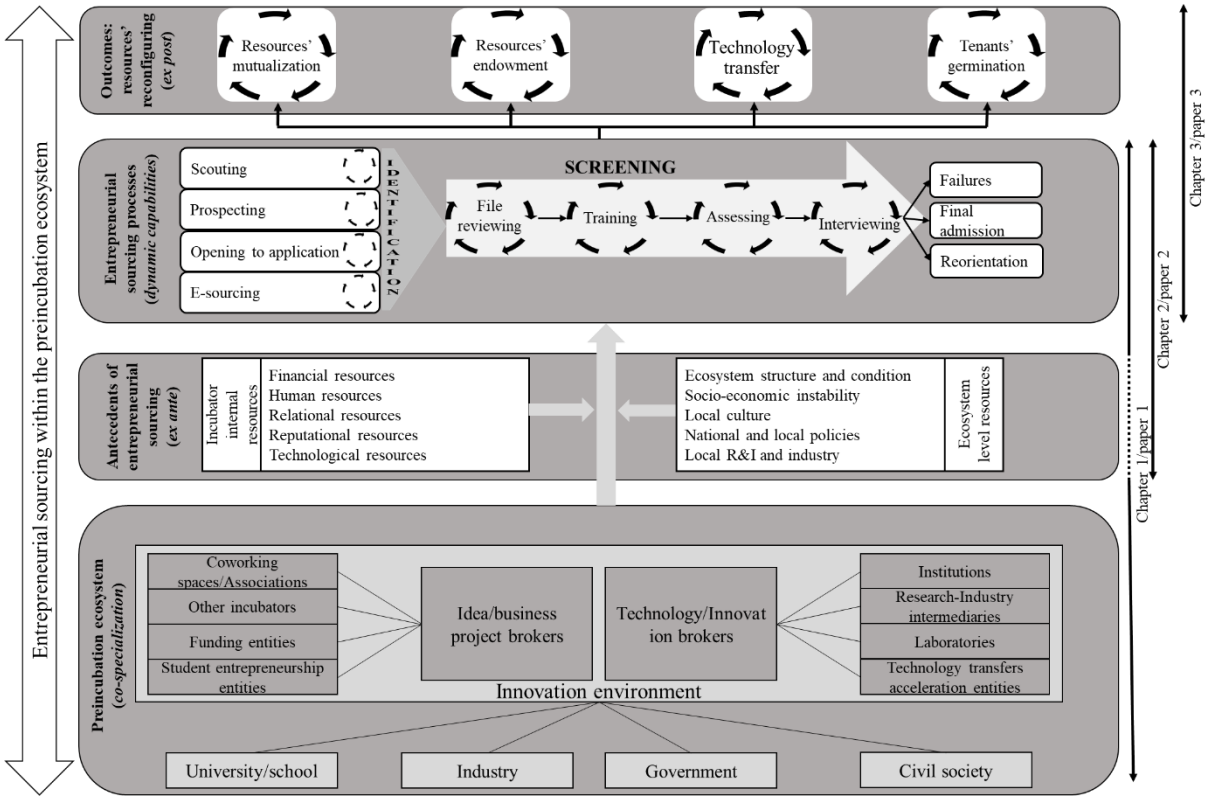
The findings highlight that the interaction between the incubator and the preincubation ecosystem actors influences the sourcing process. Collaborations and partnerships with universities, investors, local businesses, and other entrepreneurial support actors enrich the incubator’s sourcing activities. The process of identifying and selecting tenants, hence, is not confined within the incubator’s walls but is deeply rooted in the preincubation ecosystem, including technology/innovation brokers (institutions, research-industry intermediaries, laboratories, and technology transfer acceleration organisations), ideas brokers (coworking space/associations, other incubators, funding entities, and student entrepreneurship entities), and actors in the innovation environment (universities/schools, industry, government, civil society).

These findings underscore the complexity and multifaceted nature of the tenants’ identification and selection (entrepreneurial sourcing) processes with their antecedents and outcomes in the preincubation ecosystem. This thesis offers an in-depth understanding of entrepreneurial sourcing processes based on RBV and dynamic capability theory. The main process of identifying and selecting tenants (entrepreneurial sourcing) is a bundle of dynamic sensing (identification) and sizing (selection) capabilities carried by the incubators with which the other actors of the preincubation ecosystem are associated (actors in the innovation environment and brokers) by bringing their resources (human, financial, technological) in a spirit of co-specialization (Barney et al., 2021; Teece, 2012). In an *ex ante* analysis (Barney, 1991; Barney et al., 2021), the implementation of these tenant identification and selection processes depends on resources conditions within incubators (financial resources, human

resources, relational resources, reputational resources, and technological resources), and in circulation at the meso level of the preincubation ecosystem (ecosystem structure and condition, socio-economic instability, local culture, national and local policies, and local research & innovation (R&I) and industry). On the other hand, in an *ex-post* analysis (Barney et al., 2021; Helfat, 2022), entrepreneurial sourcing, by the dynamic nature of its processes and the expectations of co-specialization stakeholders, generates outcomes (collaboration among actors, resource mutualisation, resource endowment, technology transfer, and tenants' germination) observable at the meso level of the preincubation ecosystem. To explicitly answer the research question, this thesis shows that incubators rely on their internal resources and those circulating in the preincubation ecosystem to develop dynamic capabilities for identifying and selecting tenants (entrepreneurial sourcing) based on co-specialization with the actors of the preincubation ecosystem. It is the dynamic nature of these entrepreneurial sourcing processes through the readjustment and continuous learning of the network of co-specialization stakeholders and their expectations that occur outcomes such as collaboration among actors, resource mutualisation, resource endowment, technology transfer, and tenants' germination.

In summary, the results indicate that these entrepreneurial sourcing processes foster collaboration among actors, mobilise resources (human, technology, and financial), and increase entrepreneurial performance in the territory by facilitating business project germination and technology transfer (see Figure 23 below for findings' synthesis).

Figure 23. Synthesis of consolidated findings of the thesis



Source: author

General discussion

The thesis builds on existing knowledge on tenants' identification and selection (Lumpkin and Ireland, 1988; Etzkowitz, 2002; Aerts et al., 2007; Vedel and Stéphany, 2011; Voisey et al., 2013; Bank and Kanda, 2016; Bank et al., 2017; Klofsten et al., 2020; Theodoraki and Messeghem, 2020; Merguei and Costa, 2022; Eldering et al., 2023; Bettenman, 2023; Lindelöf and Hellberg, 2023), providing a more granular understanding of the sourcing processes, its antecedents, and its outcomes. The current understanding of entrepreneurial sourcing, as delineated in the works of Bank and colleagues (2016, 2017) and Theodoraki and Messeghem (2017, 2020), revolves around the collaboration between the incubator and various actors in the ecosystem. It presents the incubator as an open organisational structure engaged in sourcing activities to secure high-growth tenants, leveraging the collaborative relationships within the ecosystem. However, this literature remained relatively silent on the specifics of the sourcing activities, their antecedents, and outcomes. The thesis contributes to this discourse by unpacking these aspects, thereby complementing the existing body of knowledge on incubator preincubation processes (Vedel and Stéphany, 2011), the meso-level of preincubation

ecosystem (Theodoraki and Messeghem, 2017; 2020; Messeghem et al., 2023), the methodological approach and the RBV and DCT (Maus and Sammut, 2023).

From the Preincubation Process: Entrepreneurial Sourcing With Antecedents and Outcomes

By exploring the tenants' identification and selection processes within the preincubation ecosystem, the thesis extends the understanding of the entrepreneurial sourcing activities. It builds on the works of Bank et al. (2017) by providing a detailed account of these processes, thereby transforming the hitherto 'black box' (Vedel and Stéphany, 2011; Bettenmann, 2023; Eldering et al., 2023) into a transparent and well-understood phenomenon. The thesis shows how the incubator, in collaboration with other ecosystem actors, identifies potential tenants and how it subsequently selects the promising ones based on specific criteria (Lumpkin and Ireland, 1988; Aerts et al., 2007; Vedel and Stéphany, 2011). This clarifies tenant's identification and selection processes theoretically stated by Etzkowitz (2002), thus ensuring consistency and fairness in selection decisions. This analysis contributes threefold to the literature on tenant identification and selection: the conceptualisation and explanation of how the entrepreneurial sourcing process works within the preincubation ecosystem, as well as the identification of its antecedents and outcomes.

Regarding the entrepreneurial sourcing process, the existing works that have attempted to explain it have remained either theoretical suggestions without empirical support (Etzkowitz, 2002), or a description of the case of a specific incubator (Bank and Kanda, 2016; Bank et al., 2017; Klofsten et al., 2020), or by considering entrepreneurial sourcing as an independent variable that explains the performance or outcomes of incubators (Lumpkin and Ireland, 1988, Aerts et al., 2007; Vedel and Stéphany, 2011; Bettenmann, 2023; Eldering et al., 2023). The current thesis has the merit of having conceptualised, supported, and theorised with an empirical scope the entrepreneurial sourcing, which is a process comprising sensing (tenants' identification processes) and seizing (tenants' screening processes) capabilities within the preincubation ecosystem.

Beyond the conceptualisation, which was already addressed to a lesser extent by Eldering et al. (2023) and Bettenmann (2023) in the context of case studies of corporate incubators, this analysis has included a diversity of incubators (Barbero et al., 2012, 2014; Hausberg and Korreck, 2020). This analysis confirms and explains why it makes sense to conceptualise the identification and selection of tenants under the term "entrepreneurial sourcing". This is based on a review of the comparative literature between the forms of sourcing (material and

immaterial) already studied in management (Giunipero et al., 2019) and the ecosystem and interactional approaches to identifying and selecting tenants (Bank and Kanda, 2016; Bank et al., 2017; Klofsten et al., 2020; Theodoraki and Messeghem, 2020).

In addition to providing a theoretical foundation for the concept of entrepreneurial sourcing, this process has been empirically explored to provide an in-depth understanding of its composition and how it works in practice. Indeed, entrepreneurial sourcing is a set of interconnected dynamic capabilities of the incubator (Maus and Sammut, 2023) which allows it to engage a set of actors in the preincubation ecosystem (technology/innovation brokers, idea brokers/business projects and actors of the innovation environment) in the co-specialization to identify (sensing capabilities) and select (seizing capabilities) the tenants. This conceptualisation of entrepreneurial sourcing considers the main types of incubators such as technology incubators (Mian, 2016; Hillemane et al., 2019; Mian, 2021), academic incubators (Redondo and Camarero, 2022; Redondo et al., 2022), economic development incubators (Barbero et al., 2012, 2014), social incubators (Sansone et al., 2020), and private incubators (Hausberg and Korreck, 2020). It also considers the contextual aspects related to the interdependence between the different actors of the preincubation ecosystem (Bank and Kanda, 2016; Bank et al., 2017; Theodoraki and Messeghem, 2017, 2020; Theodoraki, 2020). Therefore, it reinforces and attempts a generalisation of the pre-conceptualization proposed by Eldering et al. (2023) and Bettenmann (2023). It confirms the process-based and ecosystem approach to the identification and selection of tenants during preincubation (Etzkowitz, 2002; Bank and Kanda, 2016; Bank et al., 2017; Klofsten et al., 2020; Theodoraki and Messeghem, 2020), while deepening our understanding of this process by placing it within the theoretical framework of dynamic capabilities to explain its composition and operation in practice.

Earlier works limited their analysis to the selection process and demonstrated how selection criteria determine the quality of tenants and their chance of success during incubation, considered as performance indicators of incubators (Lumpkin and Ireland, 1988; Aerts et al., 2007; Vedel and Stéphany, 2011). Beyond explaining selection criteria and their impact on incubator performance (Lumpkin and Ireland, 1988; Aerts et al., 2007; Vedel and Stéphany, 2011), this analysis showed that selection is not static but processual and dynamic by breaking it down into four sequential steps: file reviewing, training, assessing, and interviewing. In addition, this analysis has shown that there is a crucial step upstream of selection, which is identification (scouting, prospecting, calling to application and e-sourcing).

By highlighting e-sourcing, this analysis considers the recent evolution of entrepreneurial sourcing processes linked to digitalisation, which has been accelerated by the Covid-19 crisis. This digital form of entrepreneurial sourcing is presented in the first study as a solution to the territorial socio-political constraints that hindered the action of incubators during entrepreneurial sourcing. With e-sourcing, the incubator can seize tenants in expanded territories without the latter having to migrate to the physical location of the incubator. As a result, e-sourcing allows incubators to expand their geographical coverage to source tenants in decentralised territories without being constrained by local political will to prevent the migration of tenants for incubation purposes. Therefore, e-sourcing seems to be the form of inclusive entrepreneurial sourcing favourable to the democratisation of incubation.

One of the limitations of existing work on entrepreneurial sourcing is to consider it as an independent variable that impacts or produces outcomes (Bettenmann, 2023; Eldering et al., 2023). These works have shown that entrepreneurial sourcing is composed of internal sourcing, which positively impacts explorative learning and earning of the parent firm of corporate incubators, and external sourcing, which positively impacts the exploitative learning of the parent firm. These outcomes of internal and external entrepreneurial sourcing have a returning benefit for the broader environment and the branding of the incubator. They add that returning and branding are interconnected and positively impact the parent firm's earnings. These results seem to be specific to corporate incubators. Similarly, in these past analyses, sourcing remained as an independent variable in two blocks: internal sourcing and external sourcing. This thesis draws on the Resource-Based View (Barney, 1991; Newbert, 2007; Somsuk et al., 2012; Somsuk and Laosirihongthong, 2014; Theodoraki et al., 2018; Neumeyer et al., 2019) to unravel the antecedents of the sourcing processes, thereby filling a notable gap in the current understanding.

