

PLATFORMS FOR RECRUITMENT AND SELECTION OF PROFESSIONALS FOR RESEARCH AND INNOVATION: A COMPARATIVE ANALYSIS IN THE INTERNATIONAL CONTEXT

Amanda Marta Jardim Souza - UNIFESP - Orcid: <https://orcid.org/0000-0002-9829-6035>

Fábio Luis Falchi Magalhães - UNIFESP - Orcid: <https://orcid.org/0000-0003-3307-8659>

Fábio Kazuo Ohashi - UNIVERSIDADE NOVE DE JULHO (UNINOVE) - Orcid: <https://orcid.org/0000-0003-1349-6749>

Hugo Do Nascimento - UNIVERSIDADE NOVE DE JULHO (UNINOVE) - Orcid: <https://orcid.org/0000-0002-4655-8697>

The purpose of this work is to analyze and compare Recruitment and Selection Platforms for RD&I from different countries. The analysis collaborates with those who are in the academy and want to go to the industry. This path can be simplified when there are platforms that contribute to this interaction. The research approach is qualitative, and its metric definition is the researcher as the key instrument and the environment as the direct source of data. This approach does not require the use of statistical techniques and methods, and the main objective is the interpretation of the study phenomenon. Through the purpose of this work that is to analyze and compare Recruitment and Selection Platforms for RD&I from different countries, this research can conclude that there are only four recruitments and selection platforms for researchers to find specific professional opportunity in the RD&I companies and startups. There are only four recruitments and selection platforms for researchers to find specific professional opportunities in the RD&I companies and startups It implicates that society needs more platforms that can cover the worldwide territory in this matter. The contribution of this work consists of presenting the platforms that offer job opportunities in the RD&I area, whether in companies or startups, facilitating the search for that specific labor market opportunities.

Keywords: Platforms, Recruitment and Selection, Research, Development, and Innovation, Researcher, Company

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ABSTRACT

Investment in R&D is not the only factor that affects the rate and capacity for innovation, it's also about the availability of a skilled technical workforce. Recruiting is an essential part of talent management and can be defined as the process of finding the right talent for the right workplace. Hiring researchers for the RD&I area requires human resource management practices that are necessary for the organization and have significant effects on effective hiring. In that context, the purpose of this work is to analyze and compare Recruitment and Selection Platforms for RD&I from different countries We can conclude that there are four highlight recruitments and selection platforms for researchers to find specific professional opportunity in the RD&I companies and startups. It implicates that society needs more platforms that can cover the worldwide territory in this matter. The work contributes to researchers who want to find job opportunities, in companies or startups that want to hire employees with academic profiles.

KEYWORDS: Platforms; Recruitment and Selection; Research, Development, and Innovation; Researcher; Company.

1. INTRODUCTION

Companies in innovative and knowledge-intensive sectors that were opened in the last decade have become better known through their global RD&I activities (research, development, and innovation) (Awate, Larsen & Mudambi, 2015; Papanastassiou, Pearce & Zanfei, 2020). Investment in R&D is not the only factor that affects the rate and capacity for innovation, it's also about the availability of a skilled technical workforce. Market access are also important in establishing an environment that fosters innovation (Bowen, 2012).

Through the continuous evolution of technology, the internet has proven to be an essential tool in all professional areas. In particular, it revolutionized the way of recruiting, making the process more efficient in general (Pinho, Arantes, Marques, Branco & Oliveira, 2019).

Currently, recruitment is web-based and uses tools/software that allow attracting candidates, handle applications and resumes, provide automated feedback, select candidates, and maintain an up-to-date database, all with the aim of making the entire process more efficient (Brandão *et al.*, 2019). Recruiting is an essential part of talent management and can be defined as the process of finding the right talent for the right workplace (Koch, Gerber & De Klerk, 2018).

Hiring researchers for the RD&I area requires human resource management practices that are necessary for the organization and have significant effects on effective hiring (Budhwar & Debrah, 2001). The RD&I team is an essential source of creative ideas. The effectiveness of this team provides a solid foundation for organizations' technological innovations (Cheng *Et Al.*, 2007; Dewett, 2007).

Researchers have been interested in looking for empirical proofs that innovations and the results of research and development works (R&D) can affect the productivity, market structure and industry structure, and most of all can be a catalyst for the economic growth of companies and even countries (Kim *et al.*, 2017; Lanjouw, 2004).

In that context, the purpose of this work is to analyze and compare Recruitment and Selection Platforms for RD&I from different countries.

