

Article

# The Involvement of Universities, Incubators, Municipalities, and Business Associations in Fostering Entrepreneurial Ecosystems and Promoting Local Growth

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**Abstract:** Portugal has made investments in several regions within the country to promote the development of entrepreneurial ecosystems. The primary goal of these investments is to facilitate the foundation of new firms, drive economic growth, and encourage innovation. The current emphasis is on examining productive entrepreneurship and the intricate interactions among many features of an entrepreneurial ecosystem. This study's main objective is to thoroughly comprehend the current status of entrepreneurial ecosystems in Portugal, and their potential to foster local economic development as perceived by key stakeholders. This will be achieved through analysing the contributions made by universities, incubators, municipalities, and business groups towards their growth and advancement. The research employed a qualitative technique, wherein semi-structured interviews were administered to a total of nineteen participants. These participants consisted of CEOs from incubation organisations, representatives from municipal councils, representatives from business associations, and representatives from higher education institutions. The data was gathered throughout the period spanning from December 2022 to March 2023, with a combination of in-person and online interviews. The interviews were taped and afterwards transcribed, with the information being processed using the MAXQDA PRO 20 software. The findings indicate that there has been a notable development and expansion of entrepreneurial ecosystems in Portugal throughout the past several years. This progress has been facilitated by the active involvement of various stakeholders at the local level, including higher education institutions, incubators, local government bodies, and business groups. Notwithstanding the aforementioned expansion, the survey participants highlight the presence of some challenges that constraint the advancement of entrepreneurial ecosystems in select locations in the country, including insufficient financial resources and a dearth of skilled workers.

**Keywords:** entrepreneurial ecosystems; local development; universities; municipalities; incubators; business associations



**Citation:** Leal, Marisa, Carmem Leal, and Rui Silva. 2023. The Involvement of Universities, Incubators, Municipalities, and Business Associations in Fostering Entrepreneurial Ecosystems and Promoting Local Growth. *Administrative Sciences* 13: 245. <https://doi.org/10.3390/admsci13120245>

Received: 25 September 2023

Revised: 6 November 2023

Accepted: 10 November 2023

Published: 21 November 2023



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## 1. Introduction

The significance of entrepreneurial ecosystems (EEs) has gained prominence in academic discourse and has recently garnered attention from influential political and economic stakeholders, owing to their crucial role in territorial development (Autio et al. 2017; Stam and Spigel 2016).

Entrepreneurial ecosystems comprise a collaborative network of various stakeholders, such as universities, incubators, municipalities, and business associations. Their collective efforts aim to foster and facilitate small firms' development and promote local entrepreneurship. According to Malecki (2018), every actor within the ecosystem plays a significant role in fostering favourable conditions for the success of entrepreneurs. It can be argued that a reciprocal interdependence exists between EEs and territorial development. Specifically, the extent to which EEs contribute to the advancement of a given territory is contingent

upon the conditions of the territory, including its various determinants. These variables possess varying degrees of potential to foster the success of EEs.

Universities assume a pivotal position in the cultivation of an EE by furnishing essential resources and specialised knowledge to facilitate the initiation and growth of entrepreneurial ventures. According to Brito (2021), universities have the capacity to provide entrepreneurship training programmes, mentorship, and counselling to aspiring entrepreneurs. Additionally, these institutions can offer access to facilities and resources that facilitate the creation and testing of prototypes.

As Valente et al. (2019) have defined, incubators offer a conducive setting for the development of start-ups and nascent enterprises. These organisations furnish entrepreneurs with essential provisions such as financial backing, technological assistance, and mentorship, facilitating their ventures' initiation and growth.

Valente et al. (2019) assert that municipalities are responsible for managing public resources within their respective localities. They possess the capacity to extend financial assistance, provide infrastructure, and offer regulatory counsel to facilitate the growth of entrepreneurial ventures.

Business associations are collectives of entrepreneurs who collaborate, intending to enhance business conditions within their local community. Entrepreneurial support organisations offer a range of services, including the provision of resources, training opportunities, and networking platforms for aspiring and established entrepreneurs.

Entrepreneurial ecosystems in Portugal are similar to other small and medium countries if we consider the main features of the Portuguese economy—a small economy very open to external influences and crisis. However, Portugal has some characteristics that make the EE distinctive, such as specialisation in specific sectors (technology, energy, biotechnology, tourism) or their location in strategic regions for certain sectors, which can benefit the incubated companies that operate in these sectors (Startup Portugal 2022). Some business incubators in Portugal have partnerships with higher education institutions, financial institutions, private companies, and government entities. These partnerships can offer additional benefits to incubated companies, such as access to specialist resources, mentoring, networking, and funding. Some business incubators also offer acceleration programs, which aim to accelerate the growth process of incubated companies and help their development (Startup Portugal 2022).

Some contextual elements are relevant to understand the importance of the proposed research. First, we must assume that EE should support entrepreneurs to develop their businesses. The main goals of EE are to help create successful companies, help entrepreneurs access financial resources and funding from government sources, banks, or venture capital investors (Bouncken and Reuschl 2018), offer services such as consultancy and training in areas such as business planning, marketing, finance, human resources, and project management (Bismala et al. 2020; Machado and Sousa 2022), and to help entrepreneurs acquire the skills and knowledge needed to successfully run their businesses, which might include workshops and other learning activities (OECD 2022). Second, EEs can stimulate the local economy and can also play an important role in building a regional network of specialisation, either by promoting innovation or developing new businesses and commercial partnerships (Lin-Lian et al. 2022). In Portugal, the EE is expected to play an important role in regional development, supporting entrepreneurship and innovation in different regions of the country (Portugal Digital 2022). Such a role includes supporting the growth of new companies, promoting innovation, and increasing competitiveness in key sectors. By supporting innovative and successful companies, the EE contributes to the diversification of the economic base in diverse regions of the country, as well as to the development of new business ecosystems in key sectors (Gabinete de Estratégia e Estudos do Ministério da Economia 2018).

The main objective of this study is to acquire a thorough comprehension of the current status of entrepreneurial ecosystems in Portugal and their potential to foster local economic development as perceived by key stakeholders. These stakeholders include local authorities,

higher educational institutions, incubator CEOs, and business associations. The study seeks to comprehend their understanding of the characteristics, objectives, and evolution of EE by examining their perspectives regarding the influence of the entrepreneurial ecosystem on local development. The study of EEs had a great upsurge in research outputs after Isenberg's paper (Isenberg 2010). Academic researchers across a variety of fields and policymakers turned their attention to the EE concept and a large volume of output has produced fragmentation and diffusion of research in the field. We propose that there is now the need for entrepreneurial ecosystems' research to focus on key concerns, such as perceptions on the evolution of entrepreneurial ecosystems according to key stakeholders that are actually involved in such evolution through processes of growth, adaptation, and resilience. To address this concern, we frame our research in evolutionary processes of entrepreneurial ecosystems with the objective to acquire a thorough comprehension of the current status of EEs in Portugal and their potential to foster local economic development as perceived by key stakeholders. These stakeholders include local authorities, higher educational institutions, incubator CEOs, and business associations. This study seeks to comprehend their understanding of the characteristics, objectives, and evolution of EEs by examining their perspectives regarding the influence of entrepreneurial ecosystem on local development.

Methodologically, we call for a qualitative approach to gathering participants' experiences and perceptions. Due to the open-ended nature of the research questions, qualitative research has the ability to explain processes and patterns phenomena such as experiences, attitudes, and behaviours (Moser and Korstjens 2017). A qualitative approach allows participants themselves to explain how, why, or what they were thinking, feeling, and experiencing, and it seemed the most appropriate research method for the purpose of this study.

## 2. Literature Review

### 2.1. Entrepreneurial Ecosystems and Local Development

Entrepreneurial ecosystems (Isenberg 2011) are networks of companies, organisations, investors, mentors, accelerators, incubators, universities, and governments that work together to create and sustain a favourable environment for the development of new businesses and entrepreneurship (Li et al. 2022).

