Science Parks: Stakeholder Involvement in Attracting Talent

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Abstract. Science Parks convey the idea that technological innovation originates in scientific research. A triple helix configuration provides all the necessary conditions for science parks to achieve their goals. This paper aims to investigate the existing interactions of science parks with triple helix actors related to the development of talent attraction activities. Talent is a necessary resource to meet the growing demands for innovation of park firms. In fact, a firm's ability to innovate and, consequently, to be successful seems to be related to its capacity to find and retain employees with relevant skills. This study analyses five case studies on three Swedish Science Parks and demonstrates the importance of the relationship with stakeholders to ensure support and the adequate development of attracting talent to Science Parks. Also, this study showed that the studied parks carry out different activities to attract talent, and the involvement of government agents and the local university proved to be essential for developing such activities.

Keywords: Science Park · talent attraction · triple helix

1 Introduction

The first Science Parks appeared in the United States in the mid-twentieth century, favoured by initiatives such as the Bayh-Dole Act, which allowed the development of partnerships between universities and firms and opened paths for the commercialisation of research results [1]. The International Association of Science Parks and Areas of Innovation (IASP) defines science parks as organisations with specialised managers that strive to increase the prosperity of their community by nurturing the culture of innovation and the competitiveness of their affiliated companies and knowledge-based institutions [2].

For Westhead [3], Science Parks convey the idea that technological innovation originates in scientific research. In this way, Science Parks seem to be the right environment to transform pure research into a product for the market. Establishing a triple helix configuration fulfils all the conditions necessary for Science Parks to achieve their goals. Links with universities allow more direct access to qualified human capital, and networking

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with government authorities enables parks to provide adequate political support to their tenants [4]. In recent years, one element of Science Park's growth that faces obstacles is the attraction and development of talent needed to meet the growing demands of tenant firms. It is perceived that the ability to find and retain employees with relevant skills is one of the main factors that sustain the success of organisations [5].

Although Science Parks have received attention among researchers and a great interest in promoting entrepreneurship and regional development, few works focus on the relationships of Science Parks with the triple helix actors, especially when analysing their interactions for the attraction of talents [6, 7]. Thus, this study aims to investigate the existing interactions of science parks with triple helix actors related to the development of talent attraction activities. In particular, our interest is: how collaboration with stakeholders contributes to attracting talent to science parks?

This paper is organised as follows. After this introduction, a literature review section follows, where concepts about science park stakeholders and their talent attraction processes are presented. Then, a description of the empirical scenario and a presentation of the empirical evidence with talent cases from the examined parks. Finally, the conclusions resulting from this study are consolidated in the last section.

2 Literature Review

2.1 Science Park Stakeholders

Science Parks have rooted in their concept of the connections and relationships with the actors of the triple helix model [see 8] [9–11]. Science Parks are essential agents of regional development and entrepreneurial ecosystems by promoting relationships between universities, companies, government agencies, incubators, and other parks [9, 12].

Forming a triple helix configuration helps Science Parks achieve their goals, and some authors suggest that Science Parks should establish links with universities to facilitate the training of park firm employees, develop an entrepreneurial spirit among university students, and make access to students with innovative minds and scholars with advanced knowledge more efficient [3, 13]. The literature reports that student recruitment occurs in several ways [14–16], with student involvement in firm activities being one of the possible alternatives [17].

The government actor is responsible for demanding research to deliver products of interest. These requests are made through funding offers [18] that encourage the transfer of talent and technology (e.g. publications and patents) from universities to park firms [19], promoting innovation and the entrepreneurial mindset in the Science Park [20]. In addition, connections with government authorities provide opportunities for the park to offer adequate policy support to its tenants more efficiently, creating a favourable environment for attracting talent [4].

Interactions between park stakeholders can occur, for example, through the construction of informal networks to exchange information and knowledge [21], the sharing of university laboratories and research facilities [22], connecting with alumni networks [16], or disseminating university activities and firm opportunities [23]. In addition, other abstract factors, such as the park's brand [24] and its privileged address [25],

also contribute to the success of these interactions and build a favourable environment for attracting talent [26].

2.2 Science Park and Talent Attraction

Science Parks provide the infrastructure and services needed to support the development of their tenant firms [13]. The capacity of a park to attract talent is connected to its innovative environment, its high quality of life and the availability of other talents to share knowledge and experience [27].

