

# Maintaining Relevance in a Continuously Changing Innovation Ecosystem: the Case of Imatch

Miguel Maria Duarte Silva de Almeida

## 153921041

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## ABSTRACT

**Dissertation Title**: Maintaining Relevance in a Continuously Changing Innovation Ecosystem: The Case of Imatch

Author: Miguel Maria Duarte Silva de Almeida

Maintaining relevance in an innovation ecosystem can be a significant challenge for organizations, as these are rapidly changing environments. In this fast-paced scenario, the challenge of continuously adding value to the different stakeholders in the ecosystem arises. This dissertation addresses this challenge by studying the case of imatch, an innovation consultancy company well established in the Portuguese Innovation Ecosystem that helps other organizations innovate through open innovation programs. The research methodology used in this study is focused on a qualitative approach, with data collected through in-depth interviews. The findings of the study are intended to provide imatch with strategies that will help the company succeed in maintaining relevance in its ecosystem. The implications of these findings for other organizations in the innovation for future research in this area.

**Key words:** Open Innovation, Internal Innovation, Innovation Ecosystem, Startups, Innovation Consultants

## **RESUMO**

**Título da Dissertação**: Maintaining Relevance in a Continuously Changing Innovation Ecosystem: The Case of Imatch

Autor: Miguel Maria Duarte Silva de Almeida

Por serem ambientes de constante mudança, manter a relevância num ecossistema de inovação pode ser um desafio significativo para as empresas. Neste cenário acelerado, surge o desafio de agregar valor aos diferentes *stakeholders* do ecossistema de forma contínua. Esta dissertação aborda este desafio através do caso de estudo da imatch, uma empresa de consultoria de inovação bem estabelecida no ecossistema de inovação português, que acelera a inovação de empresas através de programas de inovação aberta. A metodologia de investigação utilizada neste estudo foca-se numa abordagem qualitativa, com dados recolhidos através de entrevistas. As conclusões do estudo destinam-se a sugerir um conjunto de estratégias que ajudarão a empresa a manter a relevância no seu ecossistema com sucesso. As implicações destas conclusões para outras organizações no ecossistema de inovação são também discutidas, e são feitas recomendações para pesquisas futuras nesta área.

**Palavras-chave:** Open Innovation, Internal Innovation, Innovation Ecosystem, Startups, Innovation Consultants

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### 1. INTRODUCTION

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change." Charles Darwin

An ecosystem is a biological community of components interacting with each other in a particular geographic location. It is a holistic unit where the relationships of all its agents influence its behavior and shape its structure.

Like in a natural ecosystem, where various species interact and rely on each other for survival, the components of an innovation ecosystem – organizations, institutions and individuals – interact and collaborate to create and commercialize new solutions and technologies necessary, in some situations, to the survival of those involved. In both systems, diversity and adaptability are key factors for resilience and sustainability.

In today's rapidly evolving technological and human behavioral landscape, organizations face the challenge of staying relevant in their communities. The speed and scale of technological change, combined with increasing competition, shifting consumer demands or the new paradigm of work require that organizations adapt in order to prosper. This is particularly true for innovation consultancy companies, such as imatch, who provide expertise and support to organizations seeking to innovate.

Imatch is an innovation consultant that has been co-creating innovation programs with different companies for the last fifteen years and is well established in the Portuguese innovation ecosystem. It has built solid and long relationships with major clients from different industries, such as Microsoft, Galp or Grupo Nabeiro, with several incubators in Portugal, some universities, business advisors, business angels among other agents in the Portuguese innovation ecosystem. In in spite of these connections and although companies have been investing more in innovation, there is still a need of constant business development and client seeking.

This dissertation aims to respond to a concrete challenge, where the collection of market data must be limited to the collection of specific testimonials and not to an extended survey. Specific testimonials from customers and startups maintaining a relationship with imatch will provide more useful insights to the purpose of the study than conducting a survey covering a broader range of respondents that don't interact with imatch.

#### **1.1 Problem Statement**

This dissertation aims to understand how an innovation consultancy can maintain relevancy in a continuously evolving innovation ecosystem by exploring the case of imatch in becoming more relevant, raising awareness to its offer and consequently lowering the need for effort in client seeking.

In order to do so, the research follows the objectives of:

- 1. Studying the role of innovation in organizations
- 2. Understanding innovation ecosystems
- Characterizing the Portuguese Innovation Ecosystem and the Innovation Consultancy Industry
- 4. Analyzing the trends of such industry and the role they can play in the business strategy of innovation consultants, specifically in the case of imatch.

The imatch case study was developed so that these objectives have a concrete application in the real-life scenario of the Portuguese context of innovation. Its conclusion seeks to provide strategies that apply specifically to imatch and will help the company to adapt to its ecosystem and, therefore, maintaining relevance in it. By examining the case of imatch, this dissertation seeks to contribute to the understanding of how organizations can maintain relevance in their communities.

#### 1.2 Methodology

The literature review will provide theorical definitions intended to contextualize the case study. The case study covers a practical analysis of the Portuguese innovation ecosystem and a characterization of the innovation consultancy industry.

The research will be focused on qualitative data collected from individual exploratory interviews to different stakeholders in the innovation ecosystem – such as heads of innovation and startups.

Finally, seven SWOT analysis made by different imatch employees will be considered to present stronger and more accurate strategies to the company based on its strengths, weaknesses, opportunities and threats.

### 2. LITERATURE REVIEW

The literature review provides a clear context to clearly contextualize imatch's case study. In this chapter, the evolution of the concept of innovation and its role within companies will be addressed, as well as two different approaches on innovation led by organizations: open and internal innovation. Finally, the literature review will also focus on innovation ecosystems, providing useful resources to the understanding of the case study. Some of the topics discussed in this chapter will be later addressed with a practical approach.

#### 2.1 Defining Innovation in the Organizations' Context

It is safe to say that innovation exists since the beginning of Humanity. Its conceptualization is more recent, though. Godin (2008) identifies the concepts that have defined innovation through History, "from its very first meaning as novelty in the Middle Ages to the most recent interpretations in sociology and economics", suggesting an evolution from the concepts of imitation and invention to what is now a general acceptance of the concept of innovation (Godin 2008). Becker and Whisler (1967) distinguish the concepts, stating that invention is the creative act and innovation relates to the early application of an idea in a specific environment by one organization or a set of organizations with similar goals (Becker and Whisler, 1967, p. 463).

In 1996, Damanpour defined innovation as a means of changing an organization, either as a response to changes in the external environment or as a pre-emptive action to influence the environment, encompassing a range of types, including new product or service, new process technology, new organization structure or administrative systems, or new plans or program pertaining to organization members (Damanpour, 1996). This definition taps on two important aspects of the concept: that it is an answer or precaution to challenges from both within and out of the organization and that its outcome can be not only a product or service, but also a way to improve efficiency in the internal processes.

There are various definitions of innovation throughout the literature. In 2020, Granstrand and Holgersson stated that most contemporary definitions of innovation see this concept as "an outcome of a process, rest on two defining characteristics, a degree of newness of a change and a degree of usefulness or success in application of something new". And after taking sixty different definitions of innovation into consideration, Baregheh, Rowley and Sambrook (2009) proposed the following definition: "innovation is the multi-stage process whereby organizations transform ideas into new or improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace".

#### 2.2 Role of Innovation in Organizations

"The significance of innovation is not restricted to business organizations" (Baregheh, Rowley and Sambrook 2009), but goes beyond. Th United Kingdom is an example of a country that has a department of innovation, focused on promoting innovation within companies, under the statement that if UK-based companies fail to innovate, its standard of living will decrease compared with other countries, because profits will suffer (Baregheh, Rowley and Sambrook 2009).

Literature often refers Joseph Schumpter as the first economist to draw attention to the importance of innovation for organizations. In his book "Capitalism, Socialism and Democracy", he wrote about the concept of innovation as a way for firms to create new value and maintain their competitive advantage (Schumpter, 1942). But the process of innovating must be enabled "through sophisticated and active management", for it is not an automatic attribute of organizations (Bessant, Lamming, Noke, Phillips 2005)

Standardization of processes is often seen as a barrier to innovation, which is often associated to disruptive methods, to novelty and "thinking outside the box" (Wright, Sturdy and Wylie 2012). Portraying management innovation and innovators as dependent on new and groundbreaking ideas misrepresents a significant portion of the innovation process in organizations. The authors argue that "management innovation in large organizations can be highly standardized and standardizing" and that consultant-led management innovation involves significant standardization. They suggest that effective innovation management requires a combination of top-down and bottom-up approaches, as well as the development of a supportive organizational culture that encourages creativity and risk-taking (Wright, Sturdy and Wylie 2012).

Management consultants are also often associated to being a major source of innovation. They play a key role in driving innovation and organizational change, as they provide the necessary leadership and resources to ensure that new ideas are implemented and adopted. (Ginsberg and Abrahamson, 1991). So, how have companies structured and organized their innovation processes?

#### 2.3 Open Innovation

Open innovation is a term that refers to the process by which firms actively seek and incorporate ideas and technology from external sources in order to enhance their innovation capabilities and performance (Chesbrough, 2003).

Laursen and Salter (2006) suggest that firms should engage in various types of external interactions to acquire and use knowledge from external sources to enhance their innovation performance.

Chesbrough (2003) makes a distinction between inbound and outbound open innovation. Inbound open innovation refers to the process of actively seeking and incorporating ideas and technology from external sources, such as suppliers, customers, or research institutions. Outbound open innovation, on the other hand, refers to the process of actively sharing and commercializing internal ideas and technology with external parties, such as through licensing or spin-off ventures (Chesbrough, 2003).

The open innovation process often includes intermediaries, which are third-party entities that facilitate the transfer and integration of knowledge between organizations engaged in open innovation (Huizingh, 2011). According to Huizingh (2011), intermediaries provide valuable services such as scouting, screening, evaluating, negotiating potential partners, providing access to funding and expertise, as well as managing intellectual property rights. The role of intellectual property is often referred in the literature and has been found to be both a significant enabler and a barrier to open innovation (Lerner & Tirole, 2002).