The notion of EE, which encompasses the firm and its stakeholders, was first suggested by Moore in 1993 (Moore 1993) and further developed in 1996. The inclusion of references to scholarly works by Rowley (1997) and Mian et al. (2021) has contributed to a deeper understanding of stakeholders' significance in the EE context. Consequently, a comprehensive framework has been developed outlining the interdependencies and interactions between various resources. Hofmann and Giones (2019) explore the unique feature of innovation and EEs, which is influenced by their market-driven nature. While stakeholders such as the government or public institutions may have a role, it is primarily private actors who propel the co-evolution of value creation and capture core activities, in addition to the resource-sharing perspective.

The concepts linked to EEs have emerged from research related to the relevance of contextual factors to the entrepreneurship process (Brown and Mason 2017), relational approaches that attend to the interactions between the main aspects of systems (Motoyama and Knowlton 2017), local integration (Brown and Mason 2017), network interactions (Acs et al. 2014), the role and relevance of universities and training (Belitski and Heron 2017; Ferreira et al. 2018), entrepreneurial diversity (Welter et al. 2017), resilience (Roundy et al. 2017), importance for governments and policies (Brown and Mason 2017), and the dynamics between institutions and networks (Ferreira et al. 2023; Spigel 2017), among others.

Ecosystems offer entrepreneurs resources such as coworking spaces, funding, mentoring, access to talent, legal support, and infrastructure so that they can start and grow their businesses. In addition, they also offer networking opportunities, events, acceleration, and incubation programmes to help entrepreneurs build valuable relationships and thus

increase their visibility (Valente et al. 2020). Therefore, they are fundamental to innovation, economic growth, and development worldwide (Raposo et al. 2022). They allow entrepreneurs and innovators to collaborate and share resources, which can lead to innovative ideas and solutions (Bouncken and Kraus 2022). An entrepreneurial ecosystem refers to a deliberately formed community of economic participants that mutually develop and generate value by engaging in collective entrepreneurial endeavours as its fundamental principle (D. Johnson et al. 2022).

Examples of EEs include Silicon Valley in San Francisco, California, one of the largest technology ecosystems in the world, and the Tel Aviv EE in Israel, which is known for its strong focus on technology and innovation. Other EE is developing rapidly, especially in developing countries such as India, China, and Brazil (Cukier and Kon 2018; Decreton et al. 2021). EEs are key to innovation and economic growth around the world. They allow entrepreneurs and innovators to collaborate and share resources, which can lead to the emergence of innovative ideas and solutions (Bouncken and Kraus 2022).

In addition to the resources and opportunities offered by EEs, entrepreneurial culture also plays an important role in their success. An entrepreneurial culture promotes failure as an opportunity to learn and grow, encouraging experimentation and taking calculated risks. Entrepreneurial culture also promotes innovation and collaboration rather than competition (Calza et al. 2020). For an EE to be successful, it is important that it has a strong and well-developed infrastructure. This can include access to venture capital, accelerators and business incubators, universities that encourage innovation and entrepreneurship, and a network of experienced professionals and mentors.

An EE located in a specific geographical region can play an important role in local development. This is because companies located in these EEs tend to stay in the geographical area, creating jobs and stimulating the local economy (Carvalho et al. 2019). By supporting the growth of new companies, EEs help create jobs and stimulate the local economy. EEs offer entrepreneurs a favourable environment to develop their ideas and turn them into viable businesses. By providing services as diverse as consultancy, training, and access to financial resources, they help overcome common challenges faced by start-ups, such as lack of experience and limited resources (Hausberg and Korreck 2020).

Start-ups that are situated within EE frequently exhibit a propensity for innovation in their concepts and methodologies, thereby fostering the creation of novel products, services, and technology that yield advantages for the entire region. Furthermore, the utilisation of incubators has the potential to foster collaborative efforts among the companies being incubated, hence facilitating the formation of strategic partnerships and the realisation of commercial synergies (Vaz et al. 2022). Firms situated inside EEs have the capacity to play a substantial role in the formation of a regional network of commercial connections.

According to Kulkov et al. (2021), individuals engaged in incubation programmes as entrepreneurs can establish connections with fellow entrepreneurs, mentors, investors, and business specialists. This network of contacts holds significant potential in contributing to the realisation of their ideas. An additional advantage associated with utilising incubators for regional development pertains to facilitating innovation (Harmaakorpi and Rinkinen 2020; Huggins and Thompson 2015).

Business incubators can also contribute to the enhancement of a region's economic foundation. Incubators facilitate the establishment of a varied and enduring economic ecosystem by endorsing the growth of enterprises in pivotal industries, such as technology and services (Fukugawa 2018). An additional advantage associated with business incubators in the context of regional development is the enhancement of competitiveness. Incubators play a crucial role in enhancing the region's competitiveness at both the national and international levels by providing support for the growth and success of innovative enterprises. According to Lin-Lian et al. (2022), this phenomenon has the potential to result in a rise in foreign investment levels and the establishment of novel corporate collaborations.

## 2.2. Collaboration among Incubators, Local Government, and Universities

The key tenet of EEs is the integration of universities, academic research, and enterprises through cooperative efforts (Albahari et al. 2019). Establishing stakeholder relationships among universities, enterprises, governmental agencies, and incubators is common among EEs (Cadorin et al. 2021). The utilisation of the stakeholders' approach facilitates the conceptualisation of the advancement of research and development (R&D) and the transfer of technology within EEs. This method enables several actors to exert influence over the socioeconomic processes occurring within the region (Frooman 1999). In this regard, the collaboration of incubators, local administrations, and higher education institutions has the potential to yield substantial advantages for all entities involved (Kiran and Bose 2020).

The primary objective of universities is to provide education and training to individuals with a high level of expertise and specialisation (Bramwell and Wolfe 2008). It is imperative to foster student engagement in scientific research since they play a pivotal role as entrepreneurial catalysts in establishing enterprises and advancing spinoffs (Hayter et al. 2016). The university is regarded as a collective body of knowledge with the objective of disseminating information to the broader society.

Local universities play a crucial role in offering specific knowledge and skills in fields such as technology, innovation, and entrepreneurship. This expertise enables EEs to deliver important and tailored services to the companies they support (Bodolica and Spraggon 2021; Mele et al. 2022). They are frequently cited as integral EE components and are commonly regarded in scholarly literature as occupying a central position within these ecosystems (Bramwell and Wolfe 2008; Schaeffer and Matt 2016). Furthermore, it has been noted by Villani et al. (2017) that the technology transfer offices and joint research centres associated with these educational institutions have the potential to provide favourable outcomes in terms of fostering innovation and providing assistance for entrepreneurial endeavours.

Entrepreneurs necessitate the presence of formal institutions, primarily in the form of rules, in order to mitigate business risks and establish incentives and safeguards for entrepreneurial endeavours and firm initiation (Fischer et al. 2022). Municipalities have the potential to make valuable contributions in multiple ways towards the support and development of EEs. Several commonly employed strategies involve the provision of physical space, such as the allocation of municipal buildings or land for the construction of new facilities. This has the potential to decrease leasing expenses associated with incubators and offer a conducive setting for the development of nascent enterprises. In addition, they have the capacity to furnish financial support for incubators, encompassing subsidies or loans with favourable interest rates. According to D. Johnson et al. (2022), this can contribute to the long-term viability of EE activities. Municipalities have the capacity to foster linkages between individuals and pertinent entities within their respective regions, encompassing educational institutions, local enterprises, governmental bodies, and entrepreneurship support organisations. Ultimately, these entities possess the capacity to enhance the prominence and public acknowledgement of incubators and the enterprises they nurture. This can be achieved through several means, including active involvement in events such as fairs and exhibitions and the implementation of additional marketing endeavours (Nações Unidas 2021).

The facilitation of collaboration among incubators, local authorities, and universities is made possible by several variables, one of which is the alignment of objectives. Incubators, local authorities, and universities all strive to foster regional growth and encourage entrepreneurial activities within their respective areas. According to Tsaplin and Pozdeeva (2017), the establishment of a shared vision has the potential to facilitate enhanced collaboration that is characterised by increased flexibility and effectiveness. The close geographical proximity of incubators, towns, and universities fosters collaboration, enabling frequent gatherings, shared activities, and enhanced communication (Caetano 2019).

### 3. Objective and Research Questions

This study's main objective is to thoroughly comprehend the current status of entrepreneurial ecosystems in Portugal and their potential to foster local economic development as perceived by key stakeholders. These stakeholders include local authorities, higher educational institutions, incubator CEOs, and business associations. The study seeks to comprehend their understanding of EEs' characteristics, objectives, and evolution by examining their perspectives regarding the influence of the entrepreneurial ecosystem on local development.

