

Mapping the landscape of online job vacancies

Background report: Spain

Study: Real-time labour market information on skills requirements: Setting up the EU system for online vacancy analysis

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Preface

Over the last decades, online job portals have become important features of the job market. The Internet offers a rich source of live and real-time labour market information for almost all of occupations. It can provide insight on job-specific skills required in particular occupations in different regions, combined with information on the characteristics of the job offered – i.e. much more than is available using conventional sources. However, consistent and comparative information on the use of the internet and online job market by job-seekers and employers in Europe is rather scarce.

To tap the potential of online labour market information, Cedefop started to investigate the possibility to develop a system for gathering and analysing data from online job portals in the EU to complement the centre's toolkit of skills intelligence instruments. While this is feasible, drawing meaningful conclusions from these data requires a good understanding of the features of national online job markets. Therefore, Cedefop has mapped the landscape of the online job market in all EU Member States. This publication presents one of the background country reports developed in the project - 'Real-time labour market information on skills requirements: Setting up the EU system for online vacancy analysis' (AO/DSL/VKVET-GRUSSO/Real-time LMI 2/009/16). Its findings will inform the cross country comparison published in the upcoming synthesis report.

The work was undertaken by a consortium of external contractors: CRISP (Milano/IT), Tabulaex (Milano/IT) and IWAK (Frankfurt/DE) and their network of country experts (see annex 1 for detailed list) and closely supervised by Cedefop. It presents authors' analysis of the landscape of the online job portal market in the country using a methodology developed for the purpose of the project.

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List of Abbreviations

Cedefop	European Centre for the Development of Vocational Training
EURES	European Employment Services
HR	Human Resources
ICT	Information and Communication Technology
INE	Spanish National Statistical Institute
ISCO	International Standard Classification of Occupations
LFS	Labour Force Survey
OJVs	Online Job Vacancies
PES	Public Employment Services
SEPE	Spanish Public Employment Service
SMEs	Small and Medium Enterprises

Introduction

With the project “Real-time Labour Market Information on Skill Requirements: Setting up the EU System for Online Vacancy Analysis”, Cedefop explores online job-vacancies (OJVs) as a new source of real-time Labour Market Information. By crawling the most important online job-portals of the 28 EU Member States, Cedefop will further develop its understanding of the changing skills demand in different sectors and occupations. A systematic overview of the online job-portal landscape in each of the 28 EU Member States will identify the most relevant online job-portals and provide context for the data scraped from them. With the Landscaping Activity, Cedefop seeks to acquire insights into the structure of online job-portal markets and the extent to which online job-portals are used in recruitment and job-search. Furthermore, it aims to better understand which factors cause variation in the formats and content of OJVs in different countries.

This Country Report was compiled between April and October 2017 and constitutes a first overview of the online job-portal landscape in Spain. It is based on desk research of available data sources in Spain (e.g. public data, academic research and publications of interest groups) and expert opinions. Chapter 1 describes the methodology used for compiling the report in terms of the relevant search paths and data sources. Chapter 2 gives an overview of the main drivers for the use of online job-portals in recruitment and job-search, while Chapter 3 concentrates on the characteristics of the online job-portal market and lists the most important players. Moreover, it seeks to understand to what extent OJVs published on the online job-portals provide adequate information on the developments in the Spanish labour market in terms of the number of vacancies and representation of sectors/occupations. Furthermore, it elaborates on the legal and regulatory framework guiding the activities of the job-portal owners and employers, highlights the differences between the public versus private online job-portals and delineates their relationships with one another. Chapter 4 covers the use of online job-portals in recruitment and job-search. It focuses on the differences in the behaviour of employers and job-seekers across sectors, occupations, qualification levels and regions. Chapter 5 presents the most important online job-portals in Spain for web-crawling and describes a step by step process of the OJV drafting and posting on select private and public online job portals. Chapter 6 concludes the Country Report by describing the main features of OJVs in Spain in terms of format and content. In particular, it explores to what extent OJVs contain information pertaining to hard and soft skills required for the job, how these skills are characterised and what they reveal about the nature of the job.