This analysis collaborates to researchers who want to find job opportunities, in companies or startups that want to hire employees with academic profiles. For researchers, the interaction with firms provides them with significantly stronger and larger industrial social networks (Leonchuk & Gray, 2019). For organizations, there is a possibility of assisting the researchers to apply their knowledge and even their research in the companies, contributing to

the company growth (Kim et al., 2017; Lanjouw, 2004). This path through researchers and organizations can be simplified when there are platforms that contribute to this interaction.

2. LITERATURE REVIEW

2.1. Types of recruitment and selection

Traditional recruiting methods include advertisements, employee/friend/relative referrals, employment agencies, internal job postings, campus visits, and job fairs (Zottoli & Wanous, 2000). Advertisements can also be divided into different types based on media type (e.g., TV, Internet, etc.) used to advertise job openings. In addition to these more traditional sources, online recruiting has also become an established practice for organizations over the past two decades as official company websites, online job boards, and, more recently, social networking sites are often used for this purpose. (Acikgoz & Bergman, 2016).

2.2. Overview of Recruiting Platforms

Online recruiting is an important source of recruiting due to the rapid changes taking place today and the acceleration of new technologies (Rosoiu & Popescu, 2016). Consistent with this trend, the number of job seekers using this method of recruitment is constantly growing (Petre *et al.*, 2016), and online recruitment platforms (or job portals) and social networking sites are experiencing substantial growth (El Ouiridi *et al.*, 2016).

The use of social media makes the recruitment process more dynamic, relational, and authentic, and the employer brand and attractiveness are enhanced (Carrillat, D'Astous, & Morissette Gregoire, 2014; Girard, Fallery, & Rodhain, 2013).

The adoption of technology in recruitment is becoming a necessity for employers wishing to have a competitive advantage in the labor market, and attract scarce critical talent (Deloitte Consulting LLP, 2014).

2.3. Recruitment and Selection for Innovation

Due to increasingly specialized and knowledge-based work, companies look for the best candidates with advanced skills and knowledge in their recruitment and selection processes (Ployhart, Schmitt & Tippins, 2017; Demo *et al.*, 2018).

The culture of innovation has become essential for organizations and professional development and, therefore, inviting professionals and workspaces are characteristics of these disruptive businesses (Oliveira, 2018). The effort to recruit and retain employees with

specialized skills and knowledge is considered high (Russell & Brannan, 2016), as required in the RD&I environment.

2.4 Research, Development, and Innovation

Research is the search for information motivated by problem-solving, in which information, through development, contributes to the completion of a task or the resolution of some uncertainty (Bystrom, 2017).

Development is defined as an evolutionary process in which it expands in terms of initiating new structures, dealing with problems, adapting to continuous changes, and achieving goals to provide innovations (Carpenter, 2018).

Innovation is important for all organizations, as it is a requirement for the longevity of the company and business. To truly reap the benefits offered by innovation, organizations must understand that innovation is an outcome, a process, and a mindset (Kahn, 2018). The innovation dynamic comprises three phases: invention, an idea potentially open to commercial exploitation; innovation, commercial exploitation, and the diffusion and propagation of new products and processes through the market (Ferreira *et al.*, 2018).

2.5. Researchers in Companies and Startups

Investment in R&D is not the only factor that affects the rate of and capacity for innovation, it's also about the availability of a skilled technical workforce, and market access are also important in establishing an environment that fosters innovation (Bowen, 2012).

In the line with the increased flow of academic researchers to companies, studies have emphasized the need for academic profile candidates equipped with generic, transferable skills and specialized subject knowledge (Hancock *et al.*, 2016; Sursock & Smidt, 2010).

The interest of researchers has been for years directing them to look for empirical proofs that the innovations and the results of research and development works (R&D) can affect the productivity, market structure and industry structure, and most of all can be a catalyst for the economic growth of companies and even countries (Kim *et al.*, 2017; Lanjouw, 2004).

For researchers, the interaction with firms provides them with significantly stronger and larger industrial social networks (Leonchuk & Gray, 2019), which are likely to provide them with better labor market opportunities (Thune, 2010).

3. METHODOLOGY

At the methodology chapter ways used to reach the results of the platforms comparison is discussed.

The research approach is qualitative, and its metric definition is the researcher as the key instrument and the environment as the direct source of data. This approach does not require the use of statistical techniques and methods, and the main objective is the interpretation of the study phenomenon (Silva & Menezes, 2005).

The classification of the research is documentary, according to Gil (2002), that type of research uses academic material, what have not yet received an analytical treatment, or that can still be re-elaborated according to the research objective.