These stakeholders are relevant in understanding the topic because each of them plays an important role in the ecosystem, has some potential for contributing to the success of entrepreneurial ecosystems, and helps to create the ideal conditions for entrepreneurs to succeed (Malecki 2018): (i) municipalities and local authorities are responsible for the administration of public resources at the local level and provide financial support, infrastructure, and regulatory guidance to help entrepreneurs develop their businesses; (ii) higher education institutions (universities and polytechnic institutes) provide resources and technical expertise to help entrepreneurs start and grow their businesses; (iii) incubators provide a supportive environment for startups and early-stage companies helping entrepreneurs to launch and expand their businesses; and (iv) business associations provide resources, training, and networking to entrepreneurs.

Following on from this objective, the subsequent research questions are posed:

- What are the perceptions of the main players in an EE (local authorities, educational institutions, incubator CEOs, and business associations) regarding the nature and purposes of the EE?
- What are the perceptions of the main players in an EE (local authorities, educational institutions, incubator CEOs, and business associations) regarding cooperation between these organisations involved in an EE?
- What are the perceptions of the main players in an EE (local authorities, educational institutions, incubator CEOs, and business associations) regarding the relationship between the EE and local development?

### 4. Methodology

#### 4.1. Nature of the Study

Given the aim of the study and the questions it raises, we opted for a qualitative approach, close to a phenomenological approach, considering subjective experience as a source of knowledge identifying the essential components of the phenomenon (Pietkiewicz and Smith 2014). This approach is considered a valid research method whose data, rather than numbers, are phrases (Taylor 2005). This data is explored in depth, classified, and categorised, seeking to construct narratives describing the phenomenon studied in great detail (Taylor 2005).

Given the exploratory nature and the starting point of this study, a more complex understanding was sought to obtain more in-depth knowledge (Creswell and Poth 2017; Yin 2015) about the reality of EEs from the point of view of each participant, analysing dimensions such as local development and cooperation between incubators, local authorities, and universities.

#### 4.2. Data Collection

A semi-structured interview script was drawn up based on the topics covered in the literature review. The script is adapted to the target population, allowing sufficient flexibility to adjust the questions as new information emerges and the participants are willing to elaborate on a particular aspect in more detail.

The semi-structured interview is a qualitative research technique adapted to understanding the perceptions and experiences of participants, as it allows the researcher to have pre-planned themes and questions based on lines of enquiry that seek to meet the objectives to be achieved in data collection (Blandford 2013). By making good use of

the semi-structured interview, the researcher can obtain a complete understanding of a particular social phenomenon based on the personal experiences of the interviewees (Batista et al. 2017).

The interviews were carried out both in person and online, depending on the availability of those involved. The main researcher contacted participants, and after a brief explanation of the study and agreeing to participate, informed consent was sent to them. Interviews took place in a single moment, with audio recording for later analysis.

#### 4.3. Participants

This study brought together 19 participants, chosen for convenience based on contacts made by the researcher.

The participants are identified by a code (Table 1).

**Table 1.** Profile of interviewees.

Code	Gender	Institution	Type of Participant	Location
P1	M	Rio Maior Incubator and Business Centre	CEO	Rio Maior
P2	M	Incubator Fade Independent	CEO	Porto
P3	F	Startup Leiria	CEO	Leiria
P4	M	Régia Douro Park	CEO	Vila Real
P5	M	Demium Startup	CEO	Lisboa
P6	F	Startup Portimão	CEO	Portimão
P7	M	Portimão Municipal Council	Municipal Council	Portimão
P8	M	Rio Maior Municipal Council	Municipal Council	Rio Maior
P9	F	Leiria Municipal Council	Municipal Council	Leiria
P10	M	Vila Real Municipal Council	Municipal Council	Vila Real
P11	M	Odemira Municipal Council	Municipal Council	Odemira
P12	M	Teia D' Impulsos Association	Business Association	Portimão
P13	M	NERLEI Association	Business Association	Leiria
P14	F	Bragança District Business Association/BrigantiaEcopark	Business Association	Bragança
P15	M	NERVIR	Business Association	Vila Real
P16	M	University of Algarve	Higher Education Institution	Algarve
P17	M	Polytechnic Institute of Leiria	Higher Education Institution	Leiria
P18	F	University of Aveiro	Higher Education Institution	Aveiro
P19	M	Rio Maior School of Sport	Higher Education Institution	Rio Maior

#### 4.4. Data Analysis

Content analysis is a qualitative technique that allows verbal data, such as interviews, to be systematised and analysed in a scientific manner.

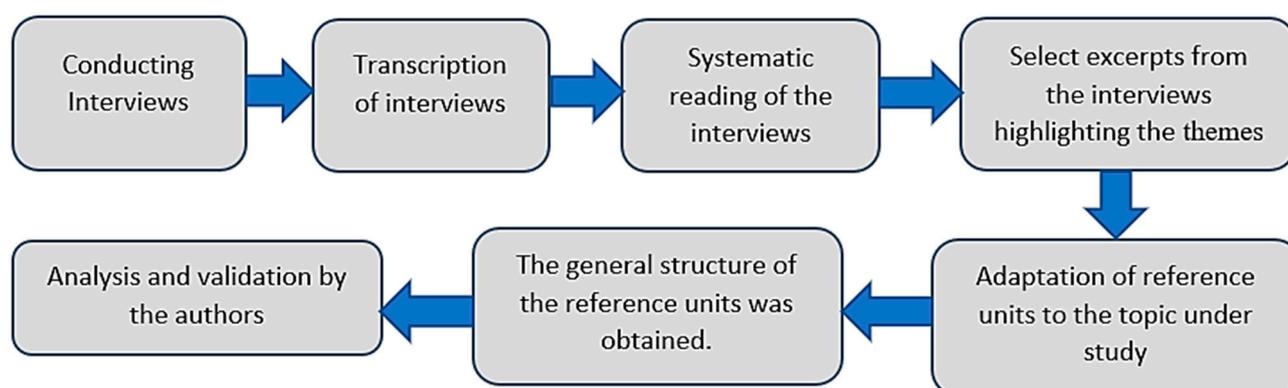
In the preparation phase of the content analysis, the material collected was organised, namely by transcribing the interviews (Faria-Schützer et al. 2021). Once the interviews had been fully transcribed and read in detail, the data was analysed using the MAXQDA PRO 20 programme, which is specifically geared towards a qualitative approach, building exhaustive categories and subcategories. This qualitative analysis software allows for exploring content with scientific rigour and an explicit and organised systematisation of data (Mozzato et al. 2016).

In the coding process, the central themes that emerged from the interviews were identified, and the categories of analysis were defined. We moved on to classifying the

units of analysis (expressions, short excerpts, sentences, etc.) according to the previously defined categories. As for the analysis itself, it involved interpreting the data collected and looking for patterns and relationships between the categories of analysis (Faria-Schützer et al. 2021).

The process of constructing a conceptual matrix to comprehend the phenomenon was facilitated by employing the Grounded Theory model for categorisation, which aimed to achieve theoretical saturation. The objective was to move beyond mere description of the phenomenon and instead uncover a theoretical framework for the underlying processes (Creswell and Poth 2017). The point of theoretical saturation was achieved when the researcher recognised that further data collection did not result in the discovery of novel elements (Lowe et al. 2018). The theoretical density attainable based on the existing data was also reached (Fontanella et al. 2011). According to Petrini and Pozzebon (2009), the association between data and themes ceased when the analysis failed to generate novel categories. The data analysis reveals several categories that provide more support for the developing theory proposed by Petrini and Pozzebon (2009).

Figure 1 helps to understand the analysis process adopted by the authors:



**Figure 1.** Description of the interview analysis process. Source: prepared by the author.

The interviews' content was afterwards analysed and interpreted per the themes identified through a comprehensive review of the existing literature. This approach facilitated the establishment of connections and associations between the various topics. This approach aims to enhance the coherence of the interview content, facilitating a deeper comprehension of the subjects related to EEs.