The thesis underscores the role of both internal resources of the incubator, such as financial resources, human resources, relational resources, reputational resources, technological resources, and ecosystem-level factors, such as ecosystem structure and condition, socio-economic instability, local culture, national and local policies, local R&I, and industry, in shaping the sourcing processes. What is surprising and interesting is that this research considers the industrial strength, the socio-economic context, the research, and innovation system of the territory as strategic resources favourable to entrepreneurial sourcing and the entrepreneurial dynamic of the territory. These resources are, in principle, abundant in developed entrepreneurial ecosystems like that of Occitania (Leendertse et al., 2021; Spigel and Harrison,

2018). What makes these resources strategic is the capability of the incubator to sense and seize them by bringing together, in a spirit of co-specialization, the resources of the different actors in the preincubation ecosystem. This process (entrepreneurial sourcing) of tenants' identification (sensing) and screening (seizing) that is continually changing (dynamic) according to the resources available in the preincubation ecosystem is difficult to transfer from one incubator to another, making it inimitable. Likewise, this process creates value given that it produces outcomes such as the germination of tenants, the transfer of technology, the resources' mutualisation and their endowment in the ecosystem. Furthermore, the complexity of the tenant (mix of talent, technology, and others), the idiosyncratic character of ecosystems and their specific or even endogenous conditions (ecosystem structure, socio-economic instability, local culture, national and local policies, local R&I, and industry) which condition the entrepreneurial sourcing process would make this process rare and non-substitutable compared to similar processes in different ecosystems.

Moreover, the results of the thesis explain that the favourable or unfavourable effect of industry on entrepreneurial activity depends on the research and innovation system and the culture of technology transfer in the territory. Thus, research and innovation or technology transfer oriented to business creation will be favourable to entrepreneurial activity. We deduce that it is, above all, the socio-economic context, the orientation of the research and innovation system, and the technology transfer culture that will determine the dynamic of entrepreneurial activity of a territory. Given that, this thesis considers ecosystem structure and condition, socio-economic instability, local culture, national and local policies, local R&I, and industry as ecosystem-level resources that determine entrepreneurial sourcing and entrepreneurial activity in territories. Thus, this thesis extended RBV in entrepreneurship and incubators literature with a new dimension of resources.

Moreover, the thesis provides an insightful account of the outcomes of the entrepreneurial sourcing processes, particularly in terms of preincubation ecosystem's actors collaboration/networking, resources mutualisation and endowment, technology transfer and tenants' germination. This contrasts with the works of Bank et al. (2017), which largely emphasise the benefits of tenants' identification and selection activities without adequately addressing the associated outcomes. The thesis, therefore, presents a balanced view of the outcomes, thereby providing a comprehensive picture of the entrepreneurial sourcing activities. The outcomes of entrepreneurial sourcing highlighted in this thesis must be analysed at the ecosystem level. As a result, this analysis stands out from previous works that tended to seek

the outcomes of incubators at the organisational level or at the level of graduated tenants to highlight the incubator's participation in the aggregated outcomes of entrepreneurial activity within the ecosystem (Messeghem et al., 2018). What is interesting in these results, which relate the processes of entrepreneurial sourcing with the outcomes of incubators at the ecosystem level is the connection between the intrinsic dynamic capabilities (sensing/identification and seizing/screening) of an actor (incubators) and ecosystem-level dynamic capabilities (the reconfiguration of ecosystem-level resources like outcomes). This not only confirms the ecosystem co-specialization of actors in the ecosystem (here the incubator) (Barney et al., 2021; Lindelöf and Hellberg, 2023) but legitimises the theory of dynamic capability as a framework for understanding the functioning of the actors in the entrepreneurial ecosystem (Giudici et al., 2018; Heaton et al., 2019; Roundy and Fayard, 2019). The theorisation of entrepreneurial sourcing processes and their outcomes within the preincubation ecosystem extends dynamic capability scope in the incubators and ecosystems literature by highlighting the entanglement of actors and ecosystem dynamic capabilities.

The Central Role of Incubator within the Meso-Level of Preincubation Ecosystem

The research offers insights into the significant role of incubators in the preincubation ecosystem, particularly when viewed through the theoretical frameworks of the resource-based view (Barney et al., 2021; Barney and Mackey, 2018) and dynamic capabilities theory (Maus and Sammut, 2023; Helfat, 2022; Helfat and Martin, 2015; Teece, 2012; Teece et al., 1997). The analysis frames entrepreneurial sourcing processes as the incubators' capabilities generating a co-specialization with other actors within the ecosystem, such as ideas/business projects' brokers, technology/innovation brokers, actors of the innovation environment (university, government, industry, and civil society). Therefore, the study emphasises the central role of incubators in the value creation at the meso-level (entrepreneurial support ecosystem) of the preincubation ecosystem.

From the perspective of the RBV (Barney, 1991; Barney et al., 2021), incubators function as entities that regard tenants as vital strategic resources. In some entrepreneurial sourcing processes such as prospecting, calling to application and even scouting processes such as channeling and matchmaking, the tenant is seen as a united resource that circulates from actor to actor in the preincubation ecosystem. These processes are sensing capabilities, given that they allow incubators to weave strong and engaging relational networks with the other actors of the preincubation ecosystem. This allows a strategic monitoring of potential tenants that

emerge in the preincubation ecosystem and favours actors' willingness to reorient them (tenants) to the incubators. On the other hand, in entrepreneurial sourcing processes such as translating and transforming, the tenant is seen as a compound of distinct resources (talent, technology/innovation, and other means) held by different actors in the preincubation ecosystem (university, industry, government, civil society, and brokers). These processes are capabilities of sensing given that they make it possible to identify and combine dispersed resources in the preincubation ecosystem in collaboration with resource holders in a spirit of co-specialization to promote the germination of potential tenants, the mutualisation of resources, the allocation of these resources, and the technology transfer. In these entrepreneurial sourcing processes, incubator becomes a combinator (cf. y-combinator) that creates new firms through a set of capabilities in the preincubation ecosystem. When these resources are effectively combined (Mian, 2021), incubators enhance co-specialization, playing a crucial role in guiding the dynamics of the ecosystem and enhancing its competitive advantage.

In the context of the DCT (Helfat and Martin, 2015; Giudici et al., 2018; Helfat, 2022; Maus and Sammut, 2023), the study highlights the evolving capabilities of incubators, particularly in the detection and selection of promising tenants, a concept rooted in works by Teece et al. (1997) and Teece (2012). Through the diligent identification and onboarding of tenants, incubators optimise the quality of the ecosystem, ensuring its sustained progression and solidifying their roles as primary enhancers of capability.

Furthermore, the study affirms that incubators are not standalone entities; their functions are intricately linked with external stakeholders such as universities, investors, local enterprises, and other entities supporting entrepreneurship, a linkage identified previously by RBV as co-specialization (Barney et al., 2021) or cooperation in the strategic alignment of incubators within ecosystems (Theodoraki and Messeghem, 2020). This interconnection accentuates the role of the incubator as a critical nexus, acting as a liaison among different participants in the ecosystem, ensuring an uninterrupted transfer of value.

Highlighting the continuous transformation of resources, the study underscores the cyclical nature of resource transformation. The results of entrepreneurial sourcing processes (referred to as ex post resources) have benefits that transcend the direct interests of incubators. They also circulate back into the ecosystem, enriching the pool of preliminary strategic resources or ex ante resources (Barney et al., 2021; Barney and Mackey, 2018; Helfat and Martin, 2015). This cyclical resource dynamic, propelled by incubators, affirms their central significance in preserving the energy and vitality of the ecosystem.

Beyond merely nurturing tenants, the research findings indicate that incubators also cultivate collaboration among ecosystem participants, mobilising a range of resources and fostering technology exchange, a sentiment echoed in studies by Helfat and Martin (2015) and Barney et al. (2021). Incubators thereby serve as a catalyst, coordinating the endeavours of different stakeholders towards mutual benefit.

The complex dynamics inherent in the preincubation ecosystem, shaped by diverse factors such as socio-economic fluctuations, cultural diversity, and policy directives, highlight the imperative for a stabilising force. Peteraf and Barney (2003) have emphasised this need, and incubators, equipped with their entrepreneurial sourcing prowess, emerge as entities that can provide this stability, thereby guaranteeing resilience and adaptability within the ecosystem.

Furthermore, the sourcing activities of incubators, deeply embedded in the preincubation ecosystem, involve engagements with innovation intermediaries, ideation channels, and other innovative actors. Such interactions position incubators as focal points (Barney et al., 2021; Spigel, 2017) in the innovative and entrepreneurial tapestry of the ecosystem.

The study sheds light on the indispensable role of incubators at the meso-level of the preincubation ecosystem, especially as enhancers of capability. Their proficiency in discerning, nurturing, and assimilating strategic resources, complemented by their evolving capabilities, firmly establishes them as fundamental pillars shaping ecosystem dynamics and facilitating value generation.

The Methodological Adaptation

The research introduces an innovative approach by applying both the Resource-Based View (RBV) and Dynamic Capability Theory (DCT) to the realm of preincubation ecosystems (Barney et al., 2021; Teece et al., 1997). Utilising this dual-theoretical perspective offers a holistic understanding, enabling a nuanced grasp of the intricacies of the ecosystem's dynamics.

The thesis appears to emphasise an ecosystem-level approach. This perspective prioritises not merely the incubators but their complex interactions with various stakeholders within the preincubation ecosystem (Spigel, 2017; Theodoraki and Messeghem, 2017). By rooting this meso-level perspective in the RBV (Barney et al., 2021) and DCT (Teece et al., 1997), the research unveils systemic interdependencies that could otherwise be missed. The research meticulously dissects the sensing and seizing capabilities, breaking them down into activities like scouting, prospecting, and e-sourcing, offering a detailed understanding of entrepreneurial sourcing processes. Such an exhaustive exploration stands to inform future research on

preincubation processes. Another noteworthy methodological aspect is the careful examination of the transformational journey from ex ante resources to ex post strategic resources (Barney et al., 2021), highlighting the cyclical nature of resource dynamics (Barney and Mackey, 2018). This offers valuable insights into the perpetual interactions of resources within the ecosystem.

Furthermore, the thesis stands out for its exploration of both the internal dynamics within incubators and their interactions with external ecosystem actors, providing a rounded view of the sourcing process (Helfat and Martin, 2015). This balance between internal and external dynamics reinforces a comprehensive understanding. The research also delves into ecosystem-level outcomes, such as actor collaboration, resource mutualisation, and technology transfer. This hints at potentially innovative methodologies used to explore the broader impacts of entrepreneurial sourcing processes.

In conclusion, the thesis suggests methodological adaptation for studying incubators' processes within ecosystems. By combining recognised theoretical constructs with rigorous empirical study, it facilitates an immersive understanding of the preincubation ecosystem, paving the way for future academic endeavours in this field.

Resource-Based View and Dynamic Capability Theory Debate

The thesis addresses the conversation on the resource-based view and dynamic capabilities theory by contextualising these theories within the domain of entrepreneurial sourcing in the preincubation ecosystem. One of its central contributions is drawing parallels between incubators and firms (Aaboen, 2009), positing tenants as strategic resources (Barney, 1991; Barney et al., 2021). This comparison underscores the pivotal role that entrepreneurs undertake in determining an incubator's competitive positioning and ensuring its sustainable advantage.

The research further supports the idea that entrepreneurial sourcing within the preincubation ecosystem should be seen as an interconnected set of dynamic resources and capabilities with an inherently iterative character. This echoes the idea of Barney et al. (2021), according to which resources and dynamic capabilities are intricately linked following the system of ex ante resources – co-specialization and capabilities, and ex post resources. This perspective aligns well with the core tenets of both RBV and DCT (Maus and Sammut, 2023), which highlight incubators' imperative to persistently adapt, amplify, and exploit its resources to maintain a competitive edge.

Furthermore, the thesis offers a practical understanding of dynamic capabilities in the preincubation realm. It categorises the entrepreneurial sourcing processes into two main

categories: ‘sensing’ and ‘seizing’. By delineating processes like scouting, prospecting, calling to application, and e-sourcing under the ‘sensing’ umbrella and file review, training, evaluation, and interviewing within the ‘seizing’ framework, the research illuminates the practical implications of DCT in preincubation, building upon the foundation laid by Teece et al. (1997) and Teece (2012).

The significance of external collaborations, notably partnerships with academic institutions, investors, and other entrepreneurial enablers, is accentuated in the research. It highlights the critical role of relational resources (Barney, 1991; Theodoraki et al., 2018), advocating that the competitive edge in the preincubation ecosystem is a result of both internal resources and adeptness in leveraging external affiliations.

Moreover, the thesis highlights the intricate nature of the entrepreneurial sourcing process by highlighting the multitude of internal and external determinants like financial, human, relational, reputation, and technological resources. This multifaceted perspective dovetails with the RBV’s assertion that for firms to sustain a competitive advantage, they need to harbour unique and difficult-to-replicate resources, often arising from intricate processes and affiliations (Barney, 1991; Peteraf and Barney, 2003).

On a broader scale, the research establishes that the adept use of dynamic capabilities within incubator not only propels the incubators and tenants forward (Roundy and Fayard, 2019) but also casts a ripple effect on the larger ecosystem (Messeghem et al., 2018; Maus and Sammut, 2023). This positive externality manifests in forms like enhanced collaboration between stakeholders, effective resource sharing, technology transfers, and successful tenant development. This research contributes to DCT in the literature on incubators by showing that beyond capabilities building for tenants already in incubation (Roundy and Fayard, 2019), the incubator acts as a capabilities builder for the actors of the preincubation ecosystem through a co-specialization whose outcomes (ex post) are potential tenants germination, resources mutualisation, resources’ endowment, and technologies transfer.

The synergy between RBV and DCT (Barney et al., 2021) is another significant revelation from the study. It delves into how pre-existing resources shape entrepreneurial sourcing capabilities, as viewed through the RBV lens, and how these capabilities reciprocally influence subsequent resources, as posited by the DCT. This symbiotic relationship showcases a novel way of integrating these two seminal theories for a more holistic analysis of the entrepreneurial ecosystem, a bridge effectively described by Barney and Mackey (2018).

This thesis stands as a beacon in the scholarly discourse on RBV and DCT's application in deciphering entrepreneurial sourcing intricacies within preincubation ecosystems. Through its empirical exploration, it not only broadens, applies, and interweaves the theories but also bestows the academic and practical realms with invaluable insights, enhancing the overall comprehension of entrepreneurial sourcing and guiding incubators towards sourcing excellence.

Theoretical Contributions

The thesis delves into the intricate realm of entrepreneurial sourcing within the preincubation ecosystem, leveraging insights from both the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT). It embarks on a journey to understand preincubation through the lens of these influential theories.