Von Hippel (2005) distinguishes four types of open innovation: open source, open collaboration, open networks and open user innovation. Open source refers to the use of publicly available source code in the development of new products or services (von Hippel, 2005). Open collaboration is the process of actively seeking and engaging with external partners in the co-creation of new ideas and technologies (Chesbrough & Bogers, 2014). Open networks refer to the use of external networks and relationships to enhance innovation capabilities (Hansen et al., 1999) and, finally, open user innovation refers to the process of actively seeking and incorporating ideas and feedback from end users in the development of new products and services (von Hippel, 2005).

Different authors discuss the myriad benefits of open innovation for firms. According to Chesbrough (2003), open innovation can help firms access new ideas and technologies that they may not have been able to develop internally, speed up the innovation process, and reduce R&D costs. In addition, open innovation can help firms tap into new markets and customer segments and enhance their reputation and brand image. Other studies have found that open innovation can also lead to increased competitiveness and market success (Lichtenthaler & Lichtenthaler, 2009; West et al., 2014).

However, there are also challenges associated with open innovation. Besides the challenge related to the intellectual property protection mentioned above, West & Gallagher (2006) identify the challenge of cultural fit: for open innovation to be successful, firms must be able to effectively integrate external ideas and technologies into their internal processes and culture. This can be difficult if there are significant differences between the external parties and the firm. But Huizingh (2011) states that intermediaries can help to bridge the cultural and organizational differences between partners and facilitate learning and knowledge transfer.

According to Chesbrough (2003), open innovation can be contrasted with the traditional model of closed innovation, in which firms rely solely on internal research and development (R&D) to generate new ideas and technologies.

#### **2.4 Internal Innovation**

Internal innovation refers to "the process of creating, developing, and implementing new ideas within the boundaries of an organization by exploiting its own resources, capabilities, and knowledge" (Chesbrough, 2003). Internal innovation has been described as an important source of competitive advantage for firms, as it allows them to continuously improve and adapt to changing market conditions (Damanpour, 1991).

Burns and Stalker (1961) distinguish between incremental and radical innovation within an organization. Incremental innovation involves small, gradual improvements to existing products, processes, or business models, while radical innovation involves more significant changes that may require the development of new technologies or the introduction of entirely new products or services (Burns & Stalker, 1961). There are other types of internal innovation identified in the literature, that include architectural innovation, which involves changes to the structure or organization of a firm (Teece, 2010).

Ginsberg and Abrahamson (1991) discuss the role that internal and external change advocates play promoting and implementing innovation within organizations. The authors define these as individuals who promote and support innovation within an organization, either from within the organization (internal change advocates) or from external organizations or networks (external change advocates). They argue that change advocates play a key role in driving innovation and organizational change, as they provide the necessary leadership and resources to ensure that new ideas are implemented and adopted.

Internal innovation can help firms to stay ahead of competitors by providing a continuous stream of new and improved products and services (Tidd & Bessant, 2013). This can lead to increased efficiency and productivity, as well as the development of new revenue streams and contribute to creating a culture of innovation within organizations. But can also be limited by the organization's own biases and resource constraints (Chesbrough, 2003). It may require significant investments in research and development, as well as changes to organizational structures and processes (Lundvall, 1992). It may also require firms to adapt to new technologies or business models, which can be difficult and disruptive (Osterwalder & Pigneur, 2010).

Nevertheless, Chesbrough (2003) emphasizes the importance of leveraging both internal and open innovation to stay competitive in the marketplace.

#### 2.5 Innovation Ecosystems

Over the years, a myriad of different definitions of innovation and entrepreneurial ecosystems have emerged.

In 1993, Moore introduces the concept of a business ecosystem, which he defines as "an economic community supported by a foundation of interacting organizations and individuals—the organisms of the business world." It can include suppliers, customers, regulators, and other stakeholders (Moore, 1993). Isenberg (2010) defines the concept of the entrepreneurial ecosystem as a set of institutions, organizations, and individuals that support entrepreneurship in a given region.

Buenstorf (2016) defines an innovation ecosystem as a set of interconnected organizations and individuals that create, develop, and diffuse new knowledge and technologies. Another definition of innovation ecosystems was proposed by Dhanaraj & Parkhe (2006) who define innovation ecosystems as a "network of firms, institutions, and individuals focused on bringing novel products, processes, and services to market, where the network is the platform for the exchange of knowledge, resources, and capabilities."

According to Buenstorf (2016), innovation ecosystems are characterized by interdependence, feedback loops, and complementarities between different actors and Dhanaraj & Parkhe (2006) emphasize the importance of trust, communication, and cooperation between these actors in these networks, suggesting also that innovation ecosystems are characterized by a high degree of interdependence and collaboration among ecosystem participants.

Chesbrough (2003) focuses on the flow of knowledge and technology between different actors in the ecosystem and identifies intermediaries as having an important role in that flow. According to the author, intermediaries are organizations that connect different actors in the ecosystem and help to create new opportunities for collaboration and knowledge exchange. They can be technology brokers, innovation scouts or innovation consultants. Their roles include identifying and matching complementary capabilities, brokering relationships, facilitating access to funding and other resources and providing platforms for experimentation and learning (Chesbrough, 2003).

Isenberg (2010) argues that entrepreneurial ecosystems are crucial for fostering innovation and economic growth, and identifies key elements of successful ecosystems, such as access to capital, talent and networks. The author also points out some challenges of building and maintaining successful entrepreneurial ecosystems, including the need for coordination and collaboration among ecosystem participants, the importance of local context and culture, and the potential for ecosystem fragmentation and isolation.

Innovation ecosystems are crucial for the development of a specific region and provide a new perspective for explaining regional innovation (Hervás & Molero, 2011).

## 3. CASE STUDY

#### **3.1 Imatch Overview**

#### 3.1.1 Context

It is a sunny day in Lisbon and Bernardo is about to leave NOW\_Beato to go to a talk on the importance of 5G to the health industry. He is expecting to gain some leads, as a lot of heads of innovation from different health companies are going to be there.

After the talk is over, there is going to be a small coffee break. He has to focus on the talk so that afterwards, he can make a good impression with among them.

The talk is over, people are applauding and starting to move outside, where the coffee break is held. He recognizes one or two faces from other events. After quickly checking on LinkedIn, he is now sure that that person by the coffee machine is Maria, Head of Open Innovation at Lux Hospitals. Bernardo finds the right moment and approaches her. They figure out they know each other from the last edition of Building the Future, and they comment on how relevant that event is to a lot of organizations and individuals. Maria was surprised to learn that Building the Future is co-build by Microsoft Portugal and imatch. After briefly explaining what imatch does, Bernardo asks her what she thought of the 5G discussion. Maria replies: "it is amazing what is being done in this field, but at Lux Hospitals it is very difficult to implement these new technologies". Bernardo sees his opportunity and jumps in: "Yes, I can imagine. But what if I told you we could connect you to the most cutting-edge startups on 5G and help you implement their solutions on Lux Hospitals?"

Maria is interested and they schedule a meeting to the end of the week to further discuss Lux Hospitals' needs and to talk about possible paths with imatch. Bernardo wanted to immediately present a proposal, but he knows this first meeting is essential to know the client so that the final proposal can be fully adapted to its needs. The first meeting is over and Maria wants to hear a proposal for an open innovation program in which imatch connects 5G startups to Lux Hospitals.

After a week, Bernardo and Maria meet again. Bernardo presents a proposal for a program lasting one year. Maria is really excited and accepts imatch's proposal. Bernardo sets up weekly meetings with the Maria to guarantee that the project and its outcome are a result of a collaborative work between Lux Hospitals and imatch throughout the year. The program starts with an immersion phase, where imatch deep dives into the company's needs and defines the challenges of the program. It is followed by a scouting and communication phase, to reach out to its extensive network of startups and incubators and develops a communication plan to get applications from those startups. Afterwards, it is time for the selection phase, where every startup that applied is evaluated both by Lux Hospitals and imatch and together they select the fourteen semifinalists that will be moving forward to the acceleration phase. For this moment, Bernardo proposed a three-day bootcamp where startups can work to adapt their solution to Lux Hospitals' needs with the help from mentors. At the end of the bootcamp, seven startups move forward to the final phase and get extra mentorship. The final event is starting to attract a lot of attention, so Bernardo asks for help from the Innovation Events and Inspiration team from imatch to set up the event. The seven finalists present their pitch to a jury of decision makers from Lux Hospitals. They select the three winners and imatch guides them on the implementation of their solutions throughout the next 6 months.

After one year, Lux Hospitals has three implemented pilots with startups that are now in the process of becoming their suppliers. The company was able to successfully implement 5G in three different areas of its business and the cost of the program is now starting to pay off. The board is happy, plus, it really echoed in the media. Maria is saying that the program should happen again next year but with a focus on sustainability.

#### 3.1.2 The Company

Imatch, Innovation Collective is an innovation consultant. Its purpose is to use innovation as a vehicle to help individuals, teams and organizations transforming the status-quo, being more efficient, making new connections and keeping up to date with the new trends in each industry.

Imatch structures its activity in four dimensions:

- Internal And Open Innovation: programs that foster and work the innovation of organizations, either internally with their own human resources, or by bringing in external talent through startups and entrepreneurs. Clients are usually the heads of innovation of their companies.
- Impact And Social Innovation: programs that aim to achieve and make a positive impact on the world, helping organizations solve challenges that improve people's lives.

- Culture Innovation and Education: Programs created to transform the culture within organizations, so that they become more collaborative, respond more effectively to problems, train skills and behaviors that help them to project themselves and position themselves as a collective that is more prepared for the challenges. Clients are usually part of thehuman resources departments of their companies.
- Innovation Events and Inspiration: programs that materialize in events, reflecting the response to the challenges of today's world, whether be it impact, digital transformation or innovation, bringing an experience of intense inspiration. Clients are usually the marketing teams.

Additionally, imatch has a Communication team that acts transversally and was set with two main purposes: to help the programs from the different areas to communicate and to communicate imatch and its offer, something that has only recently been implemented.

This case study is essentially focused on the Internal an Open Innovation team, particularly in the open innovation activities.

#### 3.1.3 <u>Culture</u>

Imatch centers its activity on the human dimension. "Meaningfully Human" is part of its identity and is at the center of its culture. This is reflected on the way imatch relates to its clients, partners or suppliers. One example of this dimension is Disruption\_22, the open innovation program by Delta Ventures, built by imatch. In this program, startups aim to partner with Grupo Nabeiro. Throughout the process there are innumerous sessions of business acceleration, but also of "deacceleration", where topics such as failures, burn outs, mindfulness and awareness to the body or the challenges of running family businesses are addressed, alongside with individual coaching sessions for each member of the nine participating startups.