#### 4.5. Cohesion between Reports

Using qualitative analysis software, the cohesion between the participants' reports was analysed by correlating the units of meaning and the emerging themes. The closer the correlation is to 1, the more significant the contribution of the interviews to understanding the phenomenon being analysed. According to the software's results (Figure 2), there is a similarity index for P1–P6 much higher than for P7–P11, and for P12–P15. The similarity index is also higher for P6–P19. This means that CEOs had more common views within their group than different municipal council members. In addition, business association's representatives don't share so many common views, but university and polytechnic institutions' representatives do. According to these results, CEOs and higher education institutions' stakeholders share more internal cohesion within each group regarding issues pertaining to EEs than municipal council members and business association's representatives.

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19
P1	1.00	0.68	0.80	0.64	0.76	0.76	0.60	0.80	0.56	0.52	0.56	0.48	0.56	0.40	0.48	0.76	0.60	0.64	0.76
P2	0.68	1.00	0.88	0.72	0.68	0.76	0.52	0.72	0.56	0.44	0.56	0.40	0.56	0.40	0.32	0.68	0.60	0.64	0.68
P3	0.80	0.88	1.00	0.76	0.80	0.80	0.64	0.84	0.60	0.48	0.60	0.44	0.60	0.44	0.44	0.72	0.64	0.76	0.80
P4	0.64	0.72	0.76	1.00	0.64	0.72	0.64	0.76	0.76	0.72	0.68	0.68	0.84	0.68	0.52	0.72	0.72	0.76	0.80
P5	0.76	0.68	0.80	0.64	1.00	0.76	0.60	0.80	0.48	0.52	0.48	0.56	0.48	0.56	0.56	0.60	0.68	0.56	0.76
P6	0.76	0.76	0.80	0.72	0.76	1.00	0.52	0.72	0.64	0.52	0.56	0.48	0.56	0.48	0.48	0.60	0.60	0.56	0.76
P7	0.60	0.52	0.64	0.64	0.60	0.52	1.00	0.64	0.64	0.60	0.64	0.56	0.64	0.56	0.72	0.60	0.68	0.72	0.60
P8	0.80	0.72	0.84	0.76	0.80	0.72	0.64	1.00	0.60	0.48	0.60	0.44	0.60	0.44	0.44	0.64	0.64	0.68	0.72
P9	0.56	0.56	0.60	0.76	0.48	0.64	0.64	0.60	1.00	0.80	0.84	0.68	0.76	0.76	0.60	0.72	0.72	0.84	0.72
P10	0.52	0.44	0.48	0.72	0.52	0.52	0.60	0.48	0.80	1.00	0.72	0.88	0.72	0.88	0.72	0.76	0.84	0.72	0.68
P11	0.56	0.56	0.60	0.68	0.48	0.56	0.64	0.60	0.84	0.72	1.00	0.60	0.76	0.68	0.60	0.72	0.72	0.76	0.64
P12	0.48	0.40	0.44	0.68	0.56	0.48	0.56	0.44	0.68	0.88	0.60	1.00	0.60	0.92	0.84	0.72	0.80	0.68	0.64
P13	0.56	0.56	0.60	0.84	0.48	0.56	0.64	0.60	0.76	0.72	0.76	0.60	1.00	0.68	0.52	0.64	0.64	0.68	0.72
P14	0.40	0.40	0.44	0.68	0.56	0.48	0.56	0.44	0.76	0.88	0.68	0.92	0.68	1.00	0.76	0.64	0.80	0.68	0.64
P15	0.48	0.32	0.44	0.52	0.56	0.48	0.72	0.44	0.60	0.72	0.60	0.84	0.52	0.76	1.00	0.64	0.72	0.60	0.56
P16	0.76	0.68	0.72	0.72	0.60	0.60	0.60	0.64	0.72	0.76	0.72	0.72	0.64	0.64	0.64	1.00	0.84	0.80	0.76
P17	0.60	0.60	0.64	0.72	0.68	0.60	0.68	0.64	0.72	0.84	0.72	0.80	0.64	0.80	0.72	0.84	1.00	0.80	0.76
P18	0.64	0.64	0.76	0.76	0.56	0.56	0.72	0.68	0.84	0.72	0.76	0.68	0.68	0.68	0.60	0.80	0.80	1.00	0.80
P19	0.76	0.68	0.80	0.80	0.76	0.76	0.60	0.72	0.72	0.68	0.64	0.64	0.72	0.64	0.56	0.76	0.76	0.80	1.00

Figure 2. Similarity Matrix.

5. Results

Figure 3 provides a comprehensive overview of the meaning units derived from the content analysis of the interviews. Following a comprehensive and methodical examination of the gathered data, it was determined that the participants exhibited a direct engagement with the primary issues pertaining to the entrepreneurial ecosystem. The topics discussed in this text include (i) the relationship between EEs and local development, (ii) the entrepreneurial ecosystem, and (iii) the collaboration among incubators, local authorities, and universities (Figure 3).

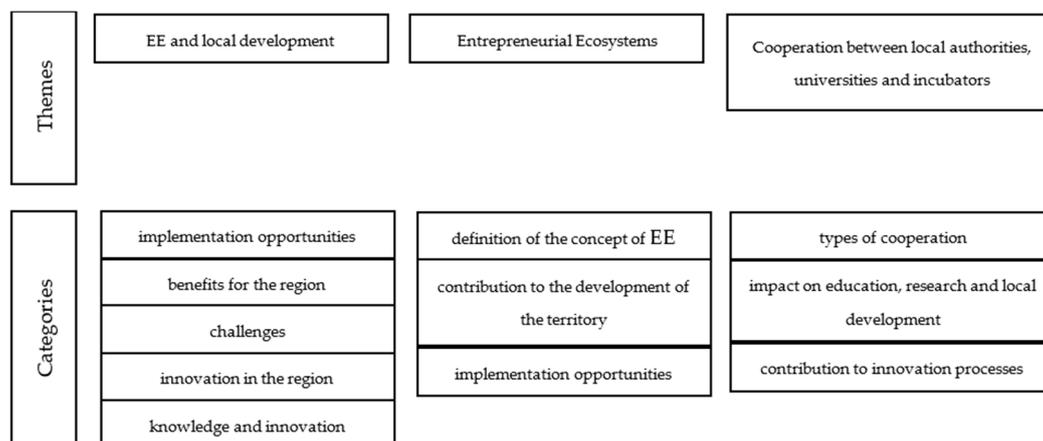


Figure 3. Categorisation scheme. Source: prepared by the author.

By utilising the MAXQDA PRO 20 software, the researchers were able to ascertain the extent of the participants’ involvement in the identification of emergent themes from their respective reports. In terms of individual occurrences, the most prominent themes identified were EEs, accounting for almost 10% of the occurrences, followed by development with 7.7% of the occurrences, and benefits with 7.5% of the occurrences.

According to the interviewees’ answers, EEs have been an important tool for regional development, promoting entrepreneurship and innovation in various regions of the country. Municipalities have also played an important role in creating incubators to support local entrepreneurs. Business associations also help to promote entrepreneurship and innovation, although the relationship with incubators, in many cases, is not yet formalised.

Furthermore, study participants emphasised the benefits that the incubator can bring to the region, including economic development and the creation of new jobs. However, they also recognise that there are challenges to be faced, such as a lack of funding and lack of support from local authorities.

Representatives of universities and polytechnic institutes pointed out the importance of university incubators, emphasising the need for transferring knowledge and academic enhancement to create new businesses. The relationship between business incubators and universities and polytechnics is seen as a link, which must be permanent, between academic research and the needs of the very fabric of business. Representatives from higher education institutions recognise that the philosophy of entrepreneurship and innovation is rooted, and that the business incubator is a fundamental part of this philosophy.

The benefits for business incubators in the regions where they are located are recognised by all stakeholder groups. Association representatives recognise the diversity of businesses and adaptation to the current socioeconomic reality as advantages for the region.

Representatives of municipalities also highlight their contribution to the success of business incubators. Municipalities help create the right conditions and act as partners, offering non-financial support that represents cash to the incubated companies. In some cases, municipalities are the owners and financiers of incubators and, therefore, hold most of the capital of incubated companies.

Association representatives highlight several factors that contribute to the success of business incubators. These factors include the offer of incubation and coworking space, which facilitates the installation of innovative companies, the number of people working, belonging to multiple national and international collaboration networks, the offer of laboratories for R&D activities, the service “space-enterprise”, the dynamisation of co-financed projects, and economic diplomacy attracting investors to the region.