The purpose of the work is exploratory and descriptive. According to Ganga (2012), the exploratory study is a study developed with the intention of exploring knowledge, in order to portray an analyzed reality. In addition, the objective is characterized by descriptive research, which refers to the observation of facts, which are also recorded, analyzed, classified, and interpreted (RODRIGUES, 2007).

An initial search was made on Google Scholar looking for online platforms that have interfaces in English or Portuguese. The search terms used were 'Recruitment', 'Selection' and 'Innovation' (in Portuguese 'Recrutamento', 'Seleção' e 'Inovação'). Variations of plural/singular, with/without accentuation of keywords were not necessary since search engines already include these variations automatically.

As a result, 26 platforms were found, considering their approach to the key words defined. They are listed on Table 1.

The headquarters of the platforms are from different countries such as the Belgium, Brazil, Canada, Cyprus, England, France, Germany, Japan, Korea, Spain, Sweden and United States, which provides the study with a range of visions concerning the subject.

Table 1: Information about Online platforms for R&S and/or Innovation

	Platform	Origin	URL
1	100 Open Startups	Brazil	https://www.openstartups.net/site/
2	Academic Positions	Sweden	https://academicpositions.com/
3	Agorize	France	https://get.agorize.com/
4	Assortis	Belgium	https://www.assortis.com/
5	Contratanet	Brazil	https://www.contratanet.com.br/
6	Development aid	Cyprus	https://www.developmentaid.org/
7	Distrito	Brazil	https://distrito.me/
8	Ennomotive	Spain	https://www.ennomotive.com/
9	E-volve	Brazil	https://e-volve.in
10	HEROX	Canada	https://www.herox.com/
11	IdeaConnection	Canada	https://www.ideaconnection.com/
12	Ideascale	USA	https://ideascale.com/
13	Indeed	USA	https://br.indeed.com/
14	Innoget	Spain	https://www.innoget.com/
15	Innovation Works	USA	https://www.innovationworks.org/
16	Jobvite	USA	https://www.jobvite.com/
17	LinkedIn	USA	https://www.linkedin.com/
18	NineSigma	Japan	https://www.ninesigma.com/
19	O*Net online	USA	https://www.onetonline.org/
20	ORCID	USA	https://orcid.org/
21	Prospects	England	https://www.prospects.ac.uk/
22	Recruitee	USA	https://recruitee.com/
23	Research Gate	USA	https://www.researchgate.net/
24	Scouted	USA	https://scouted.io/
25	Worknet Main	Korea	https://www.work.go.kr/
26	Xing, Xing	German	https://www.xing.com/

4. RESULTS ANALYSIS

This topic is presenting the results of the platforms research. Table 2 shows the platforms comparison.

Table 2: Comparison of Online recruitment platforms and/or RD&I

Platform	R&S approach	Innovation approach	Comments
100 Open Startups		X	Provides support to startups and Innovation Challenges.
Academic Positions	X		It helps researchers find job openings, especially in academic areas.
Agorize		X	Focused on sharing innovation challenges to be solved by researchers.
Assortis	X		Short- or long-term vacancies for participation in projects.
Contratanet	X		Provides job and internship vacancies.
Development aid	X		Providers of recruitment services for clients working with donor-funded projects (including framework contracts).
Distrito	X	X	Startup accelerator (also provides interaction between donors and startups who want to receive donations). Provides job openings in startups.
Ennomotive	X		Provides an innovation ecosystem to develop innovative products or services collaboratively with startups, expert.
E-volve	X	X	Specialists in recruiting professionals for startups and companies undergoing a digital transformation process.
HEROX		X	Provide a turnkey platform where other clients design challenges around problems they need solved, and the solvers work to come up with a solution.
IdeaConnection		X	High quality solutions to technical challenges, using 16 curated experts working confidentially to create customized, innovative solutions.
Ideascale		X	It's an innovation management solution that links organizations to people with ideas. Finding ideas to aid in digital transformation, to face the age of automation.
Indeed	X		Job search engine, which works vertically.
Innoget	X	X	Accelerate innovation projects with a leading-edge innovation network.