*Meaningfully Human* is also applied on NOW\_Beato, a coworking space owned by imatch that hosts different organizations and individual entrepreneurs, including imatch, promoting synergies between them and contributing to a youth, dynamic and interactive culture. And finally, it is reflected on the team relationships and on recruiting processes: employees come from different backgrounds and their individuality is valued by imatch. As the CEO Paulo Dias says, "it gives us a more holistic vision of the world and makes it easier for us to adapt our offer to the clients' needs".

#### 3.1.4 From 2008 to 2 million

Imatch goes back to 2008 when former Danone employees Paulo Dias and Miguel Muñoz Duarte got together to start a new company. Paulo had been working mostly on sales and Miguel on marketing, but both with a similar experience in Fast Moving Consumer Goods (FMCG) companies. Having witnessed the revolution on the yogurt market (which registered a growth of about ten times of the per capita consumption in the beginning of the millennium), they noticed the huge investment on innovation that was being made by a lot of FMCG companies as well as the continuous rising of innovation projects in this area.

Both Miguel and Paulo had been involved in many of these projects, and in spite of appreciating the process, they felt that these projects lacked a stronger basis structure. The problem behind the idea of the projects was not being addressed correctly most of the times. They felt the need to work primarily on the problem-idea binomial before defining the project. They believed that that was the only way to make sure the project was answering a real need and the innovation was adding real value to the company.

A few years after leaving Danone and after creating a business coaching company, Paulo was challenged by Miguel to start imatch. So, in 2008, imatch was born to help companies to have ideas to innovation projects. In the beginning, its main activity was to set an ideation process based on the Creative Problem Solving (CPS) methodology in which the clients would participate in order to better understand their problem and its dimensions before developing a project or projects that would be the client's best path to answer those problems.

Imatch's first client was CSM Ingredients, an international leader in the baking industry. CSM's challenge was to facilitate the work of bakers and pastry chefs - the company's target. Based on the CPS methodology, the first step was to deep dive into CSM company and industry to clearly frame the challenge. So, Paulo and Miguel, alongside with a team from CSM, interviewed many people from the company and collected data from the industry and from bakers and pastry chefs. Then, imatch set a series of activities and workshops meant to inspire the CSM team and promoted a brainstorming session to generate ideas that would then be turned into concepts in an incubation session and implemented as projects afterwards.

Following CSM Ingredients, many more important companies in different industries came along, such as PT Telecomunicações, Nobre Campofrio, and, as part of a deal with Mcann Erickson, Nestlé, L'Oreal, Gallo, Roche, among others.

In October 2009, imatch launched Ignite, an event with five-minute talks to give voice to unknown ideas and talents from Portugal. This was meant to attract prospects and to gain relevance in the innovation ecosystem in Portugal. Unexpectedly, the event attracted a lot of frontrunners and entrepreneurs, who came to Ignite "because there weren't as many events as today" as Paulo says, and continues: "about one hundred and fifty people showed up, which was interesting because a these were a group of people who became part of our network and many of them became mentors and sources of inspiration for the workshops we were organizing for companies".

Through different Ignites, through Miguel and Paulo's entrepreneurship and innovation degrees and through the growing client's wallet, imatch started to build its long-lasting network.

2013 opened doors to Open Innovation, after imatch challenged Vodafone and Câmara Municipal de Lisboa to come together and launch a program to develop apps directed to the public. Imatch began to participate on the acceleration of starting projects, maintaining its creative collaboration approach and the CPS method.

The company kept growing and the programs it was managing with different clients had various scopes and started to fulfill different purposes for the clients. This led to a restructure and rebranding in 2018. Imatch organized its activities into its curretn four areas - Internal And Open Innovation, Impact And Social Innovation, Culture Innovation and Education and Innovation Events and Inspiration – and changed its name from "imatch innovation ignition" to "imatch innovation collective", stating its collaborative and human centered approach.

Today, imatch works with more than twenty different clients, including Microsoft, McDonald's, Grupo Nabeiro, Leroy Merlin, Prio, EDP, Auchan, Vodafone, Portugália, Fnac, BMW, among others and 2022 was the year in which imatch recorded the highest income since the beginning of its existence, achieving 1.77 million in sales. Appendix 1 shows this growth throughout the years and the 2023 projection.

#### **3.2 Portuguese Innovation Ecosystem**

Although the Portuguese innovation ecosystem is still in its early stages, it has been progressing significantly and getting a lot of international attention. Figure 1 structures the ecosystem from the perspective of startups and entrepreneurs and categorizes companies such as imatch as "enablers". This chapter intends to describe the Portuguese innovation ecosystem and the innovation consultancy industry, which is encompassed by thsee enablers.

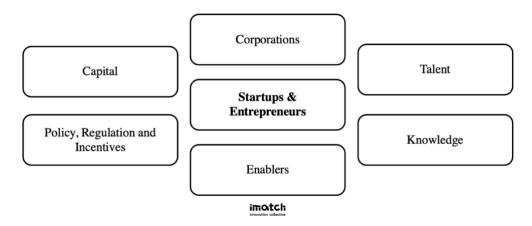


Figure 1 - Portuguese Innovation Ecosystem Structure. Source: information provided by Startup Portugal

#### 3.2.1 Startups

These fast-paced and steadily growing small businesses make up over 1% of the country's GDP. In 2020 there were 2159 active verified startups and scaleups in Portugal, which is about 13,2% higher than the Europe's average, which is 190 startups per million inhabitants (see Figure 2). Portugal has 7 of the 208 unicorns of Europe.

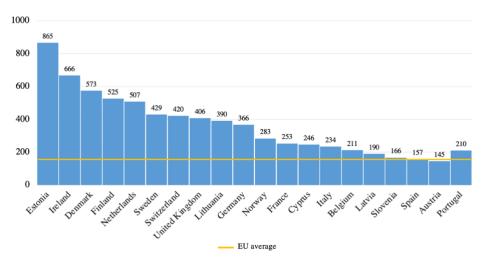


Figure 2 - Startups per million inhabitants. Source: Atomico 2020

A Portuguese startup employs, on average, 8,8 people. The founders are mainly male (94,2%), which is above the Europe's average (86,4%).

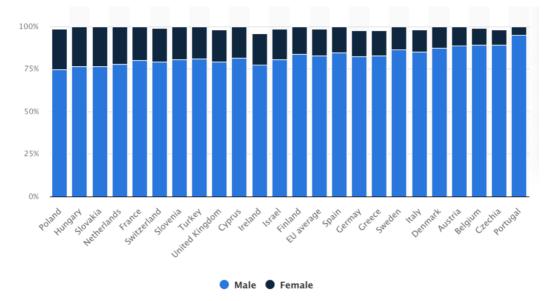


Figure 3 - Startup Founders by Gender. Source: Statista 2023

75,2% of the Portuguese startups have a B2B business model. Regarding the industries, 44% are dedicated to Consumer & Web, 28% to Information and Communications Technology, 16% to Cleantech & Industry 4.0 and 12% to Medtech % Health IT.

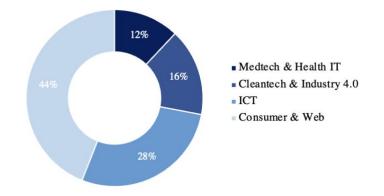


Figure 4 - Startup Distribution by Industry. Source: Scaleup Portugal 2020

The North and Center of Portugal account for about 67% of the startups' distribution in Portugal, with Porto registering 19%. The South of Portugal accounts for 29% of the startups' distribution, with Lisbon registering 18%. The remaining 4% are in the islands, with Madeira registering 3% and Azores 1%.

#### 3.2.2 Policy, Regulation and Incentives

Policy, regulation, and incentives play a crucial role in shaping the environment for startups to thrive in. Portugal has a set of economic relief measures that support innovation and facilitate the life in the ecosystem, such as the Golden Visa Program (program to push more foreign investors towards low residency regions), financial and tax incentives for new products, services or processes and innovation, financial incentives for investment in R&D activities or financial support to internships for unemployed graduated young people and for long-time unemployed people. Below are some examples of these incentives:

- Startup Visa
- Startup Voucher
- Incubation Voucher
- Tech Visa
- Road2websummit
- E-Residency 2.0
- 200m
- Semente
- Empresa na Hora

At the moment Portugal has no restrictions on foreign capital entry. In that way, the rules applicable to foreign investment are similar to those applicable to domestic investment. There is Empresa na Hora, a program that facilitates company incorporation by citizens and non-citizens in less than sixty minutes. In addition, Portugal has strict competition and anti-trust laws that specifically prohibit companies to fix prices, limit supplies, etc. Finally, it is becoming easier for investors to register copyrights, as Portugal is one of the countries with lower patent costs.

#### 3.2.3 <u>Talent</u>

#### Universities

Portuguese talent is recognized for its high level of education and qualifications. The education system in Portugal ranked in 24th position, according to the 2022 Best Countries for Education Report.

Portugal's higher education system is held in high regard globally, with seven of its universities included in the QS World University Rankings 2021. The University of Porto and the University of Lisbon are the highest-ranked universities from Portugal on the list. On top of this, the QS Higher Education System Strength Rankings, which evaluated the overall strength of higher education systems across the globe, ranked Portugal's system as the 35th best in the world in its first edition.

The founders behind Portuguese startups are highly qualified with the majority of them holding at least a Master's degree. Looking at Figure 5, one can conclude that Portugal has higher education among founders, since the number of founders with Bachelor, Master and PhD degrees is higher in Portugal than the EU's average.

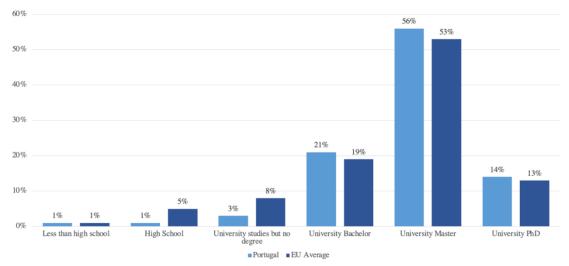


Figure 5 - Startup Founder's Education. Source: Source: EU Startup Monitor, Europeen Comission, 2018 Report

When it comes to Information and Communication Technology, in addition to traditional universities, there has been a rise of talent coming from emerging coding schools. These institutions provide their students with short-term courses in the ICT area, that allow a quick entrance in this market, that has an enormous job supply. Some of these institutions include:

- Academia de Código
- 42
- Le Wagon
- Ironhack
- No Code Academy

#### Mentors & Speakers

Another major part of the Talent action in the ecosystem are the mentors and speakers that provide support to startups and entrepreneurs. They play an important role in the ecosystem because they share their experience and knowledge with a startup founder, provide valuable insights and suggestions for improvement, connect a startup founder with potential investors, partners, or customers, expand their network, open up new opportunities and help them grow.