The study repositions incubators within the framework of the RBV. By conceptualising incubators as firms, it uniquely views tenants as strategic resources, equating them with other significant firm assets, as suggested by Barney (1991) and Barney et al. (2021). This perspective offers a fresh take on the role and importance of incubators within entrepreneurial ecosystems. The research does not just stop at internal resources. By emphasising collaborations with external entities, like universities, investors, and local businesses, it underscores the multifaceted nature of the sourcing process. This emphasis aligns with the RBV's stance on the significance of unique, relational resources, as posited by Barney (1991).

When it comes to operationalising DCT within the preincubation landscape, the research introduces the 'sensing' and 'seizing' framework. This framing provides a coherent structure to the entrepreneurial sourcing processes, drawing upon the foundational works of Teece et al. (1997) and Teece (2012). The thesis further delves into the granular aspects of these processes, examining activities like scouting, prospecting, and e-sourcing within the 'sensing' framework and file reviewing, training, and assessing within the 'seizing' phase. This detailed analysis enriches the application of DCT in the preincubation context.

The research also shines a spotlight on the interplay of resources within the preincubation ecosystem. It unravels the interconnected and iterative dynamics of these resources, reinforcing the core tenets of both RBV and DCT regarding the ongoing modification and optimisation of resources, a perspective enriched by Barney et al. (2021). The main contribution of this research is to have demonstrated that the dynamic capabilities (here, the entrepreneurial sourcing process) of a firm (here, the incubator by analogy) transform the abundant internal (incubator)

and external (preincubation ecosystem) resources in strategic ones. This shows that the strategic nature of resources can be linked to the know-how and internal processes (entrepreneurial sourcing) of a firm (incubator). This is an explanation of another form of relationship between dynamic capabilities and strategic resources, which clearly illustrates the complementarity between the RBV and the DCT.

At the ecosystem level, the thesis underscores the broader outcomes of dynamic capabilities, such as collaboration, resource mutualisation, and technology transfer. This perspective aligns with the ideas of Helfat and Martin (2015), suggesting a meso-level view on the implications of DCT. Furthermore, a synthesis of both RBV and DCT is eloquently presented. It elucidates how ex ante resources, as rooted in the RBV (Barney et al., 2021), influence the entrepreneurial sourcing capabilities. These capabilities, in turn, affect the ex-post resources viewed through the DCT lens. This synthesis, reminiscent of the insights from Barney and Mackey (2018), offers an intricate intersection of the two theories, implying their cohesive integration for more profound analyses in the entrepreneurial landscape.

Lastly, the thesis ventures into understanding incubators as pivotal orchestrators in the ecosystem (Giudici et al., 2018). It positions them as connectors, facilitating value transfer across the ecosystem. By highlighting incubators as central to innovation and entrepreneurial framework (Spigel, 2017), it adds depth to the theoretical understanding of the symbiosis between innovation and incubation.

This thesis intertwines the perspectives of RBV and DCT, crafting a comprehensive theoretical narrative on entrepreneurial sourcing within the preincubation ecosystem. Its profound contributions serve not only to enhance understanding but also to inspire further academic pursuits in the domain.

Implications of the results for incubator managers, tenants, and policymakers

The findings of this research hold several implications for various stakeholders involved in the entrepreneurial ecosystem, including incubator managers, tenants, and policymakers.

Implication for Incubator Managers and Partners

The research findings offer critical insights into the managerial aspects of incubator operations. Incubator managers play a pivotal role in the identification and selection of tenants. The effectiveness of these processes is integral to the incubator's performance. Thus, a

systematic, proactive, and strategic approach is essential. Relying on passive or ad hoc methods might compromise the quality of the selected tenants, jeopardising both the startups' success rate and the incubator's overall performance.

Drawing from the Resource-Based View (Barney, 1991), the significance of internal resources in the entrepreneurial sourcing processes becomes evident. This suggests that incubator managers should prioritise continuous development and the strategic management of resources. Investments in both tangible (like infrastructure) and intangible assets (including staff knowledge, skills, and organisational culture) are necessary. Effective management and utilisation of these assets can offer a competitive edge in securing high-calibre tenants.

Furthermore, in alignment with the Resource-Based View, upskilling staff is crucial. Incubator managers should arrange regular training programs, seminars, and workshops to hone the staff's capabilities in identifying, evaluating, and supporting potential startups. The research also sheds light on the pivotal role of social networks in the sourcing process. Therefore, a concentrated effort should be made by incubator managers to cultivate and leverage these networks. Engaging in networking events, forming partnerships, and initiating collaborations could be instrumental in early identification of prospective startups and their subsequent guidance.

Moreover, incubators must foster a supportive organisational culture, emphasising innovation, openness, collaboration, and continuous learning (Eldering et al., 2023). Such an ambience is instrumental in attracting top-tier tenants and equipping them with a nurturing environment conducive to growth and success. Interactions with ecosystem actors like universities, laboratories, and private firms are also highlighted by the findings. Active collaborations with these entities can significantly expand the potential tenant pool, elevating the quality of startups hosted by the incubator. Feedback mechanisms are another invaluable tool. By soliciting feedback from both accepted and rejected tenants, selection processes and criteria can be continually optimised.

For investors, these insights can enhance decision-making. A comprehensive understanding of incubation and selection processes allows investors to assess startup potential more accurately, resulting in better-informed investment decisions. Furthermore, aligning strategies with proficient incubators can optimise return on investments (Barney et al., 2021). For universities and research institutions, the findings serve a dual purpose. Firstly, universities can streamline their research and innovations to resonate more with incubators, translating to more practical applications. Secondly, these insights can be instrumental in refining entrepreneurial

curricula making students more industry-ready. Other actors in the ecosystem, such as technology transfer organisations, coworking spaces, and industry partners, can recalibrate their strategies in line with the research's findings. Such alignment facilitates improved collaboration and support mechanisms for emerging entrepreneurs.

In sum, incubator managers' role is multifaceted, encompassing everything from proactive tenant sourcing to fostering effective collaborations. Adhering to the highlighted managerial implications can profoundly augment the efficacy and impact of incubation programs.

Implication for Tenants

The research findings offer substantial practical implications for potential tenants. Gaining insights into the incubator's perspective can empower prospective startups to strategically navigate their path towards incubation.

An in-depth understanding of what incubators prioritise during their sourcing and selection processes is vital. This knowledge enables potential tenants to tailor their pitches and business proposals effectively. By emphasising aspects that resonate with the incubator's criteria, tenants can enhance their chances of acceptance. For example, if an incubator gives weightage to technological innovation, startups should highlight their unique technology solutions. The sourcing process underscores the pivotal role of presentation skills. Startups aiming to secure a position within an incubator must articulate their ideas lucidly, persuasively, and in alignment with the incubator's vision and mission. The quality of communication can be a deciding factor.

The research also emphasises the complex interactions that exist among preincubation ecosystem actors. Recognising these dynamics allows startups to harness them. They might consider seeking advice from established entrepreneurs, collaborating with academic or research institutions to enhance product development, or partnering with other startups to pool resources and expertise. Incubators seem to favour tenants with strong support structures and meaningful strategic partnerships. By fostering and nurturing relationships within the preincubation ecosystem, startups not only enrich their business model but also become more appealing to incubators.

Given the inherent competition in the preincubation process (Theodoraki and Messeghem, 2020), startups should value feedback and exhibit adaptability. The willingness to learn and adjust their business ideas in response to feedback and evolving market scenarios can be enticing for incubators, signifying resilience and a dedication to growth. Networking within the preincubation ecosystem emerges as a valuable tool. Actively participating in relevant events,

workshops, and seminars allows startups to engage with industry stalwarts, prospective investors, and other crucial stakeholders. These engagements can lead to insights, guidance, or partnerships that amplify the startup's credibility and chance to enter in an incubator.

The research offers potential tenants a comprehensive understanding of the intricacies involved in the incubation selection process. By leveraging this knowledge, they can adopt strategic measures, hone their propositions, and cultivate relationships that not only bolster their chances of securing an incubator position but also lay the groundwork for enduring business prosperity.

Implication for Policymakers

The research findings delineate the fundamental role of the preincubation ecosystem in fostering entrepreneurial endeavours and the intricate interplay among the different stakeholders within this system. For policymakers, it is pivotal to comprehend these dynamics to construct an environment that bolsters entrepreneurial achievements.

The study highlights the crucial importance of the preincubation ecosystem in the entrepreneurial pathway. Recognising this, policymakers are encouraged to emphasise the initiation and maintenance of these ecosystems as a focal point in their entrepreneurial development strategies. The complex relationships among actors in the preincubation ecosystem, as highlighted in the research, indicate that fostering collaborations forms the bedrock of efficacious entrepreneurial sourcing. With this understanding, policymakers should advocate for the establishment of policies that encourage affiliations, whether between academic institutions and emerging businesses or between incubators and industry frontrunners.

Implicit in the research is the inference that various resources, particularly financial ones, are instrumental in the preincubation phase. Policymakers could galvanise entrepreneurial undertakings by providing financial stimuli such as tax concessions, grants, or foundational funding for nascent enterprises. Such initiatives can propel more individuals towards entrepreneurship and can magnetise outside investments into the region (Spigel and Harrison, 2018). The nuances of entrepreneurial sourcing, as underlined by the findings, are integral for the prosperity of both incubators and the startups they foster. Regulations could be put in place by policymakers that streamline these processes. This might encompass demystifying startup registration modalities, safeguarding intellectual assets, or designating specific economic precincts dedicated to entrepreneurial projects.

Additionally, the research accentuates the bearing of broader societal, economic, and political factors on the preincubation process. When framing policies, it is essential for policymakers to assimilate these larger contexts. This could manifest in nurturing an entrepreneurial ethos, upholding economic steadiness, or engineering policies that are both politically viable and beneficial for burgeoning businesses.

Furthermore, each geographical area or region is characterised by its individualistic challenges and virtues. Considering this, policymakers ought to ascertain that strategies are custom-fitted to the distinctive demands and contexts of regional entrepreneurship. Universal strategies might not be universally effective, thus, tailoring to the distinct local intricacies is crucial. Another noteworthy consideration is the calibre of entrepreneurs in the sourcing framework. Investing in entrepreneurial pedagogy and capacity-building exercises can be pivotal, ensuring that incubators have a rich pool of adept and informed entrepreneurs to choose from.

The study offers policymakers a beacon, understanding the multifaceted engagements of various stakeholders in the entrepreneurial trajectory and the indispensability of a congenial preincubation environment. Absorbing these revelations, policymakers can craft a resilient structure that cultivates and perpetuates entrepreneurial pursuits, auguring well for economic growth and novelty in their territories.

In examining the entrepreneurial ecosystem, the findings elucidate its complex nature, which is characterised by a myriad of interlinked activities and participants. A detailed analysis of preincubation procedures, particularly the processes of identifying and selecting tenants, serves as a framework for stakeholders to comprehend and adeptly makeover through this intricate system. Essentially, these findings function as a directive tool, enabling stakeholders within the entrepreneurial realm to make judicious choices, harmonise their strategies, and cultivate a setting that is propitious for entrepreneurial advancement and triumph. These insights are of paramount significance to stakeholders in the entrepreneurial sphere, equipping them to refine their tactics, both in the procurement and selection of tenants and in the nurturance of a dynamic entrepreneurial ecosystem.

Limitations and research avenues

The present thesis, while offering insights into the entrepreneurial sourcing processes within preincubation ecosystems, is not without limitations, which in turn opens several interesting avenues for future research.

The thesis is focused on the context of preincubation ecosystems, and the findings might not be directly applicable to other forms of entrepreneurial ecosystems or stages of the entrepreneurial process. Therefore, the generalizability of the findings may be limited (Eisenhardt, 1989). The thesis primarily adopts a Resource-Based View (RBV) lens to analyse the processes and determinants. While the RBV is a powerful theoretical framework, it might overlook certain aspects that other theories could shed light on, such as the institutional or network-based perspectives (Barney, 1991). The thesis employs a qualitative approach, which allows for rich, in-depth insights. However, this approach may limit the ability to establish causal relationships or make quantitative comparisons across different ecosystems or incubators.

Future research could apply other theoretical frameworks, such as Institutional Theory or Network Theory, to provide alternative perspectives on the entrepreneurial sourcing process. While the qualitative approach provided rich insights, a quantitative study could offer a complimentary perspective by enabling the statistical testing of the relationships and effects identified in this research. Such a study could include developing and testing hypotheses related to the determinants of entrepreneurial sourcing processes or the outcomes of different sourcing strategies. Future research could also compare the entrepreneurial sourcing processes across distinct types of ecosystems (e.g., tech startups, social enterprises) or across different geographical regions. This could provide insights into how these processes are influenced by different industry norms or socio-cultural contexts. A longitudinal study could provide insights into the evolution of entrepreneurial sourcing processes over time, especially as incubators and their surrounding ecosystems grow and develop. Such a study could also examine the long-term outcomes of different sourcing and selection strategies. In light of the increasing digitisation of entrepreneurial activities, future research could explore how digital platforms and technologies are impacting the entrepreneurial sourcing processes (Lemaire et al., 2023). This could include investigating the role of AI in sourcing and selection processes or the influence of virtual collaboration tools on the interactions between incubators and ecosystem actors.

The limitations of this thesis thus open various promising avenues for future research, with the potential to enrich our understanding of the entrepreneurial sourcing processes within preincubation ecosystems and to further extend the theoretical and practical contributions of this work.

Conclusion

The present thesis provides an in-depth exploration of entrepreneurial sourcing within preincubation ecosystems, drawing on the Resource-Based View (RBV) as a theoretical framework. It contributes to the extant literature by shedding light on a previously overlooked area: the processes and determinants of tenant identification and selection, which are fundamental to the successful operation of business incubators.

Our research elucidated the interactive nature of the tenant sourcing process, emphasising the role of collaborative relationships between incubators and other actors within the preincubation ecosystem. It underscored that the sourcing process is not a unilateral action by the incubator but is shaped by various ecosystem determinants, including relationships with universities, employment agencies, and private companies. The thesis also highlighted the critical role of internal incubator resources and capabilities, such as organisational structure, human capital, and intellectual capital, in shaping the sourcing process. In doing so, it extended the RBV by integrating it with ecosystem perspectives, thereby enriching our understanding of how resources and capabilities interact with the broader ecosystem in shaping entrepreneurial sourcing. Moreover, the thesis unveiled the outcomes of different sourcing processes, revealing the significant impact they have on the success and growth of tenants, as well as on the incubator's reputation and performance. These findings have significant implications for incubator managers, tenants, and policymakers, offering them actionable insights into the design and management of sourcing strategies.