1. Methodology

1.1. Search Paths

In the preparation of the report, different research techniques were used in order to analyse the context of the Spanish online job vacancy (OJV) market. Desk research was conducted during May 2017 using internet based searches that brought up labour market reports by entities such as the OECD and the Spanish Public Employment services. Thorough desk research has been carried out in order to check all possible and relevant channels for information on OJVs and job portals. The research was performed through Google on a number of different dates: 15 May, 16 May, 29 May and 30 May 2017. The main search terms used in Google were:

- Informes mercado trabajo España – 961,000 hits;
- Informe portales de empleo – 478,000 hits;
- Oferta y demanda de empleo – 13,500,000 hits;
- Ofertas empleo estadísticas – 1,330,000 hits;
- Características ofertas trabajo – 961,000 hits;
- Portal empleo público – 29,100,000 hits;
- Mercado laboral oculto España – 392,000 hits;
- Intermediación laboral España – 1,030,000 hits;
- Tarifas ofertas empleo – 823,000 hits;
- Futuro empleo online – 3,710,000 hits;
- Búsqueda de empleo – 17,600,000 hits;
- Ofertas empleo online – 4,660,000 hits;
- Análisis ofertas empleo – 1,550,000 hits;
- Redes sociales mercado trabajo – 23,100,000 hits;
- Situación mercado laboral – 2,390,000 hits;
- Encuestas ofertas empleo online – 1,690,000 hits;
- Perfil ofertas empleo – 1,390,000 hits;
- Perfil candidatos puestos trabajo – 618,000 hits;
- EURES España – 206,000 hits;
- Labour market Spain – 1,680,000 hits;
- Labour market trends Spain – 962,000 hits;
- Labour market duality Spain – 68,800 hits;
- Employment Spain – 70,100,000 hits;
- Job vacancies Spain – 1,970,000 hits;
- Recruitment Spain – 38,500,000 hits;
- Finding job Spain – 132,000,000 hits;
- Labour market reforms Spain – 964,000 hits.

The results of the Internet-based searches were diverse, but mainly regard advertisements of job portals and recruitment agencies; a few private reports or job portal surveys and some newspaper articles containing some interesting references. The relevant results were then analysed in detail and narrowed down to the sources mentioned at the end of this report. The outdated reports were discarded as well as the information that did not explain their methodologies or indicate the references used. As a result we relied heavily on results using OECD and Eurostat data as well as the Spanish National Statistics Institute. We also used some reports developed by the two main job

portals in Spain, however it should be noted though that the latter, although valid and reliable, have only taken into account the OJVs published in their job portals.

1.2. Data Sources

1.2.1. Public Data/Academic Research

The results lacked academic literature on the subject of online job-portals or OJVs. The only exceptions were an article and a conference contribution by a researcher at the Center for Employment Studies and Paris 8 University. However, both pieces of research date back to 2008 and do not offer an up-to-date picture of the OJV landscape.

1.2.2. Research/Surveys of Interest Groups

EU-level of national publications focused on OJVs and job portals have proved difficult to find, and therefore reports developed by private companies have been used, many of which were developed by the main job portals. Although potentially biased, because they only look at a sample of OJVs published by their job portals instead of the totality of Spanish OJVs, these reports have a sound methodological approach and are used by the main statistical offices in Spain.

1.2.3. Expert Interviews

Qualitative research has also been carried out through six interviews with experts of the Spanish Statistical Office, the Public Employment Service, one private recruitment agency, the two main job portals in Spain and a EURES adviser:

- The ESSnet member in Spain was from the Statistical Office, and she provided a contact person in the PES.
- The interviewed stakeholders were all very competent and could adequately follow the interview guidelines.
- It was difficult to get in touch with the main job portals, but we finally managed through our contact in the private recruitment agency.

In Table 1 we present the sources used for this Country Report. The sources provide information concerning the share of existing vacancies on online job portals, the use of OJVs by sector, occupation, qualification level or region; and the skills requirements in OJVs according to surveys or reports from interest groups, namely the major job portals. The picture is therefore comprehensive but might be biased in some cases as the available sources do not come from public or academic research.