Mentors are usually individuals with experience and expertise in a particular industry or domain, with skills or knowledge that can be helpful to a startup founder, such as entrepreneurship experience, marketing, finance, or legal expertise. They can come from personal networks, incubators and accelerators or online networks (such as social media groups or dedicated mentorship platforms).

#### 3.2.4 Knowledge

Most universities and polytechnics have specific offices or bureaus to bridge the gap between students and other ecosystem stakeholders. Most incubators in Portugal are associated with a university or polytechnic institution, being responsible for the birth and initial support of innumerous startups.

In 2020 there were 123 universities and 161 polytechnics in Portugal with around 771 higher education courses in 135 schools, in the areas of Sciences, Mathematics and Information Technology. 91 courses in 45 schools in the areas of Engineering of Information Technology. Business Schools are internationally recognized, with two schools ranking as the top 25 best full-time MBAs in Europe.

The formal academic offer shows 59 courses, in between PhDs, Masters', or undergraduate programs, dedicated to Entrepreneurship and/or Innovation throughout 32 institutions (universities, polytechnics, public, and private) with a geographically evenly spread distribution in the country. Also worth mentioning the 8 programs dedicated to Social, Impact, and/or Sustainability.

In 2021, the total national expenditure on R&D reached 3.609 million euros, representing 1.68% of the national GDP. This is a 12% growth compared to R&D expenditure in 2020, which represented 1.61% of the GDP. The Business sector, responsible for the execution of 2.154 million euros, represented 60% of the national R&D expenditure, and the Higher

Education sector represented 33% (1.202 billion euros). The State and Non-Profit Institutions were responsible for 5% and 2% respectively.

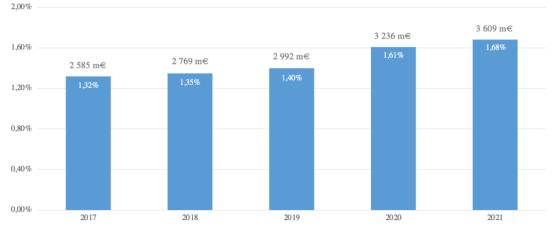


Figure 6 - R&D expenditure weight on Portuguese GDP. Source: DGEEC 2021

### 3.2.5 Corporations

Corporations have an essential role in an innovation ecosystem and both startups and corporations grow from their interaction. Corporations have established distribution channels, customer bases, and brand recognition that can help startups gain market access and reach a larger audience. They have large financial resources and can provide funding to startups, either through direct investment or through venture capital arms. Besides funding, corporations can collaborate with startups to co-develop products or services, boosting their growth and success and helping corporations differentiating in their industries.

According to INE, in 2021 Portugal had 1378 large corporations (Appendix 2). The World Bank's Doing Business 2020 index places Portugal in 39th place out of 190 economies in the "Ease of doing business ranking", being in the 12th place among the EU economies. Around 140 companies have installed about 158 service centers in Portugal, being 92% from foreign companies. Figure 7 shows some of these innovation centers in Portugal from major renowned companies.

| Corporation | Innovation Service Center                         |
|-------------|---|
| Amyris      | Biotech R&D center in Porto                       |
| Bosch       | Technology center for automated mobility in Braga |
| Google      | Tech Center for EMEA region in Lisbon             |

| Digital Delivery Hub in Lisbon               |  |  |
|--|--|--|
| Lisbon Hub with Data & Services team         |  |  |
| Cyber Security Operations Center in Lisbon   |  |  |
| Software development center in Lisbon        |  |  |
| Global Shared Services Center in Lisbon area |  |  |
| -  |  |  |

Figure 7 - Corporations Innovation Centers in Portugal.

In Portugal, there are several large corporations investing in startups. Some of the most relevant are:

- CTT
- Galp
- NOS
- Sonae MC
- Grupo Nabeiro

### 3.2.6 Capital

Capital is the key ingredient in the ecosystem. Access to capital enables a startup to grow and compete in the market, to attract and retain individuals by offering competitive salaries, benefits or stock options and to survive uncertainty. Capital goes beyond strictly money, as startups often lack some of the skills required to develop – such as business management, sales, manage for scale, access to people and markets – and as startups develop, their capital requirements change. Capital entities may be:

- Public Venture Capital government organizations or public institutions providing funding to startups.
- Business Angels private individuals who provide financial support and mentorship to startups in exchange for equity or ownership.
- Venture Capital professional private investors, typically organized in funds, that provide capital to companies with high growth potential in exchange for an equity stake.
- Corporate Venture Capital Investment in startups by established corporations, often to gain strategic advantages or access to innovative technologies. Usually through joint venture agreements and the acquisition of equity stakes.

The total estimated investment in Portuguese startups in 2020 was 434,5 million euros and 1000 million euros in 2021, according to Startup Portugal and Dealroom, respectively.

According to the Portuguese Association of Business Angels (APBA), the investment made in startups in Portugal by business angels in 2018 was 5,5 million euros and 13,4 million euros in 2019, representing about 2,4 growth in the invested amount from 2018 to 2019. Fintech, Healthcare and Industrial/Energy were the preferred industries to invest.

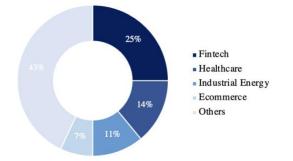


Figure 8 - Investment by area from business angels in Portugal Source: APBA report 2018/2019

One main institution of public capital is Portugal Ventures, that has had significant impact in the local ecosystem, having invested 155 million euros in startups and grown 147 new startups since 2012. Its preferred industry to invest is Digital (40%) followed by Enginnering & Manufacturing (36%), Tourism (25%) and Life Sciences (16%). Appendix 3 shows some of the most relevant capital entities in the Portuguese ecosystem.

#### 3.2.7 Enablers

In its most embracing definition, enablers include everything and every organization (excluding the ones from the other agents of the ecosystem) that support startups and entrepreneurs to succeed. Figure 9 structures the enablers of the Portuguese innovation ecosystem.

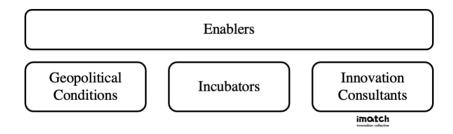


Figure 9 - Enablers Structure

#### Geopolitical Conditions

Mainland Portugal is the most south-western point of continental Europe, ensuring an important geo-strategic position between Europe, America and Africa. It is the nearest European country to the US and Canada and has the same time zone as UK and Ireland, with just one hour difference from central Europe. There is an easy bridge between Portugal and Portuguese speaking markets, counting with around 260 million people.

According to the Global Competitiveness Report 2019, Portugal is in the 21st place in the world with better infrastructures, out of 141 countries. It has a very good VHCN broadband coverage 80% and good fast broadband (NGA) coverage.

It is ranked in 13th in digital public services, according to the Digital Economy and Society Index 2020 and is actively implementing measures to promote the digitalization of businesses and public services through, for example, Industry 4.0, Mobile Medical Electronic Prescription, Social Security + or ComércioDigital.pt.

#### Incubators

A business incubator is a public or private organization designed to support the development of new companies by providing structured or customized, relatively long-term, support to early-stage startups. They generally provide ongoing, diversified entrepreneurial support through offline and online activities tailored to the startups' needs.

In Portugal, incubators have played a significant role in fostering the growth and vitality of the business community. These institutions have effectively contributed to the success of creative and pioneering startups, thus boosting the rate of their sustainability.

Rede Nacional de Incubadoras is a network of incubators that promotes cooperation and shares resources and knowledge, in order to improve the offer of products and services provided to entrepreneurs and companies.

According to IAPMEI, there are 120 certified incubators in Portugal, but the total number is thought to be around 150 throughout the country. From 2016 to 2023, the number of Portuguese incubators grew by 40%.

Figure 10 shows the percentage of Portuguese incubators that offer a specific service.

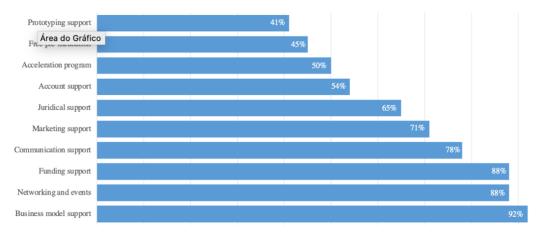


Figure 10 - Percentage of incubators delivering different services Source: RNI, Portuguese Incubators Monitor

Below are some of the most relevant Portuguese incubators:

- Instituto Pedro Nunes, in Coimbra
- Universidade de Aveiro Incubator, in Aveiro
- UPTEC, in Porto
- Startup Lisboa, in Lisbon
- ANJE, across Portugal

#### Innovation Consultants

These firms specialize in helping clients implement innovation projects, mainly through open innovation programs, despite offering different services in some cases.

Usually, the clients are corporations, and the implementation of open innovation programs involve different partners (agents of the ecosystem) and startups, with the ultimate goal of connecting startups to corporations. In these cases, innovation consultants are enablers because, through their knowledge and network, they bring different agents in the ecosystem to foster innovation, thus bringing value to its final customer, the corporation, who is now able to find the most suitable solutions for its challenges through startups.

Innovation consultants provide services like startup scouting, innovation tools and canvas, acceleration bootcamps, events management, mentorship, coaching and networking.

This is where imatch's Open and Internal Innovation team stands in the ecosystem. But, although being one of the first innovation consultants in Portugal, it is not yet the most recognized. Beta-i is the main player in this area in Portugal, having expanded to São

Paulo and had clients in twenty different countries since its birth in 2009. Apart from Beta-I, there are other relevant players, such as Fábrica de Startups, BGI or Fintech House.