Finally, representatives of universities and polytechnic institutes recognize the importance of the relationship between universities and companies in their initial phase, emphasising that the relationship between universities and companies can and should constantly be improved. In addition, they note that there is a willingness on the part of teachers to present their ideas, often together with the students. The proximity between the university and start-up companies is natural and can be quite intense.

The CEOs of the companies and municipalities interviewed agree that startups contribute to innovation in the region, working with the main actors in the area of innovation, such as companies, schools, and higher education institutions. Local, regional, and international partnerships are also important innovation drivers. The associations highlight the diversified offer of startups as an added value for the incubated companies, having a visible impact on the region’s economic indicators.

There are three subcategories in the development category: regional development, incubator development, and knowledge and innovation management. In the regional development subcategory, CEOs emphasise that startups can change the region’s business and industrial matrix, bring private investment, and create startups that would not exist otherwise. The representatives of the municipalities agree that the support to the incubated companies promotes the growth and development of the region, also recognising the role of local entrepreneurs in the region’s potential through the transformation of ideas into scalable businesses.

In the incubator development subcategory, CEOs reported that development is achieved by providing infrastructure so that companies and associations can develop their activities, transferring knowledge and technology, and monitoring the evolution of companies’ activities. They also emphasised the importance of metrics such as the number of jobs created, the number of patents, the number of investments attracted, and the volume of business. Municipalities provide sessions and seminars for the development of incubators, creating conditions for companies to develop financially, economically, socially, and environmentally with the help of multidisciplinary teams.

Finally, in the knowledge management and innovation subcategory, CEOs mention constant exchange of information and ideas between entrepreneurs and incubators through regular meetings and training programs. Knowledge and innovation management are seen as fundamental to catalysing innovation and promoting continuous improvement. Universities and polytechnic institutes highlight the importance of the university as a source of manpower and raw material, as well as the availability to offer support to any professor or student who needs it.

Regarding EEs, the content analysis showed that this category can be divided into three subcategories: the definition of the concept of an entrepreneurial ecosystem, the contribution of an entrepreneurial ecosystem to the development of the territory, and the relationships developed within each entrepreneurial ecosystem. The interviewees defined an entrepreneurial ecosystem as an environment conducive to the creation of new businesses that act as a facilitator, leading to the exchange of experiences, which, in turn, strengthens personal and institutional relationships between companies. Networking and networks are fundamental to the functioning of an entrepreneurial ecosystem, which consists of a combination of unique variables that generate favourable conditions for business success.

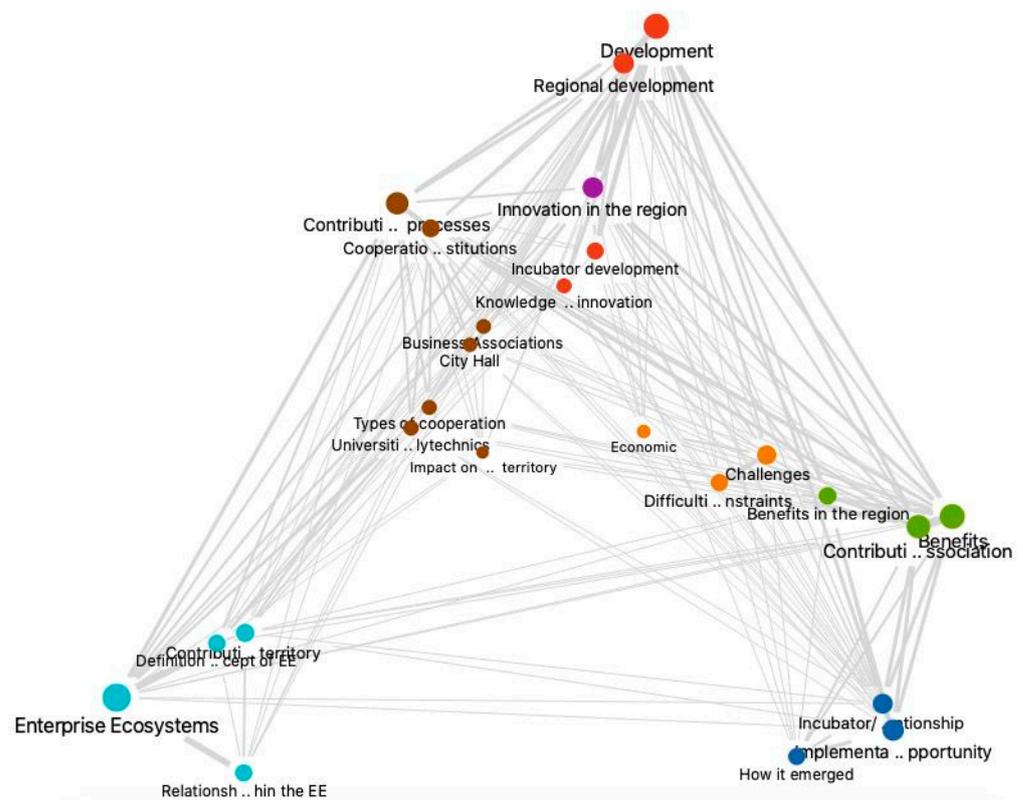
Regarding EEs' contribution to the territory's development, the interviewees highlighted their importance in promoting economic development by creating new ideas, innovation, job creation, and talent retention. Entrepreneurial ecosystems also promote the sharing of knowledge, experiences, resources, and relationships that support the business/entrepreneurial community. However, it is recognised that there are barriers, such as the lack of investors, connections to Higher Education and other ecosystems, as well as the absence of relationships with the social area. Furthermore, there is a lack of coordination between the priorities of the entities that manage the funds and the entities that have to implement them, which can constitute a barrier to the development of EEs.

In the third and last theme of the content analysis—cooperation between incubators, local authorities, and universities—three categories were identified: types of cooperation, impact on teaching, research, and development of the territory, and contribution to innovation processes. In the first category, the CEOs highlighted partnership as a form of cooperation; they stated that relationships can be informal and that everyone can benefit from this mutual contact.

In the categories impact on teaching research, and development of the territory, participants stated that the proximity between the incubator and universities allows for greater sharing of knowledge and interaction between institutions; they also stated that the incubator positively impacts the territory's development.

Finally, in the contribution to innovation processes category, participants recognised that the City Council has a key role in building the environment for innovation and business. They stated that the local government works as a "glue" between the various entities and people involved in the process.

For a better understanding of the study, Figure 4 allows us to understand the relationship between the emerging themes and their fullness in the interviewees' discourse. Thus, it is clear that the central themes in the interviewees' statements were business ecosystems, development, and contribution to innovation.



**Figure 4.** Occurrence and list of emerging themes.

## 6. Discussion

### 6.1. EE and Local Development

In the first theme, the entrepreneurial ecosystem and local development, as can be seen from the categorisation scheme, the content analysis shows that it breaks down into four categories: implementation opportunities, benefits for the region, challenges, innovation in the region, and development.

#### 6.1.1. Implementation Opportunities

Concerning the subcategory implementation opportunities, the CEOs pointed out that the “creation of the EE arose from the difficulty, as an artist, of operating in the market” (P2.2); it arose from the fact that they were already familiar with “launching projects in the area, always in the area of Entrepreneurship” (P4); it arose from reading the book “The Learn Startup” (P5); and from the entrepreneurial spirit (P6) (Acs et al. 2014).

On the part of the municipalities, it was mentioned that the creation of the EE came about: “as a result of the will and strategic vision of the municipality, with the support of the Autódromo Internacional Algarve, as the entity that provided the space” (P7); from the fact that there was “no support structure for entrepreneurs and business people, and it was in this sense that we decided to create a business centre that is more than a business incubator” (P8); from the need for the existence of “an association that could support entrepreneurial people” (P9); and from the desire to help the “establishment of companies (...) but shortening the time it takes to set them up” (P11).

Finally, the participants from universities and polytechnic institutes mentioned that it is “a university incubator in that it occupies space that has been given over by the University for business incubation” (P16); “this is an academic-based incubator, so (...) what is expected is that there will be a transfer of knowledge to this incubator and that there will be valorisation with a view to creating new businesses” (P18); and it results from the “merger of two associations” (P19) (Bramwell and Wolfe 2008; Ferreira et al. 2018).