Innovation Works	X	X	Provides support and expand the startup & entrepreneurial ecosystem, specially recruiting an inclusive team of innovators.
Jobvite	X		Provides our customers with the tools to attract, engage, hire, and retain the talent that drives success.
LinkedIn	X		It's a social network which provides professional interaction and job opportunities.
NineSigma		X	It finds what may be unknown to the company and connect you to new partners, start-ups, academia, SMEs on a global basis.
O*Net online	X		Provides descriptions of work for use by job seekers, workforce development and HR professionals, students, researchers.
Prospects	X		Focus on graduate careers, guiding students and graduates towards the right job.
Recruitee	X		Provides a tracking system for handling applications for jobs. It includes a careers site editing system for employer branding, a plugin for sourcing (personnel), employment website integration, etc.
Research Gate	X		It's a social network aimed at science professionals and researchers, and they can add their scientific and academic publications. It also shares job opportunities.
Scouted	X		They match aspiring candidates with companies. People get hired for their abilities and potential, not just the resume.
Worknet Main	X		Provides reliable and reliable job search and job information and job and career information operated by the Ministry of Employment and Labor and the Korea Employment Information Service.
Xing. Xing	X		It's a personal career companion, adding new professional contacts and discover jobs, events, news, and groups.

From the pre-selected recruitment and selection platforms, those that do not focus on recruitment and selection for RD&I companies or startups, simultaneously, were excluded from the analysis. After this cut, the following platforms remained: Innovation Works, Innoget, Distrito and E-volve.

The four analyzed platforms have the objective of disseminating innovation and contributing to the interaction among technology and the labor market is a common goal among them.

Table 3 shows the final comparison of platforms that have interaction both in the area of innovation and in the area of recruitment and selection.

Table 3: Comparison of Online recruitment platforms and/or RD&I.

Platform	Ecosystem Actors	Partners Companies	Users
Innovation Works	Companies; Startups; University; Investors; Government.	Over 700	-
E-Volve	Researchers; Startups; Companies. University	Over 150	-
Innoget	Researchers; Startups; Companies.	Over 400	Over 6,000
Distrito	Companies; Startups; University; Researchers.	Over 600	Over 14,000

- **Innovation Works**

Founded: 1999.

The platform aims to introduce, connect, support, and expand the ecosystem of startups and entrepreneurs. It provides initial investments, networks, education, and investment for growth. The platform has a recruitment and selection process, allows candidates to register and attach their Resumes to search for companies that are partners of the platform. It has a focus on the Triple Helix, which means that companies, universities, and government are involved. The platform has a national reach, but it has special attention to expand the southwestern Pennsylvania area.

- **Innoget**

Founded: 2006.

The platform is open innovation referent and science network for technology, knowledge, and capabilities. It facilitates collaboration between innovation seekers and innovation suppliers. The platform works as social media, making it possible to initiate connections with other users. User's skills, experiences, and interests are searchable to anyone who has a login on the platform, which facilitates interaction and provides an invitation for work opportunities and participation in challenges. It has a focus on companies and universities. On the platform, there is also possible to share academic articles and opinions about any topic. It provides worldwide job opportunities.

- **Distrito**

Founded: 2014.

The platform aims to assist startups in providing consulting, innovation indicators, information about the ecosystem, among other topics involving Innovation. It's a Startup accelerator. It provides a venture capital channel between investors and startups that require investment, accelerating its development. It furnishes tools that direct the entrepreneur go forward. It focusses on the ecosystem, which it's believed that is the heart of the corporate innovation journey. Distrito also supports the startups in recruiting and selection researchers to their job open opportunities, sharing on its page the job advertisings.

- **E-Volve**

Founded: 2017.

The platform has the focus on recruiting professionals for startups and companies. It also aims to collaborate for the growth of projects and companies, connecting people and purposes. They offer a wide range of tools through: Systematization of processes; Systematization of candidate sharing via online tools and Development of a tool for automating technical interview and technical assessment processes. It works with the ecosystem of the startups and focus on selecting high-performance executives for excellent projects and processes.

5. CONCLUSION / CONTRIBUTION

Through the purpose of this work that is to analyze and compare Recruitment and Selection Platforms for RD&I from different countries, this research can conclude that there are only four recruitments and selection platforms for researchers to find specific professional opportunities in the RD&I companies and startups. It implicates that society needs more platforms that can cover the worldwide territory in this matter.

The objective of disseminating innovation and contributing to the interaction among technology and the labor market is a common goal between the analyzed platforms. The platforms also support startups and companies in innovation and development, offering a lot of different solutions, what gives these organizations more opportunities to grow.

The contribution of this work consists of presenting the platforms that offer job opportunities in RD&I area, whether in companies or startups, facilitating the search for that specific labor market opportunities.

A difficulty of the research is that there is not a unique base or an official website, where we can find all platforms. It's just possible to find them by Google using specific keywords as

explained at Methodology. Also, some specific information couldn't be found on the platform's website.

As further research is proposed the contact the platforms for more details and differentials and share an even deeper analysis.

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