Figure 11 analyzes imatch's competition in the Open and Internal Innovation area, looking into the understanded positioning, operation, founding year, style & website, the communication and leverage of each player.

| Player                                    | Understanded<br>positioning                        | Operation             | Founded | Style & Website  | Communication   | Leverage   |
|---|--|-----------------------|---------|--|---|--|
| Fintech House                             | Fintech Innovation<br>Hub                          | рт<br>3 people        | 2019    | Corporate,<br>5.772 followers                                      | <ul> <li>☑ clearness</li> <li>☑ style</li> <li>☑ focus (self)</li> <li>☑ value added content</li> </ul> | Reputation   |
| Fábrica de<br>Startups                    | Innovation and<br>Incubation                       | рт<br>30 people       | 2012    | Relaxed<br>Corporate,<br>6.559 followers                           | <ul> <li>Clearness</li> <li>style</li> <li>focus (self)</li> <li>value added content</li> </ul>         | Reputation   |
| Frederico<br>Mendes &<br>Associados       | Innovation<br>Investment                           | рт<br>21 people       | 2007    | Corporate,<br>Clear, distant and<br>dull<br>2.443 followers        | <ul> <li>clearness</li> <li>style</li> <li>focus (content)</li> <li>value added content</li> </ul>      | Lobbying   |
| BGI –<br>Building<br>Global<br>Innovators | Innovation<br>Positions as start-up<br>Accelerator | рт<br>21 people       | 2010    | Relaxed corporate,<br>Clear, relatable<br>2.449 followers          | <ul> <li>Clearness</li> <li>style</li> <li>focus (self)</li> <li>value added content</li> </ul>         | Partnerships   |
| Innovation by<br>Kaizen                   | Innovation   | рт<br>2 people        | 2021    | Corporate<br>Minimalist &<br>assertive<br>1.646 followers          | <ul> <li>Clearness</li> <li>style</li> <li>focus (self/content)</li> <li>value added content</li> </ul> | Existing<br>corporate<br>clients<br>Reputation             |
| Beta-i                                    | Innovation   | рт br us<br>69 people | 2009    | Relaxed corporate,<br>Minimalist &<br>alluring<br>12.518 followers | <ul> <li>Clearness</li> <li>style</li> <li>focus (founders)</li> <li>value added content</li> </ul>     | Lobbying<br>Moving towards<br>reputational<br>partnerships |
| imatch                                    | Events<br>Organizational<br>Culture<br>Innovation  | рт<br>23 people       | 2008    | Human,<br>Challenging UX<br>2.959 followers                        | <ul> <li>Clearness</li> <li>style</li> <li>focus (client)</li> <li>value added content</li> </ul>       | Network  |

Figure 11 - Imatch competitive analysis

#### **3.3 Imatch's Relationships in the Ecosystem**

Figure 12 shows the imatch's perspective on the ecosystem and its main role in it, acting as a bridge between the startups and corporations. Through its network, imatch also interacts with the Talent part of the ecosystem, connecting mentors and speakers to startups and working also with incubators to reach more startups to its programs.

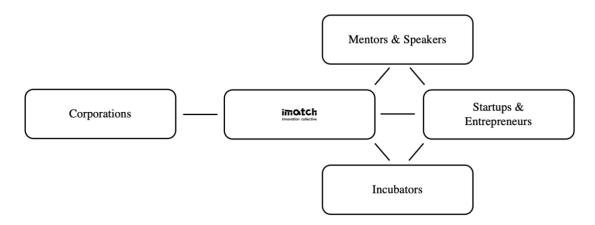


Figure 12 - Imatch's main relations in the Portuguese Innovation Ecosystem

#### 3.3.1 Corporations

When we talk about Corporations, we refer mainly to imatch's clients and prospects: their heads of innovation. These are usually big companies that see innovation as strategic to their operation and future. But if an industry of any company were to be analyzed, the clients or suppliers wouldn't be referred. So, why are imatch's clients and prospects part of the innovation ecosystem? Two main reasons can be identified: the first is because they act as a booster for innovation — not only are they able to pay for innovation programs that will stimulate the ecosystem, but also a lot of startups want to partner with these bigger companies. The second reason concerns the role they play in imatch's network: as a consultant, imatch needs to be constantly aware of the needs of the different industries, and having regular talks with innovation departments of different companies (even if they are only prospects) are essential to keep imatch's relevancy in the ecosystem. Also, heads of innovation of imatch's clients are often invited as guest speakers to programs of different clients. Appendix 4 enumerates some of imatch's clients and prospects.

#### 3.3.2 <u>Network</u>

Imatch's network has grown a lot since its birth and increasing in creating value for customers, making it a valuable asset for the company. In fact, in addition to the in-house experience that imatch already brings to its clients' programs, the access to a large network levels up the quality of the programs, as it allows bringing in the most suitable startups or projects, specialized mentors of different areas and recognized speakers.

#### **Startups**

Open innovation programs require a process of scouting, in which imatch contacts different startups or starting projects to apply for the programs. This role of imatch is relevant for startups because it builds a bridge between them and the corporations. Imatch has its own database of startups, counting currently with 3022 startups that have all at some point been contacted to different programs throughout the years. This database is updated every time imatch hosts an open innovation program, usually two to three times a year. The startups are organized by industry and come from different parts of the world, with around 25% being Portuguese, 22% from the United Kingdom, 12% from Germany, 8% from the Netherlands, 8% from Sweden, 5% from Spain, 5% from France and 15% from other countries.

#### Incubators

Business incubators also play an important role in the scouting process. Their purpose is to catapult startups by supporting them in their early stages with matters regarding financing and accounting, office spaces, business models, presentation techniques, among others. Therefore, imatch partners with relevant incubators in the ecosystem to obtain applicants from those incubators. Incubators benefit from giving their startups an opportunity to accelerate and get clients, and imatch benefits because it gets fresh new startups with innovative technologies to bring to its clients' programs. Appendix 3 shows some of the most relevant incubators in the ecosystem.

#### Mentors & Speakers

Whether they're from Internal And Open Innovation, Impact And Social Innovation or Culture Innovation and Education, most programs require mentors, and some require speakers. Most of imatch resources can be mentors and, depending on the theme and program, some of the senior resources can be speakers. But throughout its years of existence, imatch has collected a list of mentors and speakers coming from different sources: ignite events, acceleration programs, clients, university professors or other innovation events. This list covers different areas of expertise: business models, presentation techniques, wellbeing, entrepreneurship, data science, sustainability, or impact investments.

Adding to this list of mentors and speakers, imatch has a team dedicated to scout for world renowned speakers, particularly to the events of the Innovation Events and Inspiration team.

#### **3.4 The Need to Adapt**

In spite of the movement towards innovation (see Figure 6), there is still a huge need to go after new business opportunities. Imatch finances itself through the sale of projects that last on average five to six months, and, although some clients have been loyal to imatch, the continuity and repetition of the projects (meaning, its resale) is always uncertain. Figure 13 shows the total of proposals presented by imatch versus the proposals imatch actually sold.

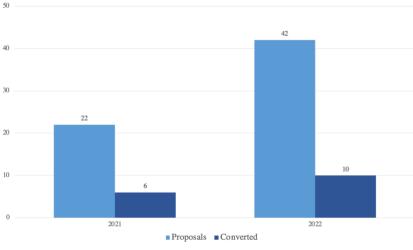


Figure 13 - Total of proposals presented by imatch vs sold proposals

So, in a fast-paced environment, how can imatch become relevant so that its clients start feeling the need of coming to imatch, and not the other way around? How can it start leading the future instead of following it?

To answer these questions, nine in-depth interviews were conducted with different stakeholders of the ecosystem. The answers of innovation directors and startups are intended to collect insights on the future of the ecosystem and to present some strategies that may help imatch maintain its relevance in the ecosystem.

#### 3.5 Listening to the Ecosystem

Interviews were conducted with three heads of innovation from different Portuguese corporations, three Portuguese startup's CEO's and three international startup's CEO's.

#### 3.5.1 <u>Heads of Innovation</u>

#### Role of Innovation in Companies

Interviewee 1 says that innovation in its broadest definition is absolutely critical to the survival of organizations. In her opinion, the broadest definition of innovation goes beyond building great solutions, great products or great technologies, it involves all business units and their ability to think about their challenges and to be able to answer them by applying new solutions or methodologies. "I think we all have the ability to innovate through creativity, the way we think about things and, therefore, that is a critical success factor for the growth of organizations." The other 2 interviewees also consider innovation to be essential to any organization. Interviewee 3 adds two important aspects related to open and internal innovation: internal innovation has an important role of taking advantage of the internal resources of the company to the solution of its own challenges. Besides helping the company overcome said challenges, it also contributes to its culture, bringing people together and connecting different areas inside the organizations. "Open innovation allows us to share our challenges with universities, research centers and consultants that bring a fresh perspective in order to understand how we can respond to these challenges".

#### Challenges and priorities

To interviewee 1's organization, a FMCG company, innovation works as a strategic pillar and the first application the company tries to give it is to the business. So, in their case, innovation is mainly focused on the development of new products, such as drinks, food or snacks. But there are currently some ongoing projects connected with the optimization of processes and circular economy. Sustainability and diversification are key factors that cross to all innovation implementations in the different areas.

Interviewee 3's main focus of innovation is on the Energy Transition. "Being a company in the energy industry, it is impossible not to move in this direction". Her biggest challenge is to make the different business areas see the innovation department as relevant and essential and not as an area that only does interesting projects.

Interviewee 2 says that managing the risk of implementation of innovation initiatives is the challenge his telecommunications company innovation department faces. They need to balance the risk of failure with the potential reward of success of the initiatives supported.

#### Maintaining Relevance

To interviewee 1, imatch has been a key partner in the creation and implementation of their open innovation program, adding value specially in the scouting phase. Imtach's network and scouting skills allow bringing valuable startups, that not only fit the comapany's values but also complement its portfolio and optimize its processes. But she adds: "At the beginning, they [open innovation programs] were very fun and enriching dynamics, and everybody was doing it. But more and more we are aware of the time and resources spent versus the real gain of the programs. You have to change the perspective and add real value, it cannot be just managing the project and tasks, it does not create value". For interviewee 1, imatch needs to go beyond the set up and deliver of the program, and to have the business vision afterwards, where the actual creation of value is. "You need to move from project managers to business consultants in the implementation of the winning solutions, after the program has ended".