Table 1: Overview of the different sources used in the Landscaping Activity

Type of source	Title/year	Provider	Information on			Quality
			Share of existing vacancies on online job-portals (PES/private)	Use of OJVs per sector/occupation/qualification level/region	Skills requirements in OJVs	
Source 1: Public data/academic research	Commission Staff Working Document (ENT) (2016): Country Report Spain 2016	European Commission	Only general information on the country, not specifically on OJVs			Good
	LFS (2016)	INE (Spanish Statistical Institute)				Good
	Observatorio de las Ocupaciones (SEPE) (2017): Informe del Mercado de Trabajo Estatal 2017 - NIPO: 274-15-147-2 [Report of the Spanish Labour Market 2017]	SEPE (Spanish Employment Service)				Good
	OECD (2016): Employment Outlook 2016	OECD				Good but only general information on the country, not specific on OJVs
Source 2: Research/surveys of interest groups	Estudio de Inversión (2016): TMP World Wide: The digital brand authority	TMP World Wide	Yes	Yes	Yes	OJVs published by six major job portals in Spain: LinkedIn, Infojobs, Infoempleo, Monster, Pri-merempleo and Career-builder.
	Informe Infoempleo Adecco (2015): Oferta y demanda de empleo en España [Employment Offer and Demand]	Infoempleo Adecco	Yes	Yes	Yes	Surveys to 613 employers and 8,478 job seekers. An internal consistency test made by Infoempleo- Adecco, establishes the margin of error for employers at $\pm 2.6\%$ and for jobseekers at $\pm 1.2\%$.

	Informe Infoempleo Adecco (2016): Redes Sociales y Mercado de Trabajo [Social Networks and the Labour Market]	Infoempleo Adecco	Yes	Yes	Yes	Survey on almost 10,000 people. This online survey is biased in the sense that it is the response of people actively searching for a job and that the survey was online, which means that jobseekers are familiar with the internet and active users of the new technologies.
	Informe InfoJobs ESADE 2016 - Estado del mercado laboral en España [State of the labour market in Spain]	InfoJobs ESADE	Yes	Yes	Yes	2.029.517 OJVs analysed, but only the ones in the Infojobs portal.
Source 3: Expert opinions	Expert opinions 2017	Experts 1-6 (see the References for detailed information)	Yes	Yes	Yes	Good

Source: Atin (2017).

2. Labour Market Dynamics and Impact on the OJV Market

Some of the key drivers that are currently affecting the structure of the labour force and labour market dynamics in Spain are the high unemployment rate, the economic turnaround, structural reforms, the so-called 'hidden' labour market, the underground economy, the failure to attract talent, demographic changes, labour market mismatches, and technological changes.

The Spanish labour market has experienced a significant turnaround in recent years. In 2013, the unemployment rate peaked at 26.1%, and in 2017 it has decreased by eight percentage points (Eurostat). Still, the high and persistent level of unemployment and the appropriate labour market reforms are a major topic of discussion in the country. The legacy of the crisis primarily concerned youth unemployment and the associated risk of a "lost generation" of youth who are missing out on opportunities to build their careers.

The structural reforms of the Spanish labour market undertaken in 2012 aimed at making the labour market more flexible and efficient. The OECD 2016 Employment Outlook finds evidence that the Spanish reform has helped to tackle deeply entrenched labour market segmentation by strengthening the incentives for employers to hire on open-ended contracts. OECD analysis suggests that the reform increased the share of open-ended contracts in new hires by 45%. Although temporary employment still accounted for 25% of all employment in 2015, this remained well below its pre-crisis share of almost 32%. Nevertheless, the 2012 labour reforms provide employers with little motivation to bring on permanent employees, which creates a volatile market where employers easily dismiss their temporary employees.

Several measures were also adopted in 2014 and 2015 to tackle these challenges and promote labour market adjustment. These new measures included the introduction of employment incentives, the adoption of new active labour market schemes to improve the employability of groups struggling to re-enter the labour market and the restructuring of labour market institutions such as the public employment services.