The literature presents talent as individuals with unique abilities, experience, and the drive to perform at a high level [28, 29]. They help develop the firm's culture, networks, and structure, which are elements challenging to replicate by competitors [30]. Talent skills can be expressed as creativity, competence, leadership [29], and the commitment to deliver these skills in favour of the firm results [31–33]. Some talents, like university students, do not have the expertise and experience yet, then they are called potential talents [34]. It is essential to highlight that working conditions, relationships and opportunities influence the performance of talents, so future performance should not be defined solely on the basis of past performance [34]. Therefore, the work environment will or not enable the talent to perform at their best [35].

Talent is a necessary resource to meet the growing demands for innovation of park firms. In fact, a firm's ability to innovate and, consequently, to be successful seems to be related to its capacity to find and retain employees with relevant skills [5].

3 Method and Data

The data of this study comes from three Swedish Science Parks, namely Ideon Science Park, Lindholmen Science Park, and Linköping Science Park (see Table 1). The first park contacted was Linköping Science Park because of its geographic proximity to Linköping University and good accessibility to data. The other two parks came to our attention during our interviews with Linköping SP representatives. The intention behind choosing parks located in the same country is to keep some factors in common, such as the culture and mentality of the people, the economy, political regulation, and laws.

Data from this investigation were obtained by carrying out five case studies on talent attraction activities in the three Swedish Science Parks. The case study method is considered one of the most suitable ways to connect qualitative evidence with conventional deduction [36]. For this study, the case study method facilitated the understanding of the processes and the context that led to the development of the parks' talent attraction activities, the involvement of key people, and the results achieved in each activity [37, 38].

Table 1. Swedish science parks.

	Ideon Science Park	Lindholmen Science Park	Linköping Science Park
Foundation	1983	2000	1984
City	Lund	Gothenburg	Linköping
Competencies	ICT, connectivity, Life science, cleantech, medtech, smart material and food innovation	Transport, ICT, and media industries	ICT, visualisation, simulation, medical technology, mobile broadband, vehicle safety and security systems
University	Lund University	The Chalmers University of Technology, University of Gothenburg	Linköping University
Owners	Real estate companies Wihlborgs and Castellum	The Chalmers University of Technology, the City of Gothenburg, Business Region Göteborg and the industry in Gothenburg	Linköping City
Board	Lund University, Lund Municipality, Chamber of commerce and Industry of Southern Sweden, the County Administrative Board Skåne and the owners	The city of Gothenburg, Chalmers University of Technology, Volvo Group, Volvo Car Group, Saab AB, Telenor Connexion AB, Ericsson, Consat AB	Representatives from the city's political leadership, Saab Aeronautics, NAI Svefa, Ericsson and Linköping University
Firms (2022)	400	375	352

The information collected during the semi-structured interviews was organised into tables, which underwent successive refinements until the final version, presenting a pattern of similar characteristics (see Table 2). Secondary data was collected from scientific papers and institutional web pages.

Table 2. Five talent cases

	Shadow Board	Tech Pilots	Ideon Meeting	CEVT	MSP Office Inc
Where	Linköping Science Park	Linköping Science Park	Ideon Science Park	Lindholmen Science Park	Linköping Science Park
Who	University	University	University Government	University Government	Government
What	Student board to bring together talented students and park management	Project to integrate young talents and park firms	Arena to bring people together and expand networks	Activities to support the establishment of CEVT and its international staff	Processes to develop park brand and support tenant growth
How	Building relationships with the university and the student collective to bring a youthful mindset to park management and make student board members into park ambassadors for the academic community	Creating opportunities for firms in the park and young talents to get to know each other better and develop projects and products together	Coordinating events (meetings, conferences, forums, visits) with content suitable for the public	Providing support in immigration, housing, schools, and connections with Swedish government authorities Mediating networks between CEVT and Swedish universities to enable academic talent recruitment and set research connections	Spreading Park information and opportunities internationally with the support of embassies Educating politicians about the park's roles in regional development

4 Talent Cases

Science Parks accommodate firms with different characteristics (sizes, ages, and business orientations), so their activities need to focus on each firm's needs to deliver a quality support service. Each type of company has a different need in terms of talent, so relying on the support of the local university and government agents to attract talent seems to be a reality in the studied parks. The interactions between the three studied parks with their local university and government agents seem to adopt several different approaches when performing talent attraction activities.