Interviewee 2 feedback is interestingly aligned with interviewee 1's. He says that imatch provides access to networks of innovators and entrepreneurs and that it plays an important role in building a culture of innovation within the organization, but it needs to provide ongoing support and guidance throughout the year, rather than only during the programs.

To interviewee 3, imatch brings an outside perspective, which helps in finding better solutions. She values the co-creation method and the peer-to-peer posture in all the interactions. For her, a critical success factor is to have good partnerships. So, her answer on how can imatch maintain relevance in the ecosystem is to maintain the human relation

and the collaboration methodology. She added that imatch should bet on hiring experienced people that can elevate this way of working and therefore contribute to more solid partnerships. She also mentioned the importance of sustainability consultants, that bring outside of the box solutions on how to think sustainability within an organization, suggesting a different approach to our Impact And Social Innovation team.

#### 3.5.2 Startups

#### Industries and Challenges

All the six interviewees - startups from technology, delivery, food and energy industries - commented on their specific industry and challenges. In a general way, the industries in which they operate are growing: hydrogen (as fuel) is a promising sector that has just started its deployment, and it is expected to grow even more (interviewee 6); the shift in the food industry towards healthy and sustainable food is creating a lot of new opportunities (interviewees 5 and 9); the appearance of delivery platforms gave restaurants a new source of income (interviewee 7); and since companies need to know how their customers are consuming, they're leaving a lot of space for technology to emerge (interviewee 8).

The analysis on their industries raised some challenges, such as the emergence of new competitors, referred by most interviewees. But one challenge common to all was the limited time and resources to structure the company and its growth, as they are mainly focused on validating their solution and getting funds.

#### Maintaining Relevance

The interviewees were asked about what imatch could do to become more relevant to them. There were a lot of valuable insights, like providing cost-efficient services where imatch team members step in temporarily as CFO/CEO roles or other administrative roles; providing help in soft funding applications; supporting in activities such as business planning, market identification and legal services; providing networking moments between startups from the same industries yet from different markets.

Besides the specific actions described, there are other valuable insights brought up by the interviewees that were taken into consideration due to their relevance. Interviewee 6 states that the difference between the "best and worst innovation consultants" is the human side,

the ability to listen to both the corporate and the startup to ensure a good fit. Interviewees 4 and 8 remind the importance of being specific and transparent on what services imatch offers startups and interviewee 9 complements it, saying the mentorship from people with real experience in creating or growing companies should be part of what imatch can offer to startups.

#### 3.6 Looking inside

Finally, to study the internal perception of the company, a SWOT analysis was undertaken by seven imatch employees, from different areas. By analyzing imatch's vision on its own strengths, weaknesses, opportunities and threats, it is be possible to present robust conclusions based on the capabilities of the company.

When analyzing the strengths identified one can conclude that imatch 'steam is a relevant strength, as it was referred by most of the respondents in different ways, such as, the variety of profiles, the multidisciplinary team, the team spirit and relationships, the youth and motivation of the team or its willingness. Another undisputable strength is imatch's culture, stated as a strong and good culture, and most of the respondents identified as strengths the flexibility, the dynamism, the accountability and the agility present in imatch's culture. Besides the team and culture, other strengths were pointed out: the co-creation and collaboration methodologies, the focus on the client, the network and the strong skillset in events.

Regarding the weaknesses, respondents identified the low brand awareness and unclear communication of the company identity as being relevant ones. The lack of processes and structure, an unclear business strategy, a junior and overloaded team were also pointed out.

A lot of opportunities were addressed, but the most echoed one was related to the hype on innovation and the companies' change of mindset towards innovation, sustainability and internal culture, which is directly related with imatch's mission. The continuous growth of interest in these topics by organizations was addressed by every respondent. Globalization and internationalization were also identified as imatch's opportunities, along with the money available from funds, the reputation from Building the Future, strategic alliances, imatch's network and the possibility to cross-sell different projects to the same client or clients. The communication and positioning of the company was also described as an existing opportunity that must be addressed, since it can be an important vehicle for sales.

Threats such as the difficulty in attracting and retaining value, loss of company's culture due to the growth of the team or the possible financial crisis are identified. But the majority of the respondents says that innovation is not a priority for companies, leading to invest their capital in more critical areas for their businesses. The financial crisis is also pointed as a reinforcement of this containment by the companies. Another main threat is the competition, namely Beta-I, strong and well positioned, and the continuous rise of new players in the innovation sector, that can diminish imatch's protagonism in the ecosystem. Finally, the low awareness and recognition, the unclear value proposition and the undefined products are seen as threats to imatch.

# 4. CONCLUSION

### 4.1 Adapting

Species adapt to their environment through a process known as natural selection. Natural selection occurs when certain traits or characteristics within a species provide an advantage in surviving and reproducing in a particular environment.

So, what should imatch do, not only to survive, but to grow and maintain relevance in its ecosystem?

This dissertation has explored the role of innovation in organizations and the complex and dynamic nature of imatch's innovation ecosystem, with the goal of presenting strategies for the company to maintain relevance. Through a combination of theoretical analysis and empirical research, this study has shed light on several important aspects on the innovation consultancy industry in which imatch operates, identified its ecosystem, listened to it and analyzed imatch's capabilities.

Taking in consideration the results of the present study and research, imatch can take the following strategies to adapt and maintain relevance:

- Focusing on post-program value creation, with strategies for monitoring the implementation of winning projects and measuring the impact of these projects. This will ensure that innovation actually takes place and is not restricted to an acceleration program with no concrete results besides winning startups. It will also help to strengthen and prolong the relationships with the customers, avoiding the continuous need for going after new business opportunities.
- Increasing the capacity and quality of the workforce: hiring more experienced people, especially for post-program value creation, allocating junior resources to more logistical and operational tasks that require less expertise. This will lead to a greater sense of value creation for the customer.
- Restructuring the Impact And Social Innovation team: this team is currently focused on projects similar to those of the Open and Internal Innovation team, but with a focus on sustainability and impact. Imatch can restructure this area into a sustainability consultant, leaving the acceleration programs exclusively to the Open and Internal Innovation team and creating a new business model that brings outside of the box solutions on how to think sustainability within an organization.

- Creating of programs aimed exclusively at early-stage startups: instead of the large corporates, see startups as clients, who pay to be in an introduction to the market program, which helps them structure their vision and mission, business model, with access to coaching and to different business opportunities to enter the market. This will lead to the increase of the credibility of imatch among startups and facilitate the scouting processes in future programs.
- Clarifying the value proposition for the ecosystem: what imatch does is clear to its customers and to some startups that have participated in different imatch programs, but it is not clear for all stakeholders in the ecosystem. The value proposition of imatch should be more straightforward in all communication channels, starting with the website. A clearer value proposition can lead to increase the demand and reduce the need of going after new business opportunities.

By following these guidelines, imatch can drive growth, enhance efficiency, and foster long-term success among the stakeholders in its ecosystem and so, to achieve the ultimate goal of maintaining relevance.

This research has important implications for both practitioners and scholars in the field of innovation and represents a significant contribution to the understanding of the challenges and opportunities associated with innovation consultants in innovation ecosystems.

#### 4.2 Limitations and Recommendations

The present study has a few limitations that need to be acknowledged. The study's findings are based on qualitative research, which limits the generalization of the results. This dissertation focus was limited to the innovation ecosystem of imatch, which is a specific case in Portugal. Therefore, the results may not be applicable to other regions or industries. Also, the study did not consider the role of R&D in the innovation ecosystem. While this is an essential component of the innovation ecosystem, the study's focus was limited to the perspective of imatch and its role in the ecosystem, which does not directly include R&D. Finally, the study was constrained by the lack of specific information on the innovation consultancy market size in Portugal. Due to the diverse nature of the

innovation consultancy sector, it was challenging to obtain comprehensive and accurate data.

Taking these limitations in consideration, further quantitative research could be used to validate the qualitative results obtained in this study and to expand the scope of the study to include other regions to better understand the dynamics of innovation ecosystems. Future research should also incorporate the R&D perspective to provide a more comprehensive understanding of the ecosystem.

## 5. TEACHING NOTES

#### **5.2** Synopsis

Imatch – innovation collective is a company founded in 2008 to help other organizations innovate. It has grown and adapted in the last fifteen years and today structures its activity in four dimensions: Internal And Open Innovation, Impact And Social Innovation, Culture Innovation and Education and Innovation Events and Inspiration.

This dissertation studies the first dimension, which is focused on developing acceleration programs that foster and work innovation within organizations, either internally with their own human resources, or by bringing in external talent through startups and entrepreneurs. Clients are usually heads of innovation from corporations.

Companies are investing more on innovation but there is still a huge necessity of going after new business opportunities. Imatch finances itself through the sale of projects that last on average five to six months, and, although some clients have been loyal to imatch, the continuity and repetition of the projects (meaning, its resale) is always uncertain.

The purpose of the dissertation is to study how can imatch maintain its relevance in its innovation ecosystem and therefore, making clients come to imatch and not the other way around.

#### 5.3 Target Audience

The present case study is adequate as teaching tool for Undergraduate, Master's and MBA Students in Management courses such as Strategic Marketing or Strategic Management.

#### 5.4 Teaching Objectives

The structure of the case study is intended to provide an intuitive reading from the general approach to innovation of organizations to the particular case of imatch in the Portuguese Innovation Ecosystem. Through this case study, students will be:

- Enlighted on the role and importance of innovation for organizations;
- Able to characterize an innovation ecosystem and, specifically, the Portuguese innovation ecosystem;

- Able to understand the importance of clearly positioning a company in its ecosystem or environment, in order to know who the competition is;
- Able to deepen their knowledge on positioning strategies and to understand how they are crucial for a company to maintain relevance in its context.

## 5.5 Relevant theory

- The relevant theory to a better understanding of this case study include:
- Chesbrough, H. (2003). The era of open innovation. MIT Sloan Management Review, 44(3), 35-41.
- Buenstorf, G. (2016). The economics of innovation ecosystems. Journal of Evolutionary Economics, 26(1), 115-141.
- Tidd, J., & Bessant, J. (2013). Managing Innovation: Integrating Technological, Market and Organizational Change. Hoboken: John Wiley & Sons.
- Damanpour, F. (1996). Technological innovation adoption in organizations: Two models. Management Science, 42(12), 1, 678-1, 687.

## 5.6 Teaching Plan

1. Define open innovation.

Students should read the first article mentioned in Relevant Theory and complement their answer with the information on the Literature Review chapter "Open Innovation" on this dissertation.