Despite these contributions, the thesis also acknowledges its limitations, including the specific context of the study, the adoption of the RBV framework, and the use of a qualitative approach. However, these limitations also open several promising avenues for future research, such as applying other theoretical perspectives, conducting quantitative analysis, comparing different ecosystems, and exploring the role of technology in the sourcing process.

In conclusion, this thesis offers a significant step forward in understanding entrepreneurial sourcing within preincubation ecosystems. It is hoped that this work not only advances

academic understanding but also provides practical insights for incubator managers and policymakers, ultimately contributing to the successful growth and development of entrepreneurial ecosystems.

REFERENCES

Aaboen, L. (2009). Explaining incubators using firm analogy. *Technovation*, *29*(10), 657–670. https://doi.org/10.1016/j.technovation.2009.04.007

Aernoudt, R. (2004). Incubators: Tool for entrepreneurship? *Small Business Economics*, *23*(2), 127–135. https://doi.org/10.1023/B:SBEJ.0000027665.54173.23

Aerts, K., Matthyssens, P., & Vandenbempt, K. (2007). Critical role and screening practices of European business incubators. *Technovation*, *27*(5), 254 – 267. https://doi.org/10.1016/j.technovation.2006.12.002

Agrawal, A., De Meyer, A., & Van Wassenhove, L. N. (2014). Managing value in supply chains: Case studies on the sourcing hub concept. *California Management Review*, *56*(2), 23–54. https://doi.org/10.1525/cmr.2014.56.2.23

Aguinis, H., & Solarino, A. M. (2019). Transparency and replicability in qualitative research: The case of interviews with elite informants. *Strategic Management Journal*, 40(8), 1291–1315.

Ahi, P., & Searcy, C. (2013). A comparative literature analysis of definitions for green and sustainable supply chain management. *Journal of Cleaner Production*, *52*, 329–341. https://doi.org/10.1016/j.jclepro.2013.02.018

Alaassar, A., & Laure, A. (2022). Ecosystem dynamics : exploring the interplay within fintech entrepreneurial ecosystems. *Small Business Economics*, 2157–2182. https://doi.org/10.1007/s11187-021-00505-5

Al-Baimani, N., Clifton, N., Jones, E., & Pugh, R. (2021). Applying the ecosystem model in a new context? The case of business incubation in Oman. *Growth and Change*, *September 2019*, 1–24. https://doi.org/10.1111/grow.12471

Allen, D. N., and McCluskey, R. (1991). Structure, policy, services, and performance in the business incubator industry. *Entrepreneurship Theory and Practice*, *15*(2), 61–77.

Amezcua, A. S., Grimes, M. G., Bradley, S. W., & Wiklund, J. (2013). Organizational sponsorship and founding environments: a contingency view on the survival of business-incubated firms, 1994–2007. *Academy Of Management Journal*, *56*(6), 1628–1654. https://doi.org/10.5465/amj.2011.0652

Apa, R., Grandinetti, R., & Sedita, S. R. (2017). The social and business dimensions of a networked business incubator: the case of H-Farm. *Journal Of Small Business And*

Enterprise Development, *24*(2), 198–221. https://doi.org/10.1108/JSBED-07-2016-0103

Arreola, F., Favre-Bonte, V., & Tran, S. (2021). The Corporate Accelerator: A New Kind of Strategic Factor Market to Access Strategic Resources. *Management*, *24*(3), 56–71. https://doi.org/10.37725/mgmt.v24.4576

Assenova, V. A. (2021). Institutional Change and Early-Stage Start-Up Selection: Evidence from Applicants to Venture Accelerators. *Organization Science*, *32*(2), 407–432. https://doi.org/10.1287/orsc.2020.1390

Audretsch, D. B., & Belitski, M. (2017). Entrepreneurial ecosystems in cities: establishing the framework conditions. *Journal of Technology Transfer*, *42*(5), 1030–1051. https://doi.org/10.1007/s10961-016-9473-8

Audretsch, D. B., Bönte, W., & Keilbach, M. (2008). Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *Journal of Business Venturing*, *23*(6), 687–698. https://doi.org/10.1016/j.jbusvent.2008.01.006

Audretsch, D., Marcio, C., & Torres, J. (2022). Revisiting Entrepreneurial Ecosystems. *World Bank Group*, *November*.

Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation: The importance of context. *Research Policy*, *43*(7), 1097–1108. https://doi.org/10.1016/j.respol.2014.01.015

Autio, E., Nambisan, S., Thomas, L. D. W., & Wright, M. (2018). Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, *12*(1), 72–95. https://doi.org/10.1002/sej.1266

Ayatse, F. A., Kwahar, N., & Iyortsuun, A. S. (2017). Business incubation process and firm performance: an empirical review. *Journal of Global Entrepreneurship Research*, *7*(1). https://doi.org/10.1186/s40497-016-0059-6

Bailey, J. (2008). First steps in qualitative data analysis: transcribing. *Family practice*, 25(2), 127–131.

Baillot, A. (2023). *Entreprises créées en 2018 : huit sur dix sont encore actives trois ans après leur création: Vol. N° 1962*. https://www.insee.fr/fr/statistiques/7653231

Bangara, A., Freeman, S., & Schroder, W. (2012). Legitimacy and accelerated internationalization: An Indian perspective. *JOURNAL OF WORLD BUSINESS*, *47*(4),

623–634. https://doi.org/10.1016/j.jwb.2011.09.002 WE – Social Science Citation Index (SSCI)

Bank, N., & Kanda, W. (2016). Tenant recruitment and support processes in sustainability-profiled business incubators. *Industry and Higher Education*, *30*(4), 267–277. https://doi.org/10.1177/0950422216659567

Bank, N., Fichter, K., & Klofsten, M. (2017). Sustainability-profiled incubators and securing the inflow of tenants – The case of Green Garage Berlin. *Journal of Cleaner Production, 157*, 76–83. https://doi.org/10.1016/j.jclepro.2017.04.123

Baraldi, E., & Havenvid, I. M. (2016). Identifying new dimensions of business incubation: A multi-level analysis of Karolinska Institute's incubation system. *Technovation, 50–51*, 53–68. https://doi.org/10.1016/j.technovation.2015.08.003

Barbero, J. L., Casillas, J. C., Ramos, A., & Guitar, S. (2012). Revisiting incubation performance. How incubator typology affects results. *Technological Forecasting and Social Change, 79*(5), 888–902. https://doi.org/10.1016/j.techfore.2011.12.003

Barbero, J. L., Casillas, J. C., Wright, M., & Ramos Garcia, A. (2014). Do different types of incubators produce different types of innovations? *Journal of Technology Transfer*, *39*(2), 151–168. https://doi.org/10.1007/s10961-013-9308-9

Barney, J. (1991). *Firm resources and sustained competitive advantage*. *17*(1), 99–120.

Barney, J. B. (2018). Why resource-based theory's model of profit appropriation must incorporate a stakeholder perspective. *Strategic Management Journal*, *39*(13), 3305–3325. https://doi.org/10.1002/smj.2949

Barney, J. B., & Mackey, A. (2018). Monopoly Profits, Efficiency Profits, and Teaching Strategic Management. *Academy of Management Learning and Education*, *17*(3), 359–373. https://doi.org/10.5465/amle.2017.0171

Barney, J. B., Ketchen, D. J., & Wright, M. (2021). Resource-Based Theory and the Value Creation Framework. *Journal of Management*, *47*(7), 1936 – 1955. https://doi.org/10.1177/01492063211021655

Battistella, C., De Toni, A. F., & Pessot, E. (2017). Open accelerators for start-ups success: a case study. *European Journal Of Innovation Management*, *20*(1), 80–111. https://doi.org/10.1108/EJIM-10-2015-0113

Bazeley, P. and J. (2013). *Qualitative Data Analysis with NVivo*, SAGE Publications, Los Angeles.

Becker, B., & Gassmann, O. (2006). Corporate incubators: Industrial R&D and what universities can learn from them. *Journal of Technology Transfer*, *31*(4), 469–483. https://doi.org/10.1007/s10961-006-0008-6

Bergek, A., & Norrman, C. (2008). Incubator best practice: A framework. *Technovation*, *28* (1–2), 20–28. https://doi.org/10.1016/j.technovation.2007.07.008

Bettenmann, D. (2023). It's all about opportunities: sourcing and selection of new ventures to accelerate innovation. *R & D Management*. https://doi.org/10.1111/radm.12587

Beyhan, B., Akcomak, S., & Cetindamar, D. (2021). The Startup Selection Process in Accelerators: Qualitative Evidence from Turkey. *Entrepreneurship Research Journal*. https://doi.org/10.1515/erj-2021-0122.

Biernacki, P., & Waldorf, D. (1981). Snowball sampling: Problems and techniques of chain referral sampling. *Sociological methods & research*, 10(2), 141–163.

Bøllingtoft, A. (2012). The bottom-up business incubator: Leverage to networking and cooperation practices in a self-generated, entrepreneurial-enabled environment. *Technovation*, *32*(5), 304–315. https://doi.org/10.1016/j.technovation.2011.11.005

Bøllingtoft, A., & Ulhøi, J. P. (2005). The networked business incubator – Leveraging entrepreneurial agency? *Journal of Business Venturing*, *20*(2), 265–290. https://doi.org/10.1016/j.jbusvent.2003.12.005

Bowen, G. A. (2008). Naturalistic inquiry and the saturation concept: A research note. *Qualitative Research*, *8*(1), 137–152. https://doi.org/10.1177/1468794107085301

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Breznitz, S. M., & Zhang, Q. T. (2019). Fostering the growth of student start-ups from university accelerators: an entrepreneurial ecosystem perspective. *Industrial And Corporate Change*, *28*(4), 855–873. https://doi.org/10.1093/icc/dtz033

Bruneel, J., Ratinho, T., Clarysse, B., & Groen, A. (2012). The evolution of Business incubators: Comparing demand and supply of business incubation services across different incubator generations. *Technovation*, *32*(2), 110 – 121.

https://doi.org/10.1016/j.technovation.2011.11.003

Bustamante, C. V, Matusik, S. F., & Benavente, J. M. (2021). Location capabilities, institutional distance, and start-up survival. *Global Strategy Journal*, *11*(4), 548–577. https://doi.org/10.1002/gsj.1407

Bustamante, C. V. (2019). Strategic choices: Accelerated startups' outsourcing decisions. *Journal Of Business Research*, *105*, 359–369. https://doi.org/10.1016/j.jbusres.2018.06.009

Carayannis, E. G., & Zedtwitz, M. Von. (2005). Architecting gloCal (global – local), real-virtual incubator networks (G-RVINs) as catalysts and accelerators of entrepreneurship in transitioning and developing economies : lessons learned and best practices from current development and business incu. *Technovation*, *25* (June 2001), 95 – 110.

Carayannis, E. G., Grigoroudis, E., Campbell, D. F. J., Meissner, D., & Stamati, D. (2018). The ecosystem as helix: an exploratory theory-building study of regional co-opetitive entrepreneurial ecosystems as Quadruple/Quintuple Helix Innovation Models. *R and D Management*, *48*(1), 148–162. https://doi.org/10.1111/radm.12300

Casillas, J. C., & Moreno-Menendez, A. M. (2014). Speed of the internationalization process: The role of diversity and depth in experiential learning. *Journal Of International Business Studies*, *45*(1), 85–101. https://doi.org/10.1057/jibs.2013.29

Chang, S. J., & Rhee, J. H. (2011). Rapid FDI expansion and firm performance. *Journal Of International Business Studies*, *42*(8), 979–994. https://doi.org/10.1057/jibs.2011.30

Clarysse, B., Wright, M., Lockett, A., Van de Velde, E., & Vohora, A. (2005). Spinning out new ventures: a typology of incubation strategies from European research institutions. *Journal of Business venturing*, 20(2), 183–216.

Clayton, P., Feldman, M., & Lowe, N. (2018). Behind the scenes: intermediary organizations that facilitate science commercialization through entrepreneurship. *Academy Of Management Perspectives*, *32*(1), 104–124. https://doi.org/10.5465/amp.2016.0133

Cober, R. T., Brown, D. J., Keeping, L. M., & Levy, P. E. (2004). *Recruitment on the Net : How Do Organizational Web Site Characteristics Influence Applicant Attraction? 30*(5), 623–646. https://doi.org/10.1016/j.jm.2004.03.001

Cohen, B. (2006). Sustainable valley entrepreneurial ecosystems. *Business Strategy and the*

Environment, *15*(1), 1–14. https://doi.org/10.1002/bse.428

Cohen, S. L., Bingham, C. B., & Hallen, B. L. (2019). The Role of Accelerator Designs in Mitigating Bounded Rationality in New Ventures. *Administrative Science Quarterly*, *64*(4), 810–854. https://doi.org/10.1177/0001839218782131

Cooper, C. E., Hamel, S. A., & Connaughton, S. L. (2012). Motivations and obstacles to networking in a university business incubator. *Journal of Technology Transfer*, *37*(4), 433–453. https://doi.org/10.1007/s10961-010-9189-0

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications*.

Cukier, D., Kon, F., & Lyons, T. S. (2016, June). Software startup ecosystems evolution: The New York City case study. In *2016 International Conference on Engineering, Technology and Innovation/IEEE lnternational Technology Management Conference (ICE/ITMC)* (pp. 1–8). IEEE.