The involvement of the local university is perceived in the activities of technology and knowledge transfer and those related to the supply of qualified human resources. It is a fact that the university delivers an annual flow of graduates to society, which seems

to be an exciting source of potential talent for the job market. In this way, the studied parks developed specific activities to interact and attract the attention of this group of individuals.

The Linköping Science Park, for example, proposed the creation of a parallel board composed of university students. The idea was initially put into practice in 2012, with the dissemination of the project inviting students to participate. The selection process aims to reach students from different university disciplines and, as far as possible, with gender equality. On average, twenty-five students apply to be part of the board, being interviewed around fifteen to approve eight to ten at the end. Those chosen will serve on the board for one year and will have the opportunity to participate in park management operations. Exceptional professional experience in board work is the main reward for student participation and dedication.

The activities and the flow of information between the two boards are simplified by having the same chairperson and having a joint strategic meeting each year. One of the main benefits of student participation in park operations is creating a two-way information channel. In one way, students act as park ambassadors to the student community and publicise the park's activities and opportunities. On the other way, students bring the needs and aspirations of their community to the park management, contributing to better decisions and making the park more attractive to young talents. This student council is still active to this day[1] and aspires to bring young and fresh ideas to park operations.

University students are not only desired by park firms when they graduate. Even after some time of obtaining a university degree and working outside the region, these alumni are still desirable, as they can contribute to the park's firms with their work and cultural experiences acquired during this period. To attract this type of talent, Linköping Science Park conducted a project to invite and select young talents and integrate them into some park firms. In a typical win-win situation, firms optimise their processes and improve their products while learning to be more attractive to young talent. At the same time, young workers have the opportunity to develop their skills and competencies further, as well as expand their networks.

In fact, the possibility of developing relationship networks is something important for the park since talents are people looking for places where they feel motivated to evolve professionally and have the chance to work together with other talented individuals [27]. Creating spaces where people can meet and get to know each other is essential to attracting talent. Ideon Science Park then built the Ideon Meeting arena to bring together people from academia, firms (park firms and firms from the region), politicians, decision-makers, and individual talents. The events promoted by the park in this arena contribute to exchanging knowledge and experiences, expanding talent networks, and providing new business opportunities. The university's academics participate in the events seeking to publicise their research, develop their research networks, and obtain partnerships. Moreover, the presence of government agents allows the needs of the university and the tenant firms to be better understood and thus seek a better solution together.

In 2013 Lindholmen Science Park received CEVT, an innovation centre created by the merger of Geely (China) and Volvo Cars (Sweden). Then, the park needed to offer

[1] https://linkopingsciencepark.se/contact/board/.

customised support services focused on particular needs to accommodate this new company composed of people from different countries and cultures. It was necessary to provide workers from China with support related to housing, schools, and connections with government authorities in areas such as immigration and residence and work permits. Moreover, to keep this relationship with CEVT more lasting, the park has also strengthened the company's relationship with its local universities to establish research links and facilitate the recruitment of academic talent.

In its early years, Linköping Science Park, still called Mjärdevi Science Park, needed to demonstrate to local politicians how the park could be a tool for regional development. During this period, the park also suffered from a lack of experienced business professionals in its management team (MSP Office Inc). This gap hampered support for tenant firms and the park's growth, so the park had first to attract talent to its team and then work on expanding its network of contacts and strengthening the brand. With the support of the Swedish embassies, the park participated in conferences to disseminate information and opportunities about the park to place itself on the international stage.

5 Conclusion

This paper aims to investigate the existing interactions of science parks with triple helix actors related to the development of talent attraction activities. Interactions with the local university can occur in different ways, but always with a focus on academic talent, whether they are graduates or researchers. This strategy aims to bring these university talents closer to the park, either to spread the park's opportunities or to capture their desires and interests. Interactions with government agents, in turn, aim to support the attraction of companies (and their talents) to the park as well as for the processes of internationalising the park's brand.

Finally, this study showed that the studied parks carry out different activities to attract talent, and the involvement of government agents and the local university proved to be essential for developing such activities.

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