2. Describe the Portuguese innovation ecosystem and the role of imatch in it.

Students should read the second article mentioned in Relevant Theory and start with a definition on innovation ecosystems. Then can briefly describe the Portuguese innovation ecosystem referred on the chapter "Portuguese Innovation Ecosystem" of this dissertation and finally identify imatch as an enabler, referring its two main relations in the ecosystem – startups and corporations.

3. What do you think are the biggest challenges that Imatch faces?

Students should read the chapter "The need to adapt" and identify the business model as a big challenge and read the chapter "Looking Inside" to identify other challenges such as low brand awareness and unclear communication of the company identity, the competition and the fact that innovation is not a priority for companies.

4. Bearing in mind imatch capabilities, which of the presented strategies would be more challenging to implement?

Students should identify the strategy "restructuring the Impact And Social Innovation team" as the most challenging to implement and justify it by saying that it would require a different expertise that imatch currently does not have.

5. Besides corporations and startups, with what other agents in the ecosystem could imatch strengthen its relations to maintain relevance?

This question should encourage discussion and critical thinking. Students should read the chapter "Portuguese Innovation Ecosystem" and reflect on other agents imatch could strengthen its relations with to maintain relevance – Talent, Capital, Policy, Regulation and Incentives or Knowledge agents – and justify why.

# 6. REFERENCES

#### **6.1 Academic References**

- Baregheh, A., Rowley, J., & Sambrook, S. (2009). *Towards a multidisciplinary definition of innovation*. Management Decision, 47(8), 1323-1339.
- Becker, G. S., & Whisler, T. L. (1967). *The productivity of investment in R&D: A review and theoretical analysis.* Journal of Business, 40(4), 409-462.
- Bessant, J., Lamming, R., Noke, H., & Phillips, W. (2005). *Managing innovation beyond the steady state*. Technovation, 25(12), 1366-1376.
- Buenstorf, G. (2016). *The economics of innovation ecosystems*. Journal of Evolutionary Economics, 26(1), 115-141.
- Burns, T., & Stalker, G. M. (1961). *The Management of Innovation*. Tavistock.
- Chesbrough, H. (2003). The era of open innovation. MIT Sloan Management Review, 44(3), 35-41.
- Chesbrough, H., & Bogers, M. (2014). *Explicating open innovation: Clarifying an emerging paradigm for understanding innovation*. In H. Chesbrough, W. Vanhaverbeke, & J. West (Eds.), New frontiers in open innovation (pp. 3-28). Oxford: Oxford University Press.
- Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. Academy of Management Journal, 34(3), 555-590.
- Damanpour, F. (1996). *Technological innovation adoption in organizations: Two models*. Management Science, 42(12), 1, 678-1, 687.
- Dhanaraj, C., & Parkhe, A. (2006). *Orchestrating innovation networks*. Academy of Management Review, 31(3), 659-669.
- Ginsberg, A., & Abrahamson, E. (1991). *Champions of Change and Strategic Shifts: The Role of Internal and External Change Advocates*. Journal of Management Studies, 28(2), 173-190.
- Godin, B. (2008). *Innovation: The history of a category*. Project on the Intellectual History of Innovation Working Paper No. 4, University of Toronto.
- Granstrand, O., & Holgersson, M. (2020). *Patent and Innovation Strategies for Sustainable Growth*. World Scientific Publishing.
- Hansen, M. T., Nohria, N., & Tierney, T. (1999). What's your strategy for managing knowledge? Harvard Business Review, 77(2), 106-116.
- Hervás, J., & Molero, J. (2011). *Innovation ecosystems: a new perspective for explaining regional innovation*. Technovation, 31(7-8), 407-416.
- Huizingh, E. K. (2011). *Open innovation: State of the art and future perspectives*. Technovation, 31(1), 2-9.
- Isenberg, D. J. (2010). *How to start an entrepreneurial revolution*. Harvard Business Review, 88(6), 40-50.

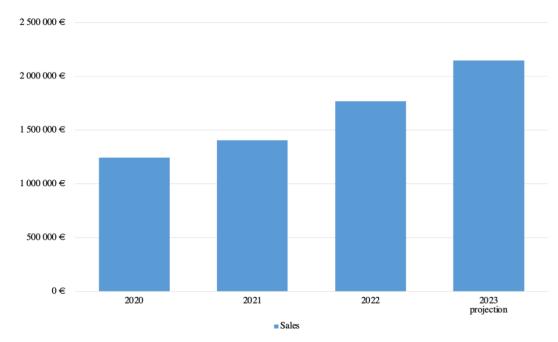
- Laursen, K., & Salter, A. (2006). *Open for innovation: the role of openness in explaining innovation performance among UK manufacturing firms*. Strategic management journal, 27(2), 131-150.
- Lerner, J., & Tirole, J. (2002). *Some simple economics of open source*. Journal of Industrial Economics, 50(2), 197-234.
- Lichtenthaler, U., & Lichtenthaler, E. (2009). *Corporate open innovation: Review, trends and directions*. In P. S. Hughes, & D. J. Bradshaw (Eds.), The Oxford handbook of innovation management (pp. 625-647). Oxford: Oxford University Press.
- Lundvall, B.-Å. (1992). National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning. London: Pinter Publishers.
- Moore, J. F. (1993). *Predators and prey: A new ecology of competition*. Harvard Business Review, 71(3), 75-83.
- Osterwalder, A., & Pigneur, Y. (2010). *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. Hoboken: John Wiley & Sons.
- Teece, D. J. (2010). Business models, business strategy and innovation. Long Range Planning, 43(2-3), 172-194.
- Tidd, J., & Bessant, J. (2013). *Managing Innovation: Integrating Technological, Market and Organizational Change*. Hoboken: John Wiley & Sons.
- von Hippel, E. (2005). *Democratizing innovation*. Cambridge, MA: MIT Press.
- West, J., & Gallagher, S. (2006). *The role of intellectual property in open innovation: Evidence from case studies*. In C. L. Cooper & E. J. Coyne (Eds.), The management of innovation and technology (pp. 222-241). London: Palgrave Macmillan.
- West, J., Salter, A., Vanhaverbeke, W., & Chesbrough, H. (2014). *Open innovation: A multi-level perspective*. In H. Chesbrough, W. Vanhaverbeke, & J. West (Eds.), New frontiers in open innovation (pp. 97-118). Oxford: Oxford University Press.
- Wright, M., Sturdy, A., & Wylie, D. (2012). *Managing innovation: A critical review of the role of managers in shaping and driving innovation*. Human Resource Management Review, 22(4), 263-274.

## 6.2 Other references

- APBA Associação Portuguesa de Business Angels (2018), *APBA report 2018/2019*. Accessed on January 2023.
- Atomico (2020), *The State of European Tech*. Accessed on January 2023 at: https://2020.stateofeuropeantech.com/chart/746-3309
- DGEEC (2021), *Investigação e Desenvolvimento (IPCTN)*. Accessed on January 2023 at: https://www.dgeec.mec.pt/np4/206/

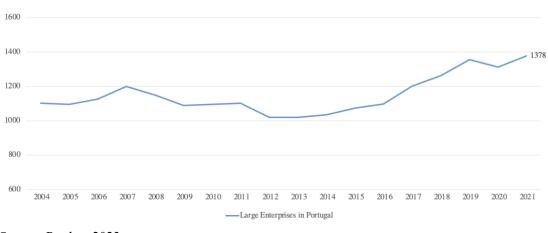
- Eurostat (2019), *Science Technology innovation*. Accessed on January 2023 at: https://ec.europa.eu/eurostat/web/science-technology-innovation/data/main-tables
- Eurostat (2020), *R&D expenditure in the EU at 2.19% of GDP in 2019*. Accessed on January 2023 at: https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20201127-1?redirect=%2Feurostat%2Fweb%2Fscience-technologyinnovation%2Fpublications
- Global Citizen Solutions (2023), A Complete Guide to the Portuguese Education System. Accessed on January 2023 at: https://www.globalcitizensolutions.com/portuguese-education-system/
- Imatch (2023), *O que fazemos*. Accessed on April 2022 at: https://imatch.pt/oque-fazemos/
- Nacionalidade Portuguesa (2023), *Incubadoras em Portugal: conheça o cenário em 2023*. Accessed on January 2023 at: https://www.nacionalidadeportuguesa.com.br/incubadora-em-portugal/
- National Geographic (2022), *Ecosystem*. Accessed on December 2022 at: https://education.nationalgeographic.org/resource/ecosystem
- PORDATA (2023), *Empresas: total e por dimensão*. Accessed on January 2023 at: https://www.pordata.pt/portugal/empresas+total+e+por+dimensao-2857-246183
- Portugal Ventures (2023), *Portugal Ventures desde 2012*. Accessed on January 2023 at: https://www.portugalventures.pt/
- RNI, Portuguese Incubators Monitor (2023), RNI, Portuguese Incubators Monitor. Accessed on January 2023 at: https://www.rni.pt/component/content/featured
- Scaleup Portugal (2020), Scaleup Portugal 2020 report. Accessed on January 2023 at: https://www.scaleup-portugal.tech/scaleup-report-2022
- Startup Monitor European Comission (2019), *EU Startup Monitor 2018*. Accessed on January 2023 at: http://startupmonitor.eu/EU-Startup-Monitor-2018-Report-WEB.pdf
- Startup Portugal (2021), *Portugal, the best place to startup*. Accessed on January 2023 at: https://portugaldigital.gov.pt/wp-content/uploads/2022/02/Portugal\_the\_best\_place\_to\_startup.pdf
- Startup Portugal (2023), *Startup Dashboard*. Accessed on January 2023 at https://startupportugal.dealroom.co/dashboard
- Statista (2023), Gender distribution of startup founders in selected European countries in 2018. Accessed on January 2023 at: <a href="https://www.statista.com/statistics/880086/startups-founders-in-european-countries-by-gender/">https://www.statista.com/statistics/880086/startups-founders-in-european-countries-by-gender/</a>
- World Economic Forum (2020), *Global Competitiveness Report 2019*. Accessed on January 2023 at: https://www.gee.gov.pt/pt/documentos/estudos-eseminarios/competitividade/8923-rankings-internacionais-globalcomeptitiveness-report-2019-posicao-portuguesa/file

# 7. APPENDIX



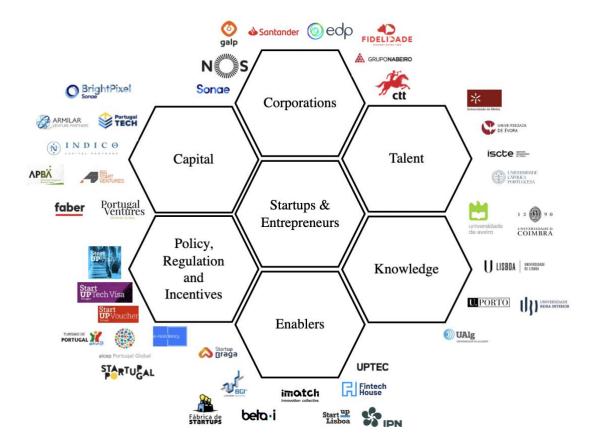
### 7.1 Appendix 1: Imatch Sales Growth

Source: information provided by imatch



## 7.2 Appendix 2: Large Enterprises in Portugal

Source: Pordata 2023



## 7.3 Appendix 3: Portuguese Innovation Ecosystem with examples

Source: Startup Portugal 2021, Portugal, the best place to startup.