Cumming, D., Werth, J. C., & Zhang, Y. (2019). Governance in entrepreneurial ecosystems: venture capitalists vs. technology parks. *Small Business Economics*, *52*(2), 455–484. https://doi.org/10.1007/s11187-017-9955-6

Cunningham, J A, Lehmann, E. E., & Menter, M. (2022). The organizational architecture of entrepreneurial universities across the stages of entrepreneurship: a conceptual framework. *Small Business Economics*, *59*(1), 11–27. https://doi.org/10.1007/s11187-021-00513-5

Cunningham, James A., Menter, M., & Wirsching, K. (2019). Entrepreneurial ecosystem governance: a principal investigator-centered governance framework. *Small Business Economics*, *52*(2). https://doi.org/10.1007/s11187-017-9959-2

David-West, O., Umukoro, I. O., & Onuoha, R. O. (2018). Platforms in Sub-Saharan Africa: startup models and the role of business incubation. *Journal Of Intellectual Capital*, *19*(3), 581–616. https://doi.org/10.1108/JIC-12-2016-0134

Davidsson, P., & Gruenhagen, J. H. (2021). Fulfilling the Process Promise: A Review and Agenda for New Venture Creation Process Research. *Entrepreneurship: Theory and Practice*, *45*(5), 1083–1118. https://doi.org/10.1177/1042258720930991

Del Sarto, N., Di Minin, A., Ferrigno, G., & Piccaluga, A. (2021). Born global and well educated: start-up survival through fuzzy set analysis. *Small Business Economics*, *56*(4),

1405 – 1423. https://doi.org/10.1007/s11187-019-00238-6

Del Sarto, N., Ferrigno, G., Parida, V., & Di Minin, A. (2022). Do start-ups benefit from coworking spaces? An empirical analysis of accelerators' programs. *Review Of Managerial Science*. https://doi.org/10.1007/s11846-022-00587-9

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. sage.

Di Stefano, G., Peteraf, M., & Verona, G. (2010). Dynamic capabilities deconstructed: a bibliographic investigation into the origins, development, and future directions of the research domain. *Industrial and corporate change*, 19(4), 1187–1204.

Dubinsky, A. J. (1981). A Factor Analytic Study of the Personal Selling Process," Journal of Personal Selling & Sales Management. *Journal of Personal Selling & Sales Management*, 26–33.

Dubois, A., & Gadde, L.-E. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research*, *55*(7), 553 – 560. https://doi.org/10.1016/S0148-2963(00)00195-8

Dutt, Nilanjana, Hawn, O., Vidal, E., Chatterji, A., McGahan, A., & Mitchell, W. (2016). How open system intermediaries address institutional failures: The case of business incubators in emerging-market countries. *Academy of Management Journal*, *59*(3), 818–840. https://doi.org/10.5465/amj.2012.0463

Dwyer, S., Hill, J., & Martin, W. (2000). An empirical investigation of critical success factors in the personal selling process for homogenous goods. *Journal of Personal Selling and Sales Management*, *20*(3), 151–159. https://doi.org/10.1080/08853134.2000.10754235

Dzikowski, P. (2018). A bibliometric analysis of born global firms. *Journal Of Business Research*, *85*, 281–294. https://doi.org/10.1016/j.jbusres.2017.12.054

Ebbers, J. J. (2014). Networking Behavior and Contracting Relationships Among Entrepreneurs in Business Incubators. *Entrepreneurship Theory And Practice*, *38*(5), 1159–1181. https://doi.org/10.1111/etap.12032

Eesley, C. E., & Lee, Y. S. (2021). Do university entrepreneurship programs promote entrepreneurship? *Strategic Management Journal*, *42*(4), 833–861. https://doi.org/10.1002/smj.3246

Eisenhardt, K. M. (1989). Building Theories from Case Study Research Published by : Academy of Management Stable. *The Academy of Management Review*, *14*(4), 532–550.

Eldering, C., van den Ende, J., & Hulsink, W. (2023). Why entrepreneur sourcing matters: the effects of entrepreneur sourcing on alternative types of business incubation performance. *R and D Management*, 1–22. https://doi.org/10.1111/radm.12588

Engelbrecht-Wiggans, R., & Katok, E. (2006). E-sourcing in procurement: Theory and behavior in reverse auctions with noncompetitive contracts. *Management Science*, *52*(4), 581–596. https://doi.org/10.1287/mnsc.1050.0474

Etzkowitz, H. (2002). *networks*. *29*(2), 115–128.

Etzkowitz, H., De Mello, J. M. C., & Almeida, M. (2005). Towards "meta-innovation" in Brazil: The evolution of the incubator and the emergence of a triple helix. *Research Policy*, *34*(4), 411–424. https://doi.org/10.1016/j.respol.2005.01.011

Farndale, E., Thite, M., Budhwar, P., & Kwon, B. (2021). Deglobalization and talent sourcing: Cross-national evidence from high-tech firms. *Human Resource Management*, 259–272. https://doi.org/10.1002/hrm.22038

Feld, B. (2012). *Startup communities: Building an entrepreneurial ecosystem in your city*. Hoboken, NJ: John Wiley.

Fernandes, C. C., Oliveira, M. D., Sbragia, R., & Borini, F. M. (2017). Strategic assets in technology-based incubators in Brazil. *European Journal Of Innovation Management*, *20*(1), 153–170. https://doi.org/10.1108/EJIM-04-2016-0043

Freeman, S., & Cavusgil, S. T. (2007). Toward a typology of commitment states among managers of born-global firms: A study of accelerated internationalization. *Journal Of International Marketing*, *15*(4), 1–40. https://doi.org/10.1509/jimk.15.4.1

Freeman, S., Hutchings, K., Lazaris, M., & Zyngier, S. (2010). A model of rapid knowledge development: The smaller born-global firm. *International Business Review*, *19*(1), 70–84. https://doi.org/10.1016/j.ibusrev.2009.09.004

Friesl, M., Ford, C. J., & Mason, K. (2019). Managing technological uncertainty in science incubation: a prospective sensemaking perspective. *R & D Management*, *49*(4), 668–683. https://doi.org/10.1111/radm.12356

Gammeltoft, P., Filatotchev, I., & Hobdari, B. (2012). Emerging multinational companies and

strategic fit: A contingency framework and future research agenda. *European Management Journal*, *30*(3), 175–188. https://doi.org/10.1016/j.emj.2012.03.007

Garcia-Lillo, F., Seva-Larrosa, P., & Sanchez-Garcia, E. (2023). What is going on in entrepreneurship research? A bibliometric and SNA analysis. *Journal Of Business Research*, *158*. https://doi.org/10.1016/j.jbusres.2022.113624

Gauthier, J. F., Penzel, M., & Marmer, M. (2017). Global startup ecosystem report 2017. *San Francisco: Startupgenome.*

Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D., Langley, A., & Corley, K. G. (2018). Finding Theory – Method Fit: A Comparison of Three Qualitative Approaches to Theory Building. *Journal of Management Inquiry*, *27*(3), 284–300. https://doi.org/10.1177/1056492617706029

Gerlach, S., & Brem, A. (2015). What determines a successful business incubator? Introduction to an incubator guide. *International Journal of Entrepreneurial Venturing*, *7*(3), 286–307. https://doi.org/10.1504/IJEV.2015.071486

Gibbs, G. R. (2007). Thematic coding and categorizing. *Analyzing qualitative data*, 703, 38–56.

Gioia, D., Corley, K., Eisenhardt, K., Feldman, M., Langley, A., Lê, J., ... & Welch, C. (2022). A curated debate: On using "templates" in qualitative research. *Journal of Management Inquiry*, 31(3), 231–252.

Giudici, A., Reinmoeller, P., & Ravasi, D. (2018). Open-system orchestration as a relational source of sensing capabilities: Evidence from a venture association. *Academy of Management Journal*, *61*(4), 1369 – 1402. https://doi.org/10.5465/amj.2015.0573

Giunipero, L. C., Bittner, S., Shanks, I., & Cho, M. H. (2019). Analyzing the sourcing literature: Over two decades of research. *Journal of Purchasing and Supply Management*, *25*(5). https://doi.org/10.1016/j.pursup.2018.11.001

Glaser, B. G. & Strauss, A. L. (1967) *The Discovery of Grounded Theory*, New York, Aldine

Goswami, K, Mitchell, J. R., & Bhagavatula, S. (2018). Accelerator expertise: Understanding the intermediary role of accelerators in the development of the Bangalore entrepreneurial ecosystem. *Strategic Entrepreneurship Journal*, *12*(1), 117–150. https://doi.org/10.1002/sej.1281

Grimaldi, R., & Grandi, A. (2005). Business incubators and new venture creation: An assessment of incubating models. *Technovation*, *25*(2), 111–121. https://doi.org/10.1016/S0166-4972 (03)00076-2

Guerrero, M., Urbano, D., & Gajon, E. (2017). Higher Education Entrepreneurial Ecosystems: Exploring the Role of Business Incubators in an Emerging Economy. *International Review Of Entrepreneurship*, *15*(2), 175–202.

Hackett, S. M., & Dilts, D. M. (2004). A Systematic Review of Business Incubation Research. *The Journal of Technology Transfer*, *29*(1), 55–82. https://doi.org/10.1023/b:jott.0000011181.11952.0f

Hallen, B. L., Cohen, S. L., & Bingham, C. B. (2020). Do Accelerators Work? If So, Ho. *Organization Science*, *31*(2), 378–414. https://doi.org/10.1287/orsc.2019.1304

Hausberg, J. P., & Korreck, S. (2020). Business incubators and accelerators: a co-citation analysis-based, systematic literature review. *The Journal of Technology Transfer*, *45*(1), 151–176. https://doi.org/10.1007/s10961-018-9651-y

Heaton, S., Siegel, D. S., & Teece, D. J. (2019). *Universities and innovation ecosystems : a dynamic capabilities perspective*. 1–19. https://doi.org/10.1093/icc/dtz038

Helfat, C. E. (2022). Strategic organization, dynamic capabilities, and the external environment. *Strategic Organization*, *20*(4), 734–742. https://doi.org/10.1177/14761270221115377

Helfat, C. E., & Martin, J. A. (2015). Dynamic Managerial Capabilities: Review and Assessment of Managerial Impact on Strategic Change. *Journal of Management*, *41*(5), 1281–1312. https://doi.org/10.1177/0149206314561301

Hernández-Chea, R., Mahdad, M., Minh, T. T., & Hjortsø, C. N. (2021). Moving beyond intermediation: How intermediary organizations shape collaboration dynamics in entrepreneurial ecosystems. *Technovation*, *108*. https://doi.org/10.1016/j.technovation.2021.102332

Hill, S., Ionescu-Somers, A., Coduras, A., Guerrero, M., Menipaz, E., Boutaleb, F., Zbierowski, P., Schott, T., Sahasranamam, S., & Shay, J. (2023). *Global Entrepreneurship Monitor 2022/2023 Global Report Adapting to a "New Normal."* 255. https://www.gemconsortium.org/reports/latest-global-report

Hillemane, B. S. M., Satyanarayana, K., & Chandrashekar, D. (2019). Technology business incubation for start-up generation A literature review toward a conceptual framework. *International Journal Of Entrepreneurial Behavior & Research*, *25*(7), 1471 – 1493. https://doi.org/10.1108/IJEBR-02-2019-0087

Hilmersson, M., Johanson, M., Lundberg, H., & Papaioannou, S. (2017). Time, Temporality, and Internationalization: The Relationship Among Point in Time of, Time to, and Speed of International Expansion. *Journal Of International Marketing*, *25*(1), 22–45. https://doi.org/10.1509/jim.16.0013

Honig, B., & Karlsson, T. (2010). Social Capital and the Modern Incubator: A Comparison of In-group and Out-group Social Networks. *Journal of Small Business and Entrepreneurship*, *23* (sup1), 719–731. https://doi.org/10.1080/08276331.2010.10593512

Hornsby, J. S., Messersmith, J., Rutherford, M., & Simmons, S. (2018). Entrepreneurship Everywhere: Across Campus, Across Communities, and Across Borders. *Journal of Small Business Management*, *56*(1), 4–10. https://doi.org/10.1111/jsbm.12386

Hu, Y., Ahmad, A. J., & Lu, D. (2023). Performance management challenges at Chinese business incubators: A systematic literature review. *Technological Forecasting and Social Change*, 190, 122414.

Huggins, R., & Thompson, P. (2022). *Cities, innovation and entrepreneurial ecosystems : assessing the impact of the COVID-19 pandemic*.

Hughes, M., Hughes, P., & Morgan, R. E. (2007). Exploitative learning and entrepreneurial orientation alignment in emerging young firms: Implications for market and response performance. *British Journal Of Management*, *18*(4), 359 – 375. https://doi.org/10.1111/j.1467-8551.2007.00519.x

Hutter, K., Brendgens, F. M., Gauster, S. P., & Matzler, K. (2023). Scaling organizational agility: key insights from an incumbent firm's agile transformation. *MANAGEMENT DECISION*. https://doi.org/10.1108/MD-05-2022-0650

Hutter, K., Gfrerer, A., & Lindner, B. (2021). From popular to profitable: incumbents' experiences and challenges with external corporate accelerators. *International Journal Of Innovation Management*, *25*(03). https://doi.org/10.1142/S1363919621500353

Isenberg, D. (2014). What an entrepreneurship ecosystem actually is. Harvard Business Review

blog, May 12.

Isenberg, D. J. (2010). The big idea: How to start an entrepreneurial revolution. *Harvard Business Review*, *88*(6).

Isenberg, D. J. (2011). The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economic Policy: Principles for Cultivating Entrepreneurships. *The Babsos Entrepreneurship Ecosystem Project*, *1* (781), 1–13. http://www.wheda.com/uploadedFiles/Website/About_Wheda/Babson Entrepreneurship Ecosystem Project.pdf

Jones, M. V, Coviello, N., & Tang, Y. K. (2011). International Entrepreneurship research (1989–2009): A domain ontology and thematic analysis. *Journal Of Business Venturing*, *26*(6), 632 – 659. https://doi.org/10.1016/j.jbusvent.2011.04.001

Juliachs, S. (2023). *Près de la moitié des micro-entrepreneurs ayant démarré leur activité en 2018 sont encore actifs trois ans après: Vol. N° 1963*. https://www.insee.fr/fr/statistiques/7653790

Kalinic, I., & Forza, C. (2012). Rapid internationalization of traditional SMEs: Between gradualist models and born globals. *International Business Review*, *21*(4), 694–707. https://doi.org/10.1016/j.ibusrev.2011.08.002

Kar, S. K., & Harichandan, S. (2022). Green marketing innovation and sustainable consumption: A bibliometric analysis. *Journal of Cleaner Production*, 361, 132,290.

Kelly, L. M., & Cordeiro, M. (2020). Three principles of pragmatism for research on organizational processes. *Methodological innovations*, 13(2), 2,059,799,120,937,242.