According to the INE (Spanish National Statistical Institute), by 2050 as much as 34% of Spain's population will be over 65 years old, with the number of over-80s set to exceed four million. This poses huge challenges for the Spanish labour market, as workers leaving jobs need to be replaced by other workers.

In a country with an unemployment rate that exceeds 18% of the active population, and that has been battered by years of ongoing economic crisis, it's not uncommon for a job offer to receive hundreds of applications. However, it is also a regular occurrence for hundreds of positions to remain unfilled due to a lack of properly qualified candidates (Pedro Gorospe, Journalist at "El País", May 2, 2017).

Regarding recruitment, word-of-mouth works very well in Spain. This factor deeply affects the transparency of the labour market in the sense that employers do not necessarily publish their vacancies. In fact, according to Lee Hecht Harrison (2017), a global firm specializing in career transition, it is estimated that only 25% of vacancies are advertised in online job portals, through recruit-

ment agencies or by any other means. The labour market in Spain resembles a large iceberg, of which only a small part is visible.

When experts speak of the "hidden labour market" they do not refer to an illegal market or to the underground economy. The "hidden market" is composed of all those job vacancies that are never published, staying in the internal scope of the company. There are job openings that companies cover in these ways: internal promotions and self-nominations, geographic mobility of employees from one workplace to another or between departments, confidential selection processes or through professional contacts and networking. This could be perceived as unfavourable, as it reduces the transparency of the labour market and puts at a disadvantage unemployed individuals as well as people who do not necessarily have a personal connection to an employer.

There is a great need to develop greater openness and transparency in the labour market, as the crisis left behind more than four million jobless persons. Yet there is tension in the labour market, because many unemployed people don't have the skills that employers demand (according to Valentín Bote, head of research in Spain at Randstad). From software developers and mathematical modellers to geriatric nurses and care workers, a mismatch in qualifications means companies are struggling to fill posts, even though the unemployment rate is the second-highest in Europe. Randstad believes that there is a skills shortage; a failure to equip sufficient numbers of workers with the skills sought by modern companies is holding back the Spanish economy. Moreover, Spain has one of the EU's highest school drop-out rates, and education outcomes, meaning the skills and knowledge that students are expected to attain by the end of their studies, are poor in comparison to the rest of the EU. In addition, Spain fails to attract overseas talent, while tens of thousands of well-educated Spanish youngsters are heading abroad in search of work. Meanwhile, its birth rate is fast approaching negative values as its population ages.

Nevertheless, with labour market conditions improving, all interviewed experts agree that the vacancies have started to grow again, which is precisely the pattern expected in response to strengthening labour demand. However, from the data, it is not easy to gauge whether, during the recovery, the unemployment rate and vacancies will keep improving at different paces with no improvement in the matching process or whether this will reflect different cyclical response to the improved economic outlook.

Simultaneously, as a result of the developments in the technological field, new jobs related to technology and innovation are bursting into the OJV market. These jobs are impacted by the hidden labour market in a much lesser degree than traditional jobs.

What we do know is that the services sector in Spain has expanded at its fastest pace, employing almost 14 million people (one million more than in 2014)

Table 2: Number of employed people by economic sector

	2014	2015	2016	2017
Agriculture	809,100	717,400	777,400	847,700
Industry	2,298,600	2,441,100	2,481,400	2,570,900
Construction	942,100	1,060,600	1,031,700	1,081,400
Services	12,900,800	13,235,700	13,739,200	13,938,200

Source: Atin (2017) based on INE data.

In 2017 according to the Ministry of Economy's data, 18% of workers are self-employed, 31% work at large enterprises and half of the total workers work at SMEs (including micro-enterprises). By sectors, 75% of workers are employed in the service sector, 15% in industry, six percent in construction and four percent in the agricultural sector.

In 2017 and in recent years as well, according to the INE's data, 75% of the workers in Spain are working in the following fields:

- Service workers and shop and market sales workers;
- Professionals;
- Elementary occupations;
- Craft and related trades workers;
- Technicians and associated professionals.