With regard to the subcategory incubator/business association relationship, one CEO mentioned that “the tendency for incubators is to intervene directly in projects” (P1).

One of the representatives of the Associations says that there is “no relationship with any of the incubators that exist in the Algarve region” (P12) and, when there is, “This relationship isn’t systematised, it happens sporadically and it even happens more at the instigation of the incubator itself for some kind of activity that it wants to develop...” (P12). The rest of the participants from the associations go in the same direction, pointing out that the relationship “isn’t formalised, there are no documents setting out the activities/responsibilities of the relationship” (P14), but when there is a relationship “it’s positive since we recognise that both entities can offer answers and solutions to the business community” (P14), making the point that the “Business Association is, to a certain extent, involved in some entrepreneurship projects” (P15).

Finally, the universities and polytechnic institutes said that this relationship “has precisely this characteristic of making a permanent link between what is developed in terms of research and what is needed or the opportunities that arise in the business community” (P17). Essentially, “it’s the philosophy that we live by (...), the philosophy of entrepreneurship and innovation” (P17), and it is not possible to “dissociate the two [incubator and university], they are interconnected” (P18); “we have a good connection and we have developed a set of actions for this good co-operation.” (P19) (Kiran and Bose 2020; Villani et al. 2017).

#### 6.1.2. Benefits for the Region

The category “benefits of the region” is divided into the subcategories benefits in the region and contribution of the local authority, university, or association.

Regarding the benefits in the region, one of the CEOs recognises that “It’s fundamental for the development of the region, it’s fundamental.” (P1). All the groups share this opinion. The representatives of the local authorities also point to “the creation of jobs and wealth” (P7) (Kulkov et al. 2021); the aim of “not only retaining those who are here, supporting those who are here, but also attracting” (P8); further, “in addition to technical support for companies, it is naturally the creation of a territorial brand that can be internationalised and that gives our region a great degree of competence in terms of entrepreneurship.” (P9); and “supporting the incubation of companies and thereby helping to create more and better companies and supporting entrepreneurs in this task” (P10) (Bismala et al. 2020; Guerrero et al. 2021).

The representatives of the associations recognise a “huge advantage for the region (...) business diversity, i.e., more diversified businesses, more adapted to the current socio-economic reality, businesses with a prospect of growth and therefore expansion and internationalisation” (P12) (Loots et al. 2020), as well as “an important role in promoting, welcoming and developing entrepreneurship in the region” (P13) (Bismala et al. 2020; Bouncken and Reuschl 2018). Another participant expressed “the contribution to the region is quite large, particularly in terms of retaining talent and employability in a low-density area like ours” (P15) (Li et al. 2022).

The representatives of the universities and polytechnic institutes recognise: “it’s an incubator that has academia at its core, but it’s also open, let’s say, to the region and the external environment that surrounds it”. (P18); “Yes, in general terms it contributes. It creates jobs, it creates investment and that’s important for the region.” (P19) (Audretsch et al. 2021; Bramwell and Wolfe 2008).

In the subcategory contribution of the local authority/university/association, the CEOs emphasise that “the university acts as a diffuser of these creative and innovative ideas. It is therefore a favourable environment.” (P2.1); and “they are partners who offer support to those starting out.” (P2.2.); in addition, “The role of the University is fundamental” (P2.1); and a “Facilitator of any Economic Development process (...)” (P4) (Bodolica and Spraggon 2021; Bramwell and Wolfe 2008). The representatives of the local authorities point out: “the local council usually helps to create the conditions. (...) the local

council works as a partner, in other words, it doesn't give financial support but it does give non-financial support which actually represents money" (P9); "The local council is the main organisation: on the one hand, it is the owner and, on the other hand, it is also the financier of this incubator. It therefore holds more than 95 per cent of the Park's capital." (P10); "The team provides technical support to the incubated companies" (P11). The representatives of the associations emphasise: "they support start-ups" (P13); "the provision of incubation and coworking space, which makes it easier to set up companies with a more innovative profile; the number of people working; belonging to multiple national and international collaboration networks, making it easier to get closer to the business community; the provision of laboratories for R&D activities; the space-company service; the promotion of co-financed projects as well as the promotion of economic diplomacy, attracting investors to the region". (P14) (Carvalho et al. 2019) "Institutional cooperation, mutual sharing and all the support that the incubator can provide is fundamental to the emergence of new businesses, new companies" (P15). As for the representatives of universities and polytechnic institutes, they point out: "There may be a privileged relationship, but it can and should always be improved." (P16); "there is also a predisposition on the part of the teachers, in other words, there are clearly teachers who are interested in presenting their ideas, sometimes even together with some students (there are processes in which this happens), so I would say that proximity is also natural, on both sides." (P17); "and it's a very intense relationship" (P19) (Villani et al. 2017).

### 6.1.3. Challenges

The "challenges" category is subdivided into economic difficulties and other difficulties/constraints (finding differentiating projects, understanding more about business models, time zone issue, different challenges, communication, talent, conditions, learning to manage).

In the *economic difficulties'* subcategory, the CEOs point out: "The obvious difficulties are the lack of resources because we are a non-profit organisation with several important stakeholders." (E3); "on the investment side and perhaps the role of smart investors or business angels, and the way they are taxed" (E5); "The biggest difficulties, but I wouldn't say major difficulties, are finding sources of finance, not least because most entrepreneurs or businesspeople stumble over sources of finance. They have to do a lot of work to get there, namely the business plan, mentoring, all that work" (E6) (Bouncken and Kraus 2022). Only a few members of local councils talked about financial issues, stating that the costs are "minimal compared to the possibility of entrepreneurs developing their projects and companies setting up in the municipality." (E7); "Anything you do always has some costs. In this case they weren't very high because the building already existed, the infrastructure already existed and the Centre itself has some income (. . .)" (E8). The other participants—from associations, universities, and polytechnic institutes—didn't mention any financial difficulties.

As for the subcategory other difficulties/constraints, the CEOs pointed out the following difficulties: "finding truly differentiating projects that can somehow be a reference" (E1); "understanding more about business models" (E2.2); "there was the time zone issue" (E2.2); "the biggest difficulty is having different challenges on a daily basis, since we deal with many different types of entities" (E4); "the requirement is more in terms of communication, being able to absorb and pass on ideas, distinguishing the good ones from the bad ones". (E5) "We're trying to look for talent and people who want to undertake, but there's this first obstacle: people don't want to take risks" (E5) (Carvalho et al. 2019). Of the municipalities, E9 points out that "the big challenge for municipalities is to create the conditions, whether in terms of housing, mobility or education and health. This is a challenge and not a cost." (E9). And, finally, the representative of an association points out "that we have to learn to manage because it's not bad, but in reality, sometimes there are projects that only councils can apply for, or others that only higher education can apply for, and others that are only for companies or business associations." (E13).

#### 6.1.4. Innovation in the Region

In the “innovation” category in the region, the CEOs point out: they work “a lot with the main actors in the area of innovation, which are companies, we sensitize schools on the ID issue (. . .). We work a lot with the Polytechnic” (E1); “we deal a lot with innovation and the companies we have in the Ecosystem are relatively innovative and that is very important” (E3); “this innovation, here, in a low-density territory, ends up being very much based on what are the heritage values of the territory” (E4); “There are different Bodies, different entities, each with a type of innovation because there is more than one type of innovation” (E5) (Acs et al. 2014). As for those interviewed from local authorities, it was unanimous that everyone agrees that the startup contributes to innovation in the region. They recognise that there is innovation as “there are several local, regional and national partnerships that motivate innovation.” (E7). Partnerships are also mentioned by E8 “Of course, we have a partnership with the Escola Superior do Esporte and with the Politécnico de Santarém, and we have a partnership with the University of Málaga, in Spain, and with the Parque Tecnológico de Andalucía, which is in Malaga too, which is a Technology Park. . .”, while E9 points out that “The Startup is already a brand. (. . .) He has contributed a lot and even participated in international projects in innovation.” (E9) (Carvalho et al. 2019; Decreton et al. 2021). In the associations, the scenario is repeated; everyone agrees that startups contribute to innovation: “One of the advantages of working in these environments, in these ecosystems is, on the one hand, being more aware of innovation, new services, new products, new technologies that emerge and that can be an added value for each of those incubated” (E12); “the diversified offer (. . .) will have an impact that will be visible in the economic indicators of the region, in the image and attractiveness of the region, in the number of people employed with specializations or higher level qualifications in the companies, for example, in terms of the use of laboratories.” (E14) (Cukier and Kon 2018). On the part of representatives of universities and polytechnic institutes, it is mentioned that: “We are the ones who mediate the needs of companies with the knowledge of the University, we help in the application process, in the Execution process, in the post-application technology transfer process” (E16) (Ferreira et al. 2018).