Klofsten, M., Lundmark, E., Wennberg, K., & Bank, N. (2020). Incubator specialization and size: Divergent paths towards operational scale. *Technological Forecasting and Social Change*, *151* (January 2019), 1–13. https://doi.org/10.1016/j.techfore.2019.119821

Knox, S., & Arshed, N. (2022). Network governance and coordination of a regional entrepreneurial ecosystem. *Regional Studies*, *56*(7), 1161–1175. https://doi.org/10.1080/00343404.2021.1988067

Kohler, T. (2016). Corporate accelerators: Building bridges between corporations and startups. *Business Horizons*, *59*(3). https://doi.org/10.1016/j.bushor.2016.01.008

Kriz, A., & Welch, C. (2018). Innovation and internationalization processes of firms with new-

to-the-world technologies. *Journal Of International Business Studies*, *49*(4), 496–522. https://doi.org/10.1057/s41267-018-0147-7

Kumari, B., Kaur, J., & Swami, S. (2022). Adoption of artificial intelligence in financial services: a policy framework. *Journal Of Science And Technology Policy Management*. https://doi.org/10.1108/JSTPM-03-2022-0062

Kuratko, D.F., & LaFollette, W. R. (1987). Small business incubators for local economic development. *Economic Development Review*, *5*(2), 49.

Lamine, W., Mian, S., Fayolle, A., Wright, M., Klofsten, M., & Etzkowitz, H. (2018). Technology business incubation mechanisms and sustainable regional development. *The Journal of Technology Transfer*, 43, 1121–1141.

Landström, H., Harirchi, G., & Åström, F. (2012). Entrepreneurship: Exploring the knowledge base. *Research policy*, 41(7), 1154–1181.

Langley, A., Smallman, C., Tsoukas, H., & Van de Ven, A. H. (2013). Process Studies of Change in Organization and Management: Unveiling Temporality, Activity, and Flow. *Academy of Management Journal*, *56*(1), 1 – 13. https://doi.org/10.5465/amj.2013.4001

Leendertse, J., Schrijvers, M., & Stam, E. (2021). Measure Twice, Cut Once: Entrepreneurial Ecosystem Metrics. *Research Policy*, *July*, 104336. https://doi.org/10.1016/j.respol.2021.104336

Legenvre, H., & Gualandris, J. (2018). Innovation sourcing excellence: Three purchasing capabilities for success. *Business Horizons*, *61*(1), 95 – 106. https://doi.org/10.1016/j.bushor.2017.09.009

Lemaire, S., Gael, B., Haddad, G., Razgallah, M., Maalaoui, A., & Cavallo, F. (2023). Knowledge transfer from and within digital incubators: does the context of entrepreneurship matter? The case of women entrepreneurs in France. *Journal Of Knowledge Management*. https://doi.org/10.1108/JKM-03-2022-0223

Li, P. P. (2010). Toward a learning-based view of internationalization: The accelerated trajectories of cross-border learning for latecomers. *Journal Of International Management*, *16*(1), 43–59. https://doi.org/10.1016/j.intman.2009.05.003

Lin, D. C., Wood, L. C., & Lu, Q. (2012). Improving business incubator service performance in China: the role of networking resources and capabilities. *Service Industries Journal*,

32(13), 2091–2114. https://doi.org/10.1080/02642069.2011.582498

Lindelöf, P., & Hellberg, R. (2023). Incubation – An evolutionary process. *Technovation*, *124* (March). https://doi.org/10.1016/j.technovation.2023.102755

Lumpkin, J. R., & Ireland, R. D. (1988). Screening Practices of New Business incubators : The Evaiuation of Criticai Success Factors. 59–82.

Lütjen, H., Schultz, C., Tietze, F., & Urmetzer, F. (2019). Managing ecosystems for service innovation: A dynamic capability view. *Journal of Business Research*, *104* (May), 506 – 519. https://doi.org/10.1016/j.jbusres.2019.06.001

M'chirgui, Z., Lamine, W., Mian, S., & Fayolle, A. (2018). University technology commercialization through new venture projects: an assessment of the French regional incubator program. *The Journal of Technology Transfer*, 43, 1142–1160.

Mack, E., & Mayer, H. (2016). The evolutionary dynamics of entrepreneurial ecosystems. *Urban Studies*, *53*(10), 2118 – 2133. https://doi.org/10.1177/0042098015586547

Malecki, E. J. (2018). Entrepreneurship and entrepreneurial ecosystems. *Geography Compass*, *12*(3), 1–21. https://doi.org/10.1111/gec3.12359

Markusen, A., & Oden, M. (1996). National laboratories as business incubators and region builders. *Journal of Technology Transfer*, *21* (1–2), 93–108. https://doi.org/10.1007/BF02220312

Mason, C., & Brown, R. (2014). Entrepreneurial ecosystems and growth oriented entrepreneurship. *Final report to OECD, Paris*, *30*(1), 77–102.

Mathews, J. A., & Zander, I. (2007). The international entrepreneurial dynamics of accelerated internationalization. *Journal Of International Business Studies*, *38*(3), 387 – 403. https://doi.org/10.1057/palgrave.jibs.8400271

Mathison, S. (1988). Why Triangulate? *Educational Researcher*, *17*(2), 13–17. https://doi.org/10.3102/0013189X017002013

Maus, A., & Sammut, S. (2023). If you want to go fast, go alone; if you want to go far, go together. In favour of a partnership approach to directors of incubators' dynamic managerial capabilities. *M@ n@ gement*, 26(4), 1-52.

McAdam, M., & McAdam, R. (2006). The networked incubator networking with the university

science park. *Entrepreneurship and Innovation*, *7*(2), 87–97.

McDonald, R. M., & Eisenhardt, K. M. (2020). Parallel Play: Startups, Nascent Markets, and Effective Business-model Design. *Administrative Science Quarterly*, *65*(2), 483 – 523. https://doi.org/10.1177/0001839219852349

Meige, A., Gillard, C., & Perrey, P. (2019). *La formation de l ' esprit entrepreneur*.

Melia, M. R., Blesa, A., & Dobon, S. R. (2010). The influence of innovation orientation on the internationalization of SMEs in the service sector. *Service Industries Journal*, *30*(5), 777–791. https://doi.org/10.1080/02642060802342679

Merguei, N., & Costa, C. (2022). What are pre-acceleration programs? *Journal of Business Venturing Insights*, *18* (January), e00324. https://doi.org/10.1016/j.jbvi.2022.e00324

Messeghem, K, Bakkali, C., Sammut, S., & Swalhi, A. (2018). Measuring Nonprofit Incubator Performance: Toward an Adapted Balanced Scorecard Approach. *Journal Of Small Business Management*, *56*(4), 658–680. https://doi.org/10.1111/jsbm.12317

Messeghem, K., Theodoraki, C., & Carayannis, E. G. (2023). Pour une modélisation de l'écosystème entrepreneurial sous forme de sous-écosystèmes: Apport de l'approche des systèmes complexes adaptatifs. *Management international*, 27(2), 93-104.

Mian, S. A. (2021). Whither modern business incubation? Definitions, evolution, theory, and evaluation. In *Handbook of Research on Business and Technology Incubation and Acceleration* (Vol. 128, pp. 17–38). https://doi.org/10.4337/9781788974783.00008

Mian, S., Fayolle, A., & Lamine, W. (2012). Building Sustainable Regional Platforms for Incubating Science and Technology Businesses. *The International Journal of Entrepreneurship and Innovation*, *13*(4), 235–247. https://doi.org/10.5367/ijei.2012.0100

Mian, S., Lamine, W., & Fayolle, A. (2016). Technology Business Incubation: An overview of the state of knowledge. *Technovation*, *50–51*, 1–12. https://doi.org/10.1016/j.technovation.2016.02.005

Monteiro, F., & Birkinshaw, J. (2017). *The External Knowledge Sourcing Process In Multinational Corporations*. *362* (February 2016), 342–362. https://doi.org/10.1002/smj

Nair, S., & Blomquist, T. (2020). The temporal dimensions of business incubation: A value-creation perspective. *International Journal Of Entrepreneurship And Innovation*, *21*(1), 38–46. https://doi.org/10.1177/1465750318817970

Nambisan, S., & Sawhney, M. (2007). A buyer's guide to the innovation bazaar. *Harvard Business Review*, *85*(6), 109-+

Narasimhan, R., & Carter, and J. R. (1998). "Linking business unit and material sourcing strategies." Journal of business Logistics 19.2 : 155. In *Journal of Business Logistics*. https://search.proquest.com/openview/b157cd8835e4a1036649a0b0928a34b2/1?pq-origsite=gscholar&cbl=36584

Narasimhan, R., & Jayaram, J. (1998). Causal Linkages in Supply Chain Management: An Exploratory Study of North American Manufacturing Firms. *Decision Sciences*, *29*(3), 579–605. https://doi.org/10.1111/j.1540-5915.1998.tb01355.x

Nayak, S., Bhatnagar, J., & Budhwar, P. (2018). *Leveraging Social Networking for Talent Management : An Exploratory Study of Indian Firms*. *4,560,500*, 21–37. https://doi.org/10.1002/tie

Neumann, T. (2021). The impact of entrepreneurship on economic, social and environmental welfare and its determinants: a systematic review. In *Management Review Quarterly* (Vol. 71, Issue 3). Springer International Publishing. https://doi.org/10.1007/s11301-020-00193-7

Neumeyer, X., Santos, S. C., & Morris, M. H. (2019). Who is left out: exploring social boundaries in entrepreneurial ecosystems. *Journal of Technology Transfer*, *44*(2), 462–484. https://doi.org/10.1007/s10961-018-9694-0

Newbert, S. L. (2007). Empirical research on the resource-based view of the firm: an assessment and suggestions for future research. *Strategic Management Journal*, *28*, 121–146. https://doi.org/10.1002/smj

Newell, S. (2009). Assessment, selection and evaluation. In J. Leopold & L. Harris (Eds.), *The strategic managing of human resources* (2nd ed., pp. 153–188). Harlow, UK: Pearson Education.

Nicholls-Nixon, C. L., & Maxheimer, M. M. (2022). How coaching services help early stage entrepreneurs: an exploration of gender differences. *Journal Of Small Business And Enterprise Development*, *29*(5), 742–763. https://doi.org/10.1108/JSBED-09-2021-0355

Nicholls-Nixon, C. L., & Valliere, D. (2021). Entrepreneurial logic and fit: a cross-level model of incubator performance. *International Journal Of Entrepreneurial Behavior &*

Research, *27*(7), 1696–1723. https://doi.org/10.1108/IJEBR-11-2020-0801

Nicolopoulou, K., Karatas- Ozkan, M., Nummann, M., & Vas, C. (2017). An incubation perspective on social innovation : the London Hub as a social incubator. *R&D Management*, *47*(3), 368–284. https://strathprints.strath.ac.uk/54506/1/Nicolopoulou_etal_RDM_2015_An_incubation_perspective_on_social_innovation_the_London_hub.pdf

Nowak, M. J., & Grantham, C. E. (2000). The virtual incubator : managing human capital in the software industry. *Research Policy*, *29*, 125–134.

OECD/EU. (2019). *Policy Brief on Incubators and Accelerators that Support Inclusive Entrepreneurship*. 1–20. https://doi.org/10.2767/092345

OECD/EU. (2017). *The missing entrepreneurs 2017: Policies for Inclusive Entrepreneurship*. https://doi.org/http://dx.doi.org/10.1787/9789264283602-en

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *International journal of surgery*, 88, 105,906.

Pandey, S., Lall, S., Pandey, S. K., & Ahlawat, S. (2017). The Appeal of Social Accelerators: What do Social Entrepreneurs Value? *Journal Of Social Entrepreneurship*, *8*(1), 88–109. https://doi.org/10.1080/19420676.2017.1299035

Patton, D. (2014). Realising potential: The impact of business incubation on the absorptive capacity of new technology-based firms. *International Small Business Journal-Researching Entrepreneurship*, *32*(8), 897–917. https://doi.org/10.1177/0266242613482134

Patton, M. Q. (2005). Qualitative research. Encyclopedia of statistics in behavioral science.

Paulus, T., Lester, J., & Dempster, P. (2014). *Digital tools for qualitative research*. London: Sage.

Pauwels, C., Clarysse, B., Wright, M., & Hove, J. Van. (2015). *Technovation Understanding a new generation incubation model : The accelerator*. *2010*. https://doi.org/10.1016/j.technovation.2015.09.003

Pauwels, C., Clarysse, B., Wright, M., & Van Hove, J. (2016). Understanding a new generation incubation model: The accelerator. *Technovation*, *50–51*(July 2019), 13–24.

https://doi.org/10.1016/j.technovation.2015.09.003

Peteraf, M. A., & Barney, J. B. (2003). Unravelling the resource-based tangle. *Managerial and Decision Economics*, *24*(4), 309–323. https://doi.org/10.1002/mde.1126

Peters, L., Rice, M., & Sundararajan, M. (2004). The Role of Incubators in the Entrepreneurial Process. *The Journal of Technology Transfer*, *29*(1), 83–91. https://doi.org/10.1023/b:jott.0000011182.82350.df

Pla-Barber, J., & Escriba-Esteve, A. (2006). Accelerated internationalization: evidence from a late investor country. *International Marketing Review*, *23* (2–3), 255–278. https://doi.org/10.1108/02651330610670442

Prexl, K. M., Hubert, M., Beck, S., Heiden, C., & Prugl, R. (2019). Identifying and analysing the drivers of heterogeneity among ecosystem builder accelerators. *R & D Management*, *49*(4), 624–638. https://doi.org/10.1111/radm.12352

Prokop, D, Huggins, R., & Bristow, G. (2019). The survival of academic spinoff companies: An empirical study of key determinants. *International Small Business Journal-Researching Entrepreneurship*, *37*(5), 502–535. https://doi.org/10.1177/0266242619833540

Prokop, Daniel. (2021). University entrepreneurial ecosystems and spinoff companies: Configurations, developments and outcomes. *Technovation*, *107* (March), 102,286. https://doi.org/10.1016/j.technovation.2021.102286

Qin, F., Wright, M., & Gao, J. (2019). Accelerators and intra-ecosystem variety: how entrepreneurial agency influences venture development in a time-compressed support program. *Industrial And Corporate Change*, *28*(4), 961–975. https://doi.org/10.1093/icc/dtz036

Redondo, M., & Camarero, C. (2019). Social Capital in University Business Incubators: dimensions, antecedents and outcomes. *International Entrepreneurship And Management Journal*, *15*(2), 599–624. https://doi.org/10.1007/s11365-018-0494-7

Redondo, M., & Camarero, C. (2022). Building the First Business Relationships: Incubatees in University Business Incubators (UBIs). *Entrepreneurship Research Journal*, *12*(4), 597 – 627. https://doi.org/10.1515/erj-2018-0259

Redondo, M., Camarero, C., & van der Sijde, P. (2022). Exchange of knowledge in protected

environments. The case of university business incubators. *European Journal Of Innovation Management*, *25*(3), 838 – 859. https://doi.org/10.1108/EJIM-08-2020-0341

Redon-Sarrazi, C., & Paoli-Gagin, V. (2022). *Rapport d'information fait au nom de la mission d'information (1) sur le thème « Excellence de la recherche/innovation, pénurie de champions industriels : cherchez l'erreur française »,* (Issue N° 655). chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.senat.fr/rap/r21-655/r21-6551.pdf

Ripolles, M., & Blesa, A. (2012). International new ventures as "small multinationals": The importance of marketing capabilities. *Journal Of World Business*, *47*(2), 277–287. https://doi.org/10.1016/j.jwb.2011.04.015

Rohrbeck, R. (2010). Harnessing a network of experts for competitive advantage : technology scouting in the ICT industry. *R&D Management*, *40*(2), 169–180.