Analysis of these categories reveals that on the level of two digit ISCO, the most popular occupations with shares ranging between 4.7% and 2.7% are:

- Shop assistants;
- Child, primary, secondary and post-secondary education professionals;
- Employees of catering services;
- Drivers of vehicles for urban or road transport;
- Health professionals;
- Cleaning staff;
- Sales representatives, commercial and related agents;
- Administrative employees with tasks of customer service;
- Physical, chemical, mathematical and engineering sciences professionals;
- Workers in structural construction and related works.

Regarding employment growth, the 24 activities that accounted for 75% of the growth in total employment between the first quarter of 2014 and 2016, are listed below:

Table 3: Economic activities with highest growth (3-digit NACE)

NACE code	Economic Activity	% growth
561	Restaurants and mobile food service activities	10.5%
551	Hotels and similar accommodation	6.7%
477	Retail sale of other goods in specialised stores	3.8%
861	Hospital activities	3.5%
494	Freight transport by road and removal services	3.5%
412	Construction of residential and non-residential buildings	3.4%
854	Higher education	3.3%
620	Computer programming, consultancy and related activities	3.2%
471	Retail sale in non-specialised stores	3.0%

439	Other specialised construction activities	2.9%
855	Other education	2.6%
293	Manufacture of parts and accessories for motor vehicles	2.6%
853	Secondary education	2.5%
522	Support activities for transportation	2.5%
463	Wholesale of food, beverages and tobacco	2.4%
433	Building completion and finishing	2.2%
692	Accounting, bookkeeping and auditing activities; tax consultancy	2.2%
251	Manufacture of structural metal products	2.1%
563	Beverage serving activities	2.1%
920	Gambling and betting activities	2.1%
562	Event catering and other food service activities	2.1%
812	Cleaning activities	1.8%
702	Management consultancy activities	1.7%

Source: Infoempleo- Adecco own elaboration with LFS data - Growth between the first quarters of 2014 and of 2016 (data accessed on 31/05/2017).

According to the Spanish PES Labour Market Report 2017, based on the number of registered contracts in 2016 (Source: SISPE), experts believe that the economic activities with better prospects are the following:

- In services, the importance of hospitality and tourism and the recovery of the retail business, which must take on certain innovations to be competitive, especially technological (e-commerce, online marketing, electronic invoicing, etc.), stands out. There is also a good situation for wholesale trade, transport and logistics; education; health and social services; sports and recreational activities. Special mention should be made of advanced service activities for companies, on the one hand in the facet of ICT, especially in cloud computing, Big Data, internet of things, cyber security and, on the other hand, in the technical services of architecture and engineering, as well as consulting and business consulting.
- In the food services industry, especially the production of juices, frozen vegetables, foods of IV and V range, precooked food, as well as canned vegetables and fish and meat industry; manufacture of footwear; manufacture of metal products, manufacture of machinery and equipment and repair; automotive focused on the hybrid and electric vehicle; manufacture of machine tools; aeronautical construction and manufacture of electrical, agricultural and industrial machinery in general. These sectors must face the challenges of assuming the implementation of the industry 4.0 to be competitive and updated to the needs of the market.
- In agriculture and livestock, those related to organic farming, integrated production, biotechnology and biological control.
- In the building sector, which shows signs of reactivation mainly in the rehabilitation of buildings and, partly, in public work.

3. Context and Characteristics of the Online Job-portal Market

3.1. PES Online Job-portal(s)

3.1.1. Legal/Regulatory Framework

From the late 1990s to 2010, Spain engaged in a process of decentralising the labour market policies. The Spanish Constitution of 1978 granted the autonomous regions the possibility to assume competencies in various matters through their autonomy statutes, and thus the autonomous regions started to organise their administrations for this purpose. Today there are 17 Autonomous Public Employment Services (one per region), which are responsible for the active labour market policies in their regions. The Spanish Public Employment Service (SEPE) is a public body currently under the Ministry of Labour, Employment and Social Security. The SEPE, together with the Public Employment Services of the Autonomous Regions, make up the National Employment System.

With the labour reform of 1994, the public employment service underwent a profound transformation. The PES lost its hiring monopoly by legalizing private recruitment agencies, provided they are non-profit, as well as temporary employment agencies. It also cancelled the obligation for companies to contract through the PES.