#### 6.1.5. Knowledge and Innovation

The “knowledge and innovation” category is subdivided into: local development, EE development, and knowledge and innovation management.

In the *local development* subcategory, the CEOs point out that “for the regional development processes we managed to do something that is to change the business and industrial matrix of the region” (E3), thus “The bigger the Ecosystem, the more firms, the more innovation, therefore, It’s a kind of self-feeding snowball.” (E3) (Guerrero et al. 2021). They recognise that they bring “private investment and help create Startups that would not otherwise exist.” (E5) and, in this way, “It contributes a lot [to development]” (E6) (Kulkov et al. 2021). The representatives of the municipalities state that “Through the support provided to the incubated companies, promoting their growth and development, consequently promoting regional development.” (E7), and “in this sense it is important for the development of the municipality and even the region” (E8). One of the interviewees recognises, in the category of “entrepreneurs from this region”, the potential of the region: “Ideas arrive, Startup boosts ideas, ideas are transformed into business and the business scales.” (E9). It is commonly recognised that “The Municipality is responsible for supporting the development of companies in its territory.” (E10), and they believe “that, in the future, they could be important companies that could grow and develop.” (E11). In the associations, no information was collected in this regard, but, on the part of representatives of universities and polytechnic institutes, it is pointed out that: “It has been an absolutely essential process” (E17) and “it has a great focus on territorial development” (E18) (Hayter et al. 2016; Kiran and Bose 2020).

In the EE development subcategory, the CEOs mentioned that this development occurs in the following way: “to allow companies and associations to use their infrastructures

to develop their activities, to provide conditions for companies to use our network of partners to be able to develop the projects and basically there is a transfer of knowledge and technology here" (E1). There is a focus on follow-up: "access, first, to very direct metrics, which are the number of jobs created, the number of patents, the number of investment attracted and the volume of business. (. . .)" (E3); "What we do is monitor the development of the activity of the companies we work with" (E4).

For the development of EE, local authorities: hold "sessions and seminars" (E8); create "all the conditions for companies to develop from a financial, economic, social, environmental point of view, etc. It is to provide a set of tools, with the support of multidisciplinary teams, that enable us to create this entrepreneurial ecosystem" (E11) (Ferreira et al. 2018). Although on the part of the associations there are no references to the development of incubators, interviewees from the universities and polytechnic institutes state that the development is due to the fact that "having professors from the universe of the Polytechnic of Leiria collaborating in the Startup is a great advantage and that's why we all relate very well." (E17), and "it's not just the University but everything the region can offer and that provides advantages for entrepreneurs compared to other incubators in other regions" (E18).

Finally, in the knowledge management and innovation subcategory, the CEOs explain: "From month to month, or from month and a half to month and a half, therefore, I call the people who are here, we sit down for a while and talk, we drink a coffee, and in the end we launched a conversation challenge, we launched the challenge of making a small presentation of your company (. . .)" (E1); "this training system that exists within the University of Porto means that there is open access, open science, which allows for a constant exchange of information between laboratories and startups and workshops." (E2.1); "from the most informal things like Meet Ups to technical Webinars, to the simple sharing of information that Square allows us to catalyze innovation. Therefore, in essence, knowledge management allows us to catalyse innovation and make continuous improvements" (E3); "Our innovative process is our program. It is a general program. Our main differentiator from other investors." (E5); "We hold regular meetings to discuss issues and this has already resulted, for example, in obtaining funds that allowed training for entrepreneurs in the incubator network" (E6) (Fukugawa 2018). Interviewees from local authorities and associations did not speak about knowledge management and innovation, but representatives from universities and polytechnic institutes said: "even though the university is our workforce and our primary raw material, any student, teacher or student can come here and ask for our support and we will be involved in creation and incubation" (E16); "I would say that this transformation process, in itself, has a number of opportunities that can be seen in the same way: opportunities." (E17); "naturally, being technology-based (. . .) we give preference and value, and for these we have to have a welcoming and monitoring process that is, let's say, of added value." (E18); "the transfer of knowledge and the monitoring of some entrepreneurial projects—it is necessary to expand some actions" (E19) (Guerrero et al. 2021; Hausberg and Korreck 2020).

## 6.2. Entrepreneurial Ecosystems

In the second theme, EEs, as can be seen from the categorisation scheme, the content analysis showed that it is subdivided into: the definition of the concept of EE, contribution to the development of the territory, and the relationships developed within the entrepreneurial ecosystem.

### 6.2.1. Definition of the Concept of Entrepreneurial Ecosystems

The concept of an entrepreneurial ecosystem has been defined as "an ecosystem that accurately perceives all the challenges that are in front of it and acts as a facilitator." (E2.1); it is "an environment conducive to the creation of new businesses" (E3). It also involves "the exchange of experiences which then leads to the strengthening of personal relationships and, in the future, institutional relationships between companies." (E4), and

“a lot involves networking and networks.” (E6 and E10). Essentially, “The ecosystem, as the name suggests, has to do with a set of variables that, when aggregated, generate conditions that, at times, are unique.” (E17) (Bouncken and Reuschl 2018).

#### 6.2.2. Contribution to the Development of the Territory

Concerning the contribution to the development of the territory, EEs are identified as being fundamental “for economic development, with the emergence of new ideas, innovation, with the creation of jobs, the retention of talent.” (E3). It is also pointed out that EEs “promote the sharing of knowledge, experiences, resources and relationships to support the business/entrepreneurial community.” (E14). It is recognised that it is thanks to EEs that “(...) commercial relationships are established, partnerships that will then generate new ideas, that will bring new people to the territories and this is what, in fact, will promote the retention of people—more qualified—and enriches the territory” (E4) (Kiran and Bose 2020).

However, an interviewee from an association stated that the ecosystem it is part of “(...) is still very small, it is very small, but there is a relationship between them. There is a relationship between the various poles of this ecosystem. In my opinion, there is a lack of a relationship with the social area that does not exist at all” (E12). Barriers are recognised such as the fact that “investors are needed, connections to Higher Education Educations are needed, connections to other ecosystems in the country and outside the country are needed, because otherwise firms cannot scale their businesses if they do not have that connection.” (E3). Another interviewee points out that “there is a mismatch between the priorities of the entity that manages the funds and the entity that has to execute it. Sometimes there is this barrier” (E6) (Kulkov et al. 2021).

#### 6.2.3. Relationships Developed within the Entrepreneurial Ecosystem

In the last category, relationships developed within the entrepreneurial ecosystem, participants point to the work “with our entrepreneurs, in a network, in order for them to get to know each other and create commercial relationships.” (E11), as well as “the relationships that are created are relationships of exchanging experiences and sharing knowledge and, often, within this environment I think that the motivation factor is very important.” (E3) (Lin-Lian et al. 2022). In fact, “the type of relationships depends a lot on the creativity of the organizations themselves, on how we can collaborate together and in a way that benefits everyone.” (E5), but “relationships of interconnection, sharing and dynamism can, and should, develop” (E7) (Malecki 2018). In fact, “A company sets up here and has, right from the start, fifty, sixty or seventy potential customers, because the companies themselves are available to help each other in the development and creation of businesses.” (E10). In this sense, “any national or international entrepreneur, as long as the objective is to create a company, retain talent or create value in the region, we can help. The Incubator supports this.” (E16) (Spigel 2017). For the relationships that are created to effectively result in an EE, “these relationships, these participants, these players have to understand what their role is in the network, because if they cannot envision what is expected of them, what they are going to get, it is very It’s difficult to ask someone to participate.” (E18) (Tsaplin and Pozdeeva 2017).

### 6.3. Cooperation between Incubators, Local Authorities and Universities

In the third and final theme, cooperation between incubators, local authorities, and universities, as can be seen from the categorisation scheme, the content analysis showed that it is subdivided into: types of cooperation, impact on teaching, research and development of the territory, and, finally, contribution to innovation processes.