Rosado-Cubero, A., Hernández, A., Jiménez, F. J. B., & Freire-Rubio, T. (2023). Promotion of entrepreneurship through business incubators: Regional analysis in Spain. *Technological Forecasting and Social Change*, 190, 122419.

Roundy, P T. (2017). Hybrid organizations and the logics of entrepreneurial ecosystems. *International Entrepreneurship And Management Journal*, *13*(4), 1221–1237. https://doi.org/10.1007/s11365-017-0452-9

Roundy, P. T, & Fayard, D. (2019). Dynamic Capabilities and Entrepreneurial Ecosystems: The Micro-Foundations of Regional Entrepreneurship. *The Journal of Entrepreneurship*, *28*(1), 94–120. https://doi.org/10.1177/0971355718810296

Roundy, P. T., Bradshaw, M., & Brockman, B. K. (2018). The emergence of entrepreneurial ecosystems: A complex adaptive systems approach. *Journal of Business Research*, *86* (July 2017), 1 – 10. https://doi.org/10.1016/j.jbusres.2018.01.032

Sa, C., & Lee, H. (2012). Science, business, and innovation: understanding networks in technology-based incubators. *R & D Management*, *42*(3), 243-253

Sagath, D., van Burg, E., Cornelissen, J. P., & Giannopapa, C. (2019). Identifying design principles for business incubation in the European space sector. *Journal of Business Venturing Insights*, *11*(February), e00115. https://doi.org/10.1016/j.jbvi.2019.e00115

Sansone, G., Andreotti, P., Colombelli, A., & Landoni, P. (2020). Are social incubators

different from other incubators? Evidence from Italy. *Technological Forecasting and Social Change, 158* (June), 120,132. https://doi.org/10.1016/j.techfore.2020.120132

Schwartz, M. (2009). Beyond incubation: An analysis of firm survival and exit dynamics in the post-graduation period. *Journal of Technology Transfer*, *34*(4), 403 – 421. https://doi.org/10.1007/s10961-008-9095-x

Sedita, S. R., Apa, R., Bassetti, T., & Grandinetti, R. (2019). Incubation matters: Measuring the effect of business incubators on the innovation performance of start-ups. *R & D Management*, *49*(4), 439 – 454. https://doi.org/10.1111/radm.12321

Seet, P. S., Jones, J., Oppelaar, L., & de Zubielqui, G. C. (2018). Beyond "know-what'' and 'know-how'' to "know-who'': enhancing human capital with social capital in an Australian start-up accelerator."'' *Asia Pacific Business Review*, *24*(2), 233–260. https://doi.org/10.1080/13602381.2018.1431250

Sentana, E., González, R., Gascó, J., & Llopis, J. (2017). The social profitability of business incubators: a measurement proposal. *Entrepreneurship and Regional Development*, *29* (1–2), 116–136. https://doi.org/10.1080/08985626.2016.1255436

Shane, S. A. (2003). *A general theory of entrepreneurship: The individual-opportunity nexus.* Edward Elgar Publishing.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of management review*, 25(1), 217-226.

Shankar, R K, & Shepherd, D. A. (2019). Accelerating strategic fit or venture emergence: Different paths adopted by corporate accelerators. *Journal Of Business Venturing*, *34*(5). https://doi.org/10.1016/j.jbusvent.2018.06.004

Snehal, S., Ranjany, S., & Krishnashree, A. (2020). Assessing and comparing top accelerators in Brazil, India, and the USA: Through the lens of new ventures' performance. *Entrepreneurial Business and Economics Review*, *8*(2), 153–177. https://doi.org/10.15678/EBER.2020.080209

Soetanto, D. P., & Jack, S. L. (2013). Business incubators and the networks of technology-based firms. *Journal of Technology Transfer*, *38*(4), 432–453. https://doi.org/10.1007/s10961-011-9237-4

Somsuk, N., & Laosirihongthong, T. (2014). A fuzzy AHP to prioritize enabling factors for strategic management of university business incubators: Resource-based view. *Technological Forecasting and Social Change*, *85*, 198–210. https://doi.org/10.1016/j.techfore.2013.08.007

Somsuk, N., Wonglimpiyarat, J., & Laosirihongthong, T. (2012). Technology business

incubators and industrial development: Resource-based view. *Industrial Management and Data Systems*, *112* (2), 245–267. https://doi.org/10.1108/02635571211204281

Spieth, P., Laudien, S. M., & Meissner, S. (2021). *Business model innovation in strategic alliances : a multi-layer perspective*. https://doi.org/10.1111/radm.12410

Spigel, B. (2017). The Relational Organization of Entrepreneurial Ecosystems. *Entrepreneurship: Theory and Practice*, *41*(1), 49–72. https://doi.org/10.1111/etap.12167

Spigel, B., & Harrison, R. (2018). Toward a process theory of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, *12*(1), 151–168. https://doi.org/10.1002/sej.1268

Stam, E. (2015). Entrepreneurial Ecosystems and Regional Policy: A Sympathetic Critique. *European Planning Studies*, *23*(9), 1759 – 1769. https://doi.org/10.1080/09654313.2015.1061484

Stam, E., & van de Ven, A. (2019). Entrepreneurial ecosystem elements. *Small Business Economics*, *June*. https://doi.org/10.1007/s11187-019-00270-6

Stock, J. R., & Boyer, S. L. (2009). Developing a consensus definition of supply chain management: a qualitative study. *International Journal of Physical Distribution & Logistics Management*, 39(8), 690–711.

Strauss, A., & Corbin, J. (1994). Grounded Theory Methodology: An Overview. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 273–284). SAGE Publications.

Tang, M., Walsh, G. S., Li, C., & Baskaran, A. (2021). Exploring technology business incubators and their business incubation models: case studies from China. *Journal of Technology Transfer*, *46*(1), 90–116. https://doi.org/10.1007/s10961-019-09759-4

Teece, D. J. (2012). Dynamic Capabilities: Routines versus Entrepreneurial Action. *Journal of Management Studies*, *49*(8), 1395–1401. https://doi.org/10.1111/j.1467-6486.2012.01080.x

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Knowledge and Strategy*, *18* (April 1991), 77–116. https://doi.org/10.1093/0199248540.003.0013

Teece, D. J., Rumelt, R., Dosi, G., & Winter, S. (1994). Understanding corporate coherence. *Journal of Economic Behavior & Organization*, *23*(1), 1–30.

https://doi.org/10.1016/0167-2681 (94)90094-9

Theodoraki, C, Messeghem, K., & Rice, M. P. (2018). A social capital approach to the development of sustainable entrepreneurial ecosystems: an explorative study. *Small Business Economics*, *51*(1), 153–170. https://doi.org/10.1007/s11187-017-9924-0 WE – Social Science Citation Index (SSCI)

Theodoraki, C. (2017). Pour une approche écosystémique de la stratégie et la performance des incubateurs. In *Montpellier : 2017. Université de Montpellier : thèse de doctorat, Sciences de gestion, sous la direction de Messeghem, Karim*.

Theodoraki, C. (2021). A Holistic Approach to Incubator Strategies in the Entrepreneurial Support Ecosystem. *M@ n@ gement*, 23(4), 13–27.

Theodoraki, C., & Catanzaro, A. (2022). Widening the Borders of the Entrepreneurial Ecosystem Through International Lenses. *Academy of Management Proceedings*, *2020* (1), 19,297. https://doi.org/10.5465/AMBPP.2020.19297abstract

Theodoraki, C., & Messeghem, K. (2017). Exploring the entrepreneurial ecosystem in the field of entrepreneurial support: A multi-level approach. *International Journal of Entrepreneurship and Small Business*, *31*(1), 47–66. https://doi.org/10.1504/IJESB.2017.083847

Theodoraki, C., & Messeghem, K. (2020). *11. Incubators ' coopetition strategy in the start-up incubation ecosystem*. 224–238.

Theodorakopoulos, N., Nada K. Kakabadse, & McGowan, C. (2014). What matters in business incubation? A literature review and a suggestion for situated theorising. *Journal of Small Business and Enterprise Development*, *21*(4), 602–622.

Thierstein, A., & Wilhelm, B. (2001). Incubator, technology, and innovation centres in Switzerland: Features and policy implications. *Entrepreneurship and Regional Development*, *13*(4), 315–331. https://doi.org/10.1080/08985620110074469

Todorovic, Z. W., & Moenter, K. (2010). Tenant firm progression within an incubator: Progression toward an optimal point of resource utilization. *Academy of Entrepreneurship Journal*, *16*(1), 23–40.

Tracey, P., Dalpiaz, E., & Phillips, N. (2018). Fish out of water: translation, legitimation, and new venture creation. *Academy Of Management Journal*, *61*(5), 1627 – 1666.

https://doi.org/10.5465/amj.2015.0264

Tritoasmoro, I. I., Ciptomulyono, U., Dhewanto, W., & Taufik, T. A. (2022). Determinant factors of lean start-up-based incubation metrics on post-incubation start-up viability: case-based study. *Journal Of Science And Technology Policy Management*. https://doi.org/10.1108/JSTPM-12-2021-0187

van Rijnsoever, F J. (2020). Meeting, mating, and intermediating: How incubators can overcome weak network problems in entrepreneurial ecosystems. *Research Policy*, *49*(1). https://doi.org/10.1016/j.respol.2019.103884

van Rijnsoever, F J. (2022). Intermediaries for the greater good: How entrepreneurial support organizations can embed constrained sustainable development startups in entrepreneurial ecosystems. *Research Policy*, *51*(2). https://doi.org/10.1016/j.respol.2021.104438

van Weele, M., van Rijnsoever, F. J., Eveleens, C. P., Steinz, H., van Stijn, N., & Groen, M. (2018). Start-EU-up! Lessons from international incubation practices to address the challenges faced by Western European start-ups. *Journal of Technology Transfer*, *43*(5), 1161 – 1189. https://doi.org/10.1007/s10961-016-9538-8

Vanderstraeten, J., van Witteloostuijn, A., & Matthyssens, P. (2020). Organizational sponsorship and service co-development: A contingency view on service co-development directiveness of business incubators. *Technovation*, *98*, 102,154. https://doi.org/10.1016/j.technovation.2020.102154

Vedel, B., & Stéphany, É. (2011). Peut-on améliorer les indicateurs de performance des incubateurs?. *Entreprendre & innover*, (1), 89-96.

Vogl, S., Schmidt, E. M., & Zartler, U. (2019). Triangulating perspectives: ontology and epistemology in the analysis of qualitative multiple perspective interviews. *International Journal of Social Research Methodology*, 22(6), 611–624.

Voisey, P., Jones, P., & Thomas, B. (2013). The Pre-Incubator: A Longitudinal Study of 10 Years of University Preincubation in Wales. *Industry and Higher Education*, *27*(5), 349–363. https://doi.org/10.5367/ihe.2013.0168

von Zedtwitz, M. (2003). Classification and management of incubators: Aligning strategic objectives and competitive scope for new business facilitation. *International Journal Entrepreneurship and Innovation Management*, *3*, 176–196.

Wallin, A. J., & Fuglsang, L. (2017). Service innovations breaking institutionalized rules of health care. *Journal Of Service Management*, *28*(5), 972–997. https://doi.org/10.1108/JOSM-04-2017-0090

Wang, Z., He, Q., Xia, S., Sarpong, D., Xiong, A., & Maas, G. (2020). Capacities of business incubator and regional innovation performance. *Technological Forecasting and Social Change*, 158, 120125.

Weerawardena, J., Mort, G. S., Liesch, P. W., & Knight, G. (2007). Conceptualizing accelerated internationalization in the born global firm: A dynamic capabilities perspective. *Journal Of World Business*, *42*(3), 294–306. https://doi.org/10.1016/j.jwb.2007.04.004

Weerawardena, J., Mort, G. S., Salunke, S., Knight, G., & Liesch, P. W. (2015). The role of the market sub-system and the socio-technical sub-system in innovation and firm performance: a dynamic capabilities approach. *Journal Of The Academy Of Marketing Science*, *43*(2), 221–239. https://doi.org/10.1007/s11747-014-0382-9

Wonglimpiyarat, J. (2016). The innovation incubator, University business incubator and technology transfer strategy: The case of Thailand. *Technology in Society*, *46*, 18–27. https://doi.org/10.1016/j.techsoc.2016.04.002

Wotruba, M. A. J. and T. R. (1992). Selling and Sales Management in Action: Prospecting: A New Look at this Old Challenge. *Journal of Personal Selling & Sales Management*, *12*(4), 59–66. https://doi.org/10.1080/08853134.1992.10753928

Wu, W., Wang, H., & Tsai, F.-S. (2020). Incubator networks and new venture performance: the roles of entrepreneurial orientation and environmental dynamism. *Journal of Small Business and Enterprise Development*, *27*(5), 727–747. https://doi.org/10.1108/JSBED-10-2019-0325

Wurth, B., Stam, E., & Spigel, B. (2021). Toward an Entrepreneurial Ecosystem Research Program. *Entrepreneurship: Theory and Practice*. https://doi.org/10.1177/1042258721998948

Yang, S., Kher, R., & Lyons, T. S. (2018). Where Do Accelerators Fit in the Venture Creation Pipeline? Different Values Brought by Different Types of Accelerators. *Entrepreneurship Research Journal*, *8*(4). https://doi.org/10.1515/erj-2017-0140

Yang, S., Kher, R., & Newbert, S. L. (2020). What signals matter for social startups? It depends:

The influence of gender role congruity on social impact accelerator selection decisions. *Journal Of Business Venturing*, *35*(2). https://doi.org/10.1016/j.jbusvent.2019.03.001

Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (SAGE (ed.); Sixth edit). http://lccn.loc.gov/2017040835

Yu, J. F., Gilbert, B. A., & Oviatt, B. M. (2011). Effects of alliances, time, and network cohesion on the initiation of foreign sales by new ventures. *Strategic Management Journal*, *32*(4), 424–446. https://doi.org/10.1002/smj.884

Zedtwitz, M., & Grimaldi, R. (2006). Are service profiles incubator-specific? Results from an empirical investigation in Italy. *Journal of Technology Transfer*, *31*(4), 459–468. https://doi.org/10.1007/s10961-006-0007-7

Zhou, K. Z., & Wu, F. (2010). Technological capability, strategic flexibility, and product innovation. *Strategic Management Journal*, *31*(5), 547–561. https://doi.org/10.1002/smj.830

Zupic, I., & Čater, T. (2015). Bibliometric Methods in Management and Organization. *Organizational Research Methods*, *18*(3), 429 – 472. https://doi.org/10.1177/1094428114562629

Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational research methods*, 18(3), 429–472.