3.1.2. Organisational Structure of the PES Online Job-portal(s)

Until 2014 Spain was one of the few European countries without an official, single public portal to centralise all job offers and demands. The setback was that if a jobseeker wanted to search for job offers published in all the autonomous regions, he or she had to register in each of the seventeen autonomous employment portals, in addition to the Spanish Public Employment Service (SEPE). Nowadays, each of the regional public employment services has its own job portal; however, the relatively new job portal, Empleate¹, of the Ministry of Employment now merges the job vacancies of all 17 public portals along with some privately sourced vacancies from Infoempleo², Monster³, JobandTalent⁴, Portaloento⁵, TicJob⁶, Universia⁷, Trabajando⁸ and Hacesfalta⁹. The portal is a meta-search engine that includes OJVs from private portals; it aims to provide maximum visibility of all tools that facilitate the job search process for job seekers and companies, including job offers, housing, and other useful information. According to experts, Empleate fosters greater transparency in the labour market, and it makes recruitment processes more dynamic. The collaboration with private job portals is noticeable in the very design of the website structure, which is clear and functional.

¹ Empleate.com

² Infoempleo.com

³ Monster.es

⁴ Jobandtalent.com/es

⁵ Portaloento.es

⁶ Ticjob.es

⁷ Universia.es

⁸ Trabajando.com

⁹ Hacesfalta.com

3.1.3. Focus of the PES Online Job-portal(s)

Following the reform of 1994, the PES continued to be an employment service, albeit a voluntary one, and it also became the sole manager of unemployment benefits and subsidies. The PES registered jobseekers and monitored and controlled the activity and composition of private agencies of recruitment. Moreover the PES focuses its efforts on the placement of the groups that most needed public intervention, such as long-term unemployed, women, older people, returnees to the work force, recipients of agricultural subsidies and victims of domestic violence.

The public portal Empleate provides services free of charge, thus facilitating less well-resourced companies or SMEs to often turn to the public online portal to post their vacancies. Empleate is mostly used for low-skilled vacancies or for vacancies that target disadvantaged groups.

The objective of the Empleate portal is not to make profit but to become the single point of access to the labour market, concentrating all job offers in public and private portals through a meta-searcher. It aims to thereby support recruitment processes and offer greater transparency in the labour market while increasing traffic to the portals of origin of the OJVs.

The public job portal also provides oversight mechanisms that ensure that a job is posted by a real company for an existing vacancy: while an infrequent occurrence, thanks to the cautiousness of job portals, fake job vacancies are been posted to some portals that regard promising job positions, without asking for work experience or even submission of CV. The scammers take advantage of the situation of thousands of unemployed people promising jobs in exchange for money, personal or financial information that is subsequently sold to third parties or to encourage calls associated with additional fees. In the public portal, there is a very agile complaint procedure that automatically deletes the OJV if the job offer seems fraudulent or if the advertisement is somewhat discriminatory in age, religion, gender or race.

3.1.4. Outreach of the PES Online Job-portal(s)

According to the Commission Staff Working Document- Country Report Spain 2016, the capacity of the public employment services to provide effective, individualised counselling and job search assistance is still limited despite the structural objectives aimed at modernising the public employment services. Thus, the intermediation rate of public employment services is estimated to have fallen from around 30%, the typical level of the early eighties ("Los Servicios Publicos de Empleo y la Intermediacion Laboral", Alicia Llorente de Frutos), to around 2% in 2016. The results show very little public presence in the scope of the labour intermediation, with a reduction of the confidence by unemployed individuals in the effectiveness of the PES as a job search method.

It is difficult to assess what share of all vacancies is published on the PES online job portal. What we do know is, that according to the website itself, of the total of vacancies published in the public online job portal, 5% of them are originated within the PES, while the rest redirect to other private portals. This indicates that very few employers use the services of the PES, while many employers choose to use private portals to advertise positions. This may be because the PES focuses its efforts on groups in need of labour reactivation services, while employers may prefer to target people who are currently employed or who have higher qualification levels than the target audience of the PES.