#### 6.3.1. Types of Cooperation

Regarding the types of cooperation, the CEO participants mainly mentioned partnership; the remaining participants did not express themselves within this category. E1

states, “we are partners with local businesses, we try to get local businesses to innovate and adopt new technologies to promote. . .”. E1. Additionally, the partnership “with the Municipality and the University (. . .). We are also working with Business Associations, with other counterparts who work in other regions.” (E4). Relationships can be “even informal in nature in which we know people in different bodies and the question is: each one has a different fit in the ecosystem and we can benefit and that is the objective of benefiting each other.” (E5) (Mele et al. 2022).

### 6.3.2. Impact on Teaching, Research, and Territorial Development

In the impact category on teaching, research, and development of the territory, it was mentioned that “the incubator, with its dynamic proximity to universities, means that more knowledge is shared, that the entities themselves interact more with each other, because there is a positive lobby between institutions, and if everything is channeled to a single entity it is much easier for the territory to develop.” (E1). The truth is that the entrepreneurial ecosystem “always enriches everyone’s experience and, as such, I think it ends up having an impact on the development of the territory.” (E4) (Hayter et al. 2016; Kiran and Bose 2020).

### 6.3.3. Contribution to Innovation Processes

The last category, contribution to innovation processes, is divided into the subcategories: city council, universities/polytechnics, and business associations.

Concerning the city council, it is recognised that “there is nothing that cannot be asked of the City Council that they will not support or do.” (E1); “Both in Porto and Guimarães, there are Chambers that are very active in building the innovation environment and the business environment.” (E2.1). It is recognised that the role of “the local authority does help, without a shadow of a doubt, with the role of “Glue” between various entities and people” (E5).

In short, it can be seen from the answers given by the interviewees that all the topics covered are present in the EEs in which they are involved. It was also clear that their knowledge of the reality of the entrepreneurial ecosystem and local development is efficient (Kiran and Bose 2020).

In summary, the three themes that have emerged from the categorisation scheme—incubator and regional development, entrepreneurial ecosystems, and cooperation between incubators, local government, and universities—correspond to the main areas that the previous literature highlights concerning the importance of entrepreneurial ecosystems both in academia and among political and economic actors (Autio et al. 2017; Stam and Spigel 2016). Entrepreneurial ecosystems are composed of a network of actors, including universities, incubators, municipalities, and business associations, who work together to support and stimulate the growth of small businesses and local entrepreneurship. Each of these actors plays an important role in the ecosystem and helps create the ideal conditions for entrepreneurs to succeed (Malecki 2018). From our research there is certainly a mutually dependent relationship. That is, to the extent that entrepreneurial ecosystems contribute to territorial development, the conditions of the territory, with all its determinants, more or less have a high potential for contributing to the success of entrepreneurial ecosystems (Kiran and Bose 2020). The current study shows evidence of this dependent relationship in the interviewees’ discourse (Figure 4). Cooperation between incubators, municipalities, and local universities is enabled by several factors sharing a common goal of promoting economic development and entrepreneurship in their respective regions. This shared vision can allow for a more fluid and effective collaboration (Tsaplin and Pozdeeva 2017). As the results of our research show, the proximity of incubators, local authorities, and universities facilitates cooperation (Caetano 2019). This cooperation promotes regional development, supports the success of incubated companies, and creates a more robust entrepreneurial ecosystem.

## 7. Conclusions

The primary aim of this study is to thoroughly comprehend the current status of EEs in Portugal and their potential to foster local economic development as perceived by key stakeholders, including local authorities, higher education institutions, CEOs of incubators, and business associations. In pursuit of this objective, we comprehensively examined the existing body of literature on EEs and the significance of local authorities, business associations and groups, incubators and higher education institutions. The focus of the empirical research was on investigating these key stakeholder's perceptions regarding the characteristics, objectives, and evolution of EEs, specifically: (i) the nature and purposes of the EE; (ii) the cooperation between the organisations involved in an EE; and (iii) the possible relationships between the EE and local development. All participant groups widely acknowledge the advantages of EEs. The findings indicate that the presence of incubators, local authorities, associations, and higher education institutions within a specific region, operating in a complementary manner, has a crucial role in fostering the development of EE. Nevertheless, some obstacles must be addressed, including insufficient financial resources and little support from local governmental bodies.

Drawing upon the fundamental and inclusive notion of an EE, which encompasses all the essential components required to foster entrepreneurship within a specific geographical area (Stam and Ven 2021), it becomes evident that entrepreneurs must establish connections within networks that offer the requisite assistance for attaining success. These networks encompass vital resources such as knowledge, financial backing, motivational reinforcement, and trust. Examining diverse EEs enables us to identify challenges, remedies, and success factors pertaining to entrepreneurship within a certain geographical area, along with the imperative for intervention to fortify entrepreneurial endeavours.

Finally, drawing some implications for the Portuguese reality, this research has collected a large amount of information from different actors involved in EEs in Portugal, pointing to a model of entrepreneurial ecosystem adjusted to Portuguese economy and society. In such a model, local authorities, associations, incubators, and higher education institutions existing in a given region should take complementary roles: local authorities are responsible for local governance and providing support to ecosystem agents, associations are concerned with creating cooperation networks, incubators are settings for innovation, and the emergence and development of startups, and universities and polytechnic institutes are key scientific and technical organisations for the development of EE.

By comprehending the perspectives of key stakeholders engaged in the regional advancement of EEs, one could perhaps make a valuable contribution to the progression of knowledge in this scientific domain. Additionally, it was feasible to make a scholarly contribution to the empirical analysis by conducting interviews with diverse stakeholders. These interviews aimed to gather insights on crucial subjects such as the impact of the EE on local development processes and dynamics. Furthermore, the identification of developing themes and subthemes within this particular research domain, as well as their interrelationships, was also feasible. Moreover, empirical evidence has substantiated the significant role played by these organisations in fostering local development.

We can divide the added value of this study for understanding the topic in two directions. Regarding the results of the qualitative study, it was also possible to collect the opinion of several actors on fundamental themes, such as the contribution of each one to the processes and dynamics of EEs, and to identify emerging themes and subtopics in this research area. On the other hand, it was also demonstrated that different organisations contribute strongly to local development and innovation, supporting EE creation and expansion in diverse manners.

## 8. Limitations and Suggestions for Future Investigations

No matter how rigorous and applied it may be, any investigation faces two types of limitations: those that arise from choices made by the researcher throughout the research

process, and those that result from aspects that the researcher cannot control, such as the unavailability of some key stakeholders to participate in the research.

While opting for a qualitative approach yields comprehensive and detailed insights into the phenomenon being studied, it is important to note that the findings cannot be extrapolated to a larger population. In future research, conducting a comparative analysis of extant EE within the nation may be advisable. This can be achieved by utilising case studies and direct observation, employing objective evaluation criteria to assess the operational dynamics of these ecosystems.

In further investigations, it is suggested that more actors linked to EEs should be analysed to confirm, improve, and adapt the results of this case study. The insights obtained should be tested in quantitative approaches and allow for the delineating new flows for future investigations. In addition, the inclusion of more representative Portuguese organisations (universities, incubators, municipal councils), as well as the inclusion of national decision-makers (National government), could improve understandings of the topic.

**Author Contributions:** Conceptualisation, M.L. and R.S.; methodology, M.L., R.S. and C.L.; software, R.S.; validation, M.L., R.S. and C.L.; formal analysis, M.L.; investigation, M.L., R.S. and C.L.; resources, M.L., R.S. and C.L.; data curation, M.L.; writing—original draft preparation, M.L., R.S. and C.L.; writing—review and editing, M.L., R.S. and C.L.; visualisation, M.L., R.S. and C.L.; supervision, R.S. and C.L.; project administration, M.L., R.S. and C.L.; funding acquisition, M.L., R.S. and C.L. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research is supported by national funds, through the FCT—Portuguese Foundation for Science and Technology—under the project UIDB/04011/2022, and under the project UIDB/04630/2022.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Data are contained within the article.

**Acknowledgments:** The authors gratefully acknowledge the University of Trás-os-Montes and Alto Douro and CETRAD (Centre for Transdisciplinary Development Studies) and the University of Beira Interior (NECE-UBI).

**Conflicts of Interest:** The authors declare no conflict of interest.

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