LIST OF TABLES

LIST OF FIGURES

LISTS OF APPENDICES

TABLE OF CONTENTS

ABSTRACT/RESUME

Abstract

The effective identification and selection of tenants (business projects and start-ups) within the entrepreneurial ecosystem is vital for incubators' performance. However, little is known about the specific processes, determinants, and outcomes of tenants' identification and selection within the entrepreneurial ecosystem. This thesis presents a comprehensive analysis of tenant identification and selection processes, collectively referred to as entrepreneurial sourcing, within a sub-ecosystem called preincubation ecosystem. Using a combination of an ecosystem approach, resource-based view (RBV), and dynamic capability theory, the study builds a conceptual model that characterises entrepreneurial sourcing as a central dynamic process determining incubator outcomes. The research, conducted through single and multiple case studies of different incubators, reveals two critical sets of practices under entrepreneurial sourcing – identification (scouting, prospecting, opening to applications, and e-sourcing) and screening (file reviewing, training, assessing, and interviewing). The thesis unpacks entrepreneurial sourcing as an ongoing, interactive activity within a sub-ecosystem known as the preincubation ecosystem, comprising incubators and other actors like technology brokers, idea brokers and innovation ecosystem actors (government, civil society, university, and industry). Furthermore, the model further delineates the role of various internal (financial, human, relational, reputational, and technological) and external resources (socio-economic factors, innovation culture, policies, and local research and industry) in influencing the entrepreneurial sourcing processes. Drawing on dynamic capability theory, tenant identification and selection are presented as sensing and seizing capabilities that significantly impact incubators' ecosystem-level outcomes (resources mutualisation and endowment, tenants' germination, technology transfer, and networking/collaboration). The findings shed light on the nuances of entrepreneurial sourcing in the preincubation ecosystem, its challenges, and its potential to be enhanced through digitalisation. Practical implications extend to incubators looking to optimise their strategies, policymakers aiming to foster supportive entrepreneurial environments, and sponsors interested in enhancing incubator outcomes at the preincubation level.

Résumé

L'identification et la sélection efficaces de locataires (projets d'entreprise et start-ups) au sein de l'écosystème entrepreneurial sont vitales pour la performance des incubateurs. Cependant, on en sait peu sur les processus spécifiques, les déterminants et les résultats de l'identification et de la sélection des locataires au sein de l'écosystème entrepreneurial. Cette thèse présente une analyse complète des processus d'identification et de sélection des locataires, appelés collectivement sourçage entrepreneurial, au sein d'un sous-écosystème appelé écosystème de préincubation. En utilisant une combinaison d'une approche écosystémique, de la théorie des ressources (RBV) et de la théorie des capacités dynamiques, l'étude construit un modèle conceptuel qui caractérise le sourçage entrepreneurial comme un processus dynamique central déterminant la performance et les résultats des incubateurs. La recherche, menée à travers des études de cas uniques et multiples de différents incubateurs, révèle deux ensembles clés de pratiques sous le sourçage entrepreneurial - identification (détection, prospection, ouverture à des candidature, et e-sourçage) et criblage (examen de dossiers, formation, évaluation, et entretien). La thèse décompose le sourçage entrepreneurial comme une activité changeante et interactive au sein d'un sous-écosystème connu sous le nom d'écosystème de préincubation, comprenant des incubateurs et d'autres acteurs tels que les courtiers en technologie, les courtiers en idées et les acteurs de l'écosystème de l'innovation (gouvernement, société civile, université et industrie). De plus, le modèle détaille davantage le rôle de diverses ressources internes (financières, humaines, relationnelles, réputationnelles et technologiques) et externes (facteurs socio-économiques, culture de l'innovation, politiques, et recherche et industrie locales) dans l'influence des processus de sourçage entrepreneurial. En s'appuyant sur la théorie des capacités dynamiques, l'identification et la sélection des locataires sont présentées comme des capacités de perception et de saisie qui ont un impact significatif sur les résultats au niveau de l'écosystème (mutualisation et dotation des ressources, germination des locataires, transfert de technologie, et réseautage/collaboration) pour les incubateurs. Les conclusions mettent en lumière les nuances du sourçage entrepreneurial dans l'écosystème de préincubation, ses défis, et son potentiel d'amélioration par la digitalisation. Les implications pratiques s'étendent aux incubateurs cherchant à optimiser leurs stratégies, aux décideurs politiques visant à favoriser des environnements entrepreneuriaux favorables, et aux sponsors intéressés à améliorer les résultats des incubateurs au niveau de la préincubation.

PHD CANDIDATE RESUME

André Nana, Ph.D Candidate

1, Place Alphonse Jourdain, CS 66810, 31068, Toulouse Cedex 7, France

Phone: +33 7 52 70 03 29 *Email: andre.nana29@gmail.com*

ACADEMIC EXPERIENCE

Current position: Temporary Teaching and Research Associate (ATER) in management *– IAE Limoges/University of Limoges,* ***196 hours of teaching*** *in:*

Master 1&2 and MSc in: *research dissertation, supervision of research dissertations, Digital projects*

CCA, Bachelor 2, Bachelor 3 and Professional Bachelor 3 in: *stock market, management control, Sales Techniques, Sociology of Organizations, Internship and Research Thesis Follow-ups, Financial Analysis*

09/2023- 08/2024: Teaching and research officer in sustainable innovation management *– AgroParisTech Innovation (Chair of Cosmetology), Orléans, France (Work on digitalization, circular economy and the innovation ecosystem).*

Co-head of the "Sourcing of cosmetic raw materials (48 hours)" value unit *(Teaching and management of external speakers)*

09/2019-08/2022: PEPSI Research project Leader (sourcing and incubators' performance: an ecosystem approach), Strategy & Entrepreneurship Research Lab *– TBS Education in partnership with University Toulous 1 Capitole and Occitania region (co-funders) and Incubator Nubbo (Field partner).*

Assistant Teacher (15 hours):

Master's Degree *in Entrepreneurship & Business Development, Strategy & Innovation Management, and Reporting of strategic analysis.*

Bachelor 3 *in Entrepreneurship & Business Creation*

2021/2022: ***Visiting Lecturer at Thomas Sankara University, Burkina Faso (24 hours): Master of research in*** *Organizational Change.*

Since 2021: ***Guest Lecturer, ISPP Business School, Burkina Faso (24 hours): Bachelor's Degree*** *in Strategic Management.*

April-August 2019: Research Assistant in Management – *Institute for Research in Management (IRG) of IAE Paris-Est/Université Gustave Eiffel (collecting and setting press data-base on French banks physical agencies' closure.*

PROFESSIONAL EXPERIENCE

February-June 2018: Supply Chain Manager *– ASI-BF SA, an international construction company in Burkina Faso.*

Since 2017: Co-founder *– CAP-AVENIR, a firm specialized in consulting and support for SMEs in Burkina Faso.*

2016-2018: Management Controller *– FAGCO SARL, an SME in Burkina Faso.*

EDUCATION

09/2019-11/2024: PhD in Management, *Strategy & Entrepreneurship – University of Toulouse 1 Capitole, France, (defense on November 30, 2023). Topic: Entrepreneurial Sourcing and Incubators' Performance: an Ecosystem Approach.*

2018/2019: Master's degree in Consulting, Studies, and Research (CER) in Management, *IAE Paris-Est/Université Paris-Est Créteil Val-de-Marne.*

2014-2016: Master's degree in management*, Thomas Sankara University (Ouaga II University), Burkina Faso.*

2012-2015: Bachelor's degree in economics and management*, Norbert Zongo University (University of Koudougou), Burkina Faso*

2020 Certificate: *Integrating the Sustainable Development Goals (SDGs) into Entrepreneurship Education – International Council for Small Business (ICSB), USA.*

2020 Certificate: *Introduction to the Market Opportunity Navigator (MON), a market exploration tool for innovation projects – ICSB Line online training, USA.*

DISTINCTIONS

2023: ***ICSB World congress 2023 Sustainable Development Goals Best Paper Award:*** Technology 4.0-based sustainable innovation practices in the cosmetics industry: toward a circular business ecosystem 4.0 research program.

2021: *ICSB World Congress Award 2021 – Best Policy Paper:* Incubators' potential tenants' identification and screening practices in the pre-incubation ecosystem: toward an entrepreneurial sourcing.

AD HOC EVALUATOR

Evaluation of conference papers (13 papers): *Academy of management annual meeting 2022 (2 papers) & 2023 (3 papers), Academy Entrepreneurship and Innovation 2021 (3 papers), International Association of Strategic Management 2021 (Evaluation of 3 evaluators), International Francophone Conference on Entrepreneurship and SMEs (CIFPME) 2021 (2 papers).*

PUBLICATIONS

PAPERS

Nana, A., Laviolette, E. M. & Theodoraki, C. (accepted and in press). The selection of business projects within the preincubation ecosystem. "***Entreprendre & Innover***".

Nana, A., Laviolette, E. M., & Theodoraki, C. (reject and resubmit). Antecedents of entrepreneurial sourcing practices in the preincubation ecosystem: A resource-based view. "***Entrepreneurship and regional development***".

Nana, A., (under review). Unraveling entrepreneurial sourcing processes in the preincubation ecosystem: a dynamic capability perspective. "***Technological Forecasting & Social Change***".

BOOKS & CHAPTERS

Nana, A., Laviolette, E. M., & Theodoraki, C. (in press). Incubators' potential tenants' identification and screening practices in the pre-incubation ecosystem: toward an entrepreneurial sourcing. Huggins, R., Kitagawa, F., Prokop, D., Theodoraki, C. & Thompson, P. (in press). Entrepreneurial ecosystems in cities and regions: emergence, evolution, and future. Oxford University Press.

COMMUNICATIONS

Nana, A., Bawack, R., Yannou-Le Bri, G. & Daniellou, R. (2023). Technology 4.0-based sustainable innovation practices in the cosmetics industry: toward a circular business ecosystem 4.0 research program. **ICSB World Congress** 2023, Gwangju, Corée du Sud.

Nana A., Laviolette, E.M. & Theodoraki, C. (2023). Unraveling entrepreneurial sourcing processes in the preincubation ecosystem: a dynamic capability perspective. **Babson College Entrepreneurship Research Conference** 2023, Knoxville, Tennessee, États-Unis.

Nana, A., Laviolette, E.M., & Theodoraki, C. (2022). A Resource-based View (RBV) of Entrepreneurial Sourcing Within the Preincubation Ecosystem. **Academy of Management annual meeting** 2022, Seattle, Washington, États-Unis.

Nana, A., Laviolette, E.M., & Theodoraki, C. (2022). Contingent factors as entrepreneurial sourcing antecedents in the preincubation ecosystem. **Innodays conference** 2022, Casablanca, Morocco.

Nana, A., Laviolette, E.M. & Theodoraki, C. (2021). Antecedents of entrepreneurial sourcing practices in the preincubation ecosystem: A contingent resource-based view perspective. **R&D Management online conference** 2021, Glasgow, Royaume-Uni.

Nana, A., Laviolette, E.M. & Theodoraki, C. (2021). Incubators potential tenants' identification and screening in the preincubation ecosystem: toward an entrepreneurial sourcing. **ICSB World Congress 2021**, Paris, France.

Nana, A., Laviolette, E.M., & Theodoraki, C. (2021). Entrepreneurial sourcing within the preincubation ecosystem: an exploration of the typologies of actors and their interrelations. **AEI online conference** 2021, Sousse, Tunisia.

Nana, A., Laviolette, E.M., & Theodoraki, C. (2020). Le sourcing entrepreneurial dans l'écosystème de préincubation. **CIFEPME 2020**, Nice, France.

Nana, A. (2020). Pratiques de sourcing entrepreneurial des incubateurs et écosystème de préincubation : une étude exploratoire du cas d'un incubateur régional (Nubbo), **CIFEPME Doctoral Consortium**, 17 May 2020 (online), Nice, France.

Nana, A., Laviolette, E. M. & Theodoraki, C. (2019). Sourcing et performance des incubateurs : une approche écosystémique, **INSPEER workshop**, Paris, France.

RESEARCH METHODS AND TOOLS

Methods: Qualitative Methods, Case Study, Grounded Theory, GIOIA Method, Eisenhardt Method, Ethnography.

Tools: Office 365, NVivo, R (Bibliometrix®), VOSviewer, Web of Science, Scopus, Google scholar, SPSS, Web scraper.

REFEREES

Eric Michaël Laviolette
Associate Professor
TBS Business School, France
em.laviolette@tbs-education.fr

Christina Theodoraki
Associate Professor
TBS Business School, France
c.theodoraki@tbs-education.fr

Florence Allard-Poesi
Professor of Universities
Paris-Est Créteil University, France
allard-poesi@u-pec.fr

Florent Song-Naba
Full Professor
Thomas Sanka University, Burkina Faso
florent_songnaba@yahoo.fr

Toulouse, le 14 November 2023