3.1.5. Posting of PES Vacancies on EURES

Despite growing interest, the EURES platform remains the "great unknown" for many jobseekers in Spain. Until a few years ago, there was no urgency to go abroad, however the crisis has led many Spaniards to discover the EURES services. For employers, although EURES has an important role

to play in providing information about and helping to solve all sorts of problems related to cross-border commuting¹⁰, it appears that EURES is not yet very well known among employers looking to recruit labour. According to the experts, this trend is expected to change due to the country's ageing population and the subsequent need to attract job seekers with varying qualification levels from all over Europe in the near future.

EURES has a tracking system that goes through all the European PES and automatically detects the OJV's and adds them to the portal. However, until 2014, the Spanish PES did not have this tracking tag, so the European system could not identify the Spanish EURES OJVs. The Spanish EURES advisers therefore, had to manually post OJVs directly to the EURES portal. They often did not take the second step to additionally post OJVs to the national PES, as the EURES advisers work for EURES in regional offices across the country, not for the national PES.

Three years ago, the Spanish PES migrated all of its software and applications and so the OJVs became traceable to the EURES system; in turn, this allowed the European EURES portal to track OJVs on the PES and add OJVs to EURES. At the same time, and in order to enhance the transparency of the labour market, the PES changed its policy, so that it now sends all of its OJVs to EURES, whereas previously employers had to indicate an interest in posting their vacancies to the European portal.

The EURES advisers, who work in specific regions throughout the country, still manually publish OJVs that are sent directly to them and not to the national PES; there are no fixed dates or periodicity for the posting. They use regional job portals, which do not automatically synchronise to EURES or to the national PES, to post job vacancies. This means that the advisers are using 17 regional job portals that each work differently to post the EURES vacancies. The highly regionalised nature of public portals means that, while all national PES jobs are located on the EURES portal, not all jobs on the EURES portal are on the national PES.

Whenever an adviser uploads an OJV, he or she will need to specify whether the OJV should be posted at the local level (only job positions linked to local programmes), the national level, or the European level. When the European level is selected, the OJV will then have a EURES flag (European Union flag) and will therefore be collected by the European EURES system and published to the EURES portal. Other companies can publish in the EURES platform, but only the ones uploaded by the EURES advisers have the EURES flag.

All of the OJVs are generally tagged with the national tag, and this means that the job vacancy will then appear in the Spanish portal "Empleate". The OJVs that appear with a blue European Union flag are certified by a EURES adviser, which means that the adviser has verified the origin of the vacancy, the company and its characteristics and also guarantees that there are no candidates in Spain for the given position. Indeed, the advisers publish all the OJVs that potentially need a European candidate, either because of the language required or of the very specific demands of the position.

There is a working group in the PES that will run a pilot project in 2018 to automatically post the Spanish EURES candidates' CVs to the EURES platform and have the matching done automatically at the European level. According to PES experts, EURES is as a strategic tool for employers; but for the PES, using it further is not a priority at the moment.

¹⁰ The EURES portal provides OJV translation, indicates positions for which employers are particularly open to hiring workers from other EU countries, and the portal provides information for job seekers about the labour market in other EU countries. Additionally, EURES offers advisory services to help employers advertise their positions directly to workers in other countries. Cross-border commuting could refer to daily commuters or to individuals who plan to relocate temporarily or permanently to another country in the EU.

3.2. Private Online Job-portals

3.2.1. Legal/Regulatory Framework

There is no legal/regulatory framework concerning the posting of OJVs, so employers generally follow the template provided by the job portal or recruitment agency and fill in the mandatory and optional fields. It is unconstitutional to publish OJVs that discriminate based on age, gender, race or any other characteristic, and data protection is also mandatory.

3.2.2. Dominant Online Job-Portals and Their Business Models

Unlike other countries, in which companies use a large number of different OJV portals to attract candidates, Spain has a consolidated OJV market. Although there are at least 200 job portals in Spain where jobseekers can register their CV and find job vacancies, only a few portals are famous and well-used, and those few portals are where most employers choose to post their vacancies.