# 7.4 Appendix 4: Imatch's Portfolio of Clients



Source: imatch website and information provided by imatch

# 7.5 Appendix 5: In-depth Interviews Guideline

### 7.5.1 Start-ups

- What inspired you to start your own company and what are the main challenges you have faced so far?
- How did you identify the opportunity for your business and how did you validate the market?
- How do you see your industry evolving in the near future?
- What's your opinion on imatch? How do you describe this company?
- How does imatch add value? How could imatch create more value?
- How do you think the role of innovation consultants could benefit start-ups?
- What are the key skills and attributes that you believe innovation consultants should possess in order to be successful?

#### 7.5.2 <u>Heads of Innovation</u>

- What is the role of innovation in a company?
- How do you identify and prioritize new innovation opportunities?
- How does your company approach open innovation, and what are some of the successes and challenges you have been faced with it?
- What are some of the key trends you see on in your industry?
- How does your company stay on top of emerging technologies and how do you decide which ones to invest in?
- What challenges do you see companies facing when it comes to innovation?
- What are your department main challenges today?
- What is your team's growth trend? What about your department's budget?
- What are the critical success factors for the future?
- How does imatch add value? How could imatch create more value?
- Why do you choose to work with an innovation consultant?
- How do you see the role of innovation consultants changing in the near future?
- What are the key skills and attributes that you believe innovation consultants should possess in order to be successful?

# 7.6 SWOT Analysis

| imotch<br>innovation collective  | Fatores Positivos<br>(Auxiliam o objetivo estratégico)  | Fatores Negativos<br>(Atrapalham o objetivo estratégico)   |
|--|---|--|
| <b>Ambiente</b><br>Interno<br>(Características da<br>Organização)        | S - Strengths<br>1. Sinergia entre as equipas areas<br>2.Cultura organizacional forte com boas<br>dinâmicas<br>3.Gauleses (todos eles)<br>4. Muita liberdade para criar e desenvolver<br>novos projetos | W - Weaknesses<br>1. Pouca dinâmica presencial (ninguém vai<br>ao escritório)<br>2. Pouca sinergia entre as áreas<br>3.Desenvolvimento pessoal e projeção de<br>carreira   |
| Ambiente<br>Externo<br>(Características do<br>Mercado)                   | O - Opportunities<br>1. Desenvolver produtos na área da<br>inovação<br>2. Desenvolver eventos chave-na-mão<br>hybridos ou digitais<br>3.Desenvolver área de impacto                                     | <b>T - Threats</b><br>1. Competição com players maiores na área<br>de inovação<br>2. Medo e incertezas dos eventos in-person<br>3. Pouco desenvolvimento do mercado na<br>área de impacto  |
|  | Fatores Positivos<br>(Auxiliam o objetivo estratégico)  | Fatores Negativos<br>(Atrapalham o objetivo estratégico)   |
| Ambiente<br>Interno<br>(Características da<br>Organização)               | S - Strengths<br>1. Boa cultura organizacional<br>2. Boa ligação entre colegas<br>3. Comunicação e boa gestão   | W - Weaknesses<br>1. Muitos projetos em simultâneo (o que pode por<br>vezes, comprometer a qualidade que perspetivava-mos.)<br>2. No online – marcação de reuniões<br>(Dificuldade, por vezes, em reunir mais do que 1 membro da equipa,<br>dado a diversidade de agenda.) |
| Ambiente<br>Externo<br>(Características do<br>Mercado)                   | O - Opportunities<br>1. Uma grande rede de contactos<br>2. Aumento da procura das empresas no<br>campo da inovação<br>3. Procura da evolução de mind set,<br>organização e impacto das empresas         | <b>T - Threats</b><br>1. Organizações que atuam nas mesmas<br>áreas<br>2. Pouco orçamento por parte das empresas   |
|  | Fatores Positivos<br>(Auxiliam o objetivo estratégico)  | Fatores Negativos<br>(Atrapalham o objetivo estratégico)   |
| <b>Ambiente</b><br><b>Interno</b><br>(Características da<br>Organização) | S - Strengths<br>1. Cultura<br>2. Agilidade<br>3. Foco no Cliente   | W - Weaknesses<br>1. Indefinição e<br>2. Desorganização<br>3. Estrutura muito júnior   |
| Ambiente<br>Externo<br>(Características do<br>Mercado)                   | O - Opportunities<br>1. Novas áreas de negócio<br>2. Consolidação do Negócio<br>3. Posicionamento e Comunicação imatch  | <b>T - Threats</b><br>1. Concorrência muito forte e bem posicionada<br>2. Indefinição de produtos e de operação vs<br>estratégia<br>3. Possível Perda de Cultura por crescimento de<br>áreas   |

| imotch<br>innovation collective  | Fatores Positivos<br>(Auxiliam o objetivo estratégico)  | Fatores Negativos<br>(Atrapalham o objetivo estratégico)   |
|--|---|--|
| <b>Ambiente</b><br><b>Interno</b><br>(Características da<br>Organização) | S - Strengths<br>1. Willingness of Team Members<br>2. Young and Motivated Team<br>3. Strong skillset in events and<br>organizational culture  | W - Weaknesses<br>1. Unclear business strategy<br>2. Unclear communication (corporate identity)<br>3. Overloaded team<br>4. Lack of seniority<br>5. Overloaded leadership<br>6. Lack of processes and structure                      |
| Ambiente<br>Externo<br>(Características do<br>Mercado)                   | O - Opportunities<br>1. Hype on innovation<br>2. Money available from funds<br>3. Reputation from Building the Future   | <b>T - Threats</b><br>1. New players entering the market<br>2. Not very recognized in fields other than<br>events and organizational culture   |
|  | Fatores Positivos<br>(Auxiliam o objetivo estratégico)  | Fatores Negativos<br>(Atrapalham o objetivo estratégico)   |
| <b>Ambiente</b><br><b>Interno</b><br>(Características da<br>Organização) | S - Strengths<br>1. Espirito de equipa e entreajuda<br>2. Dinamismo e Flexibilidade<br>3. Equipa multidisciplinar   | W - Weaknesses<br>1. Now – espaço é escuro e com pouca<br>envolvente<br>2. Marca Imatch pouco conhecida<br>3. Muitas reuniões  |
| Ambiente<br>Externo<br>(Características do<br>Mercado)                   | O - Opportunities<br>1. Crescimento do sector de impacto<br>2. Regresso dos eventos físicos<br>3. Forte aposta das empresas na cultura<br>interna   | <b>T - Threats</b><br>1. Potencial crise financeira<br>2. Mercado de trabalho muito activo<br>3. Empresas não considerarem inovação<br>essencial   |
|  | Fatores Positivos<br>(Auxiliam o objetivo estratégico)  | Fatores Negativos<br>(Atrapalham o objetivo estratégico)   |
| Ambiente<br>Interno<br>(Características da<br>Organização)               | <ul> <li>S - Strengths</li> <li>1. + 20 Pessoas com diferentes perfis<br/>(incríveis)</li> <li>2. Responsabilização – não assente em<br/>hierarquia e horarios</li> <li>3. Abordagem: co-criação com cliente</li> </ul> | W – Weaknesses<br>1. Processos (Transformação digital)<br>2. Definição de área de momentum<br>3. Equipas muito juniores  |
| Ambiente<br>Externo<br>(Características do<br>Mercado)                   | O - Opportunities<br>1. internacionalização<br>2. Cross-selling de projetos<br>3. Parcerias ou "alianças-estratégicas"  | <ul> <li>T – Threats</li> <li>1. Maior awareness (comunicação e participação em eventos ver e ser visto como opinion leader)</li> <li>2. Falta de clareza na percepção da proposta de valor da imatch 3. Conjuntura atual</li> </ul> |

| imotch<br>innovation collective  | Fatores Positivos<br>(Auxiliam o objetivo estratégico)  | Fatores Negativos<br>(Atrapalham o objetivo estratégico)   |
|--|---|--|
| <b>Ambiente</b><br><b>Interno</b><br>(Características da<br>Organização) | S - Strengths<br>1. Perfil dos colaboradores<br>2. Envolvimento de todos para a definição destes<br>objetivos estratégicos<br>3. Metodologias de co-construção e colaboração<br>4. Rede de parceiros<br>5. Cultura organizacional   | W - Weaknesses<br>1. Informalidade que por vezes pode levar a menor<br>compromisso/responsabilidade<br>2. Equipa muito jovem e muitas vezes pouco experiente<br>3. Falta de conhecimento técnico/expertise em certas<br>áreas  |
| Ambiente<br>Externo<br>(Características do<br>Mercado)                   | <ul> <li><b>O - Opportunities</b></li> <li>1. Mercado a crescer imensamente desde o covid (todos os mercados)</li> <li>2. Temas Inovação, Cultura e Impacto são estratégicos para a imatch e são interessantes para as empresas</li> <li>3. Globalização e oportunidade de chegarmos a empresas internacionais</li> </ul> | <b>T - Threats</b><br>1. Recursos financeiros escassos que podem ser<br>alocados a outros temas que não os da imatch<br>2. Enorme volatilidade no mercado / dificuldade em<br>atrair & reter talento<br>3. Aparecimento de cada vez mais players considerados<br>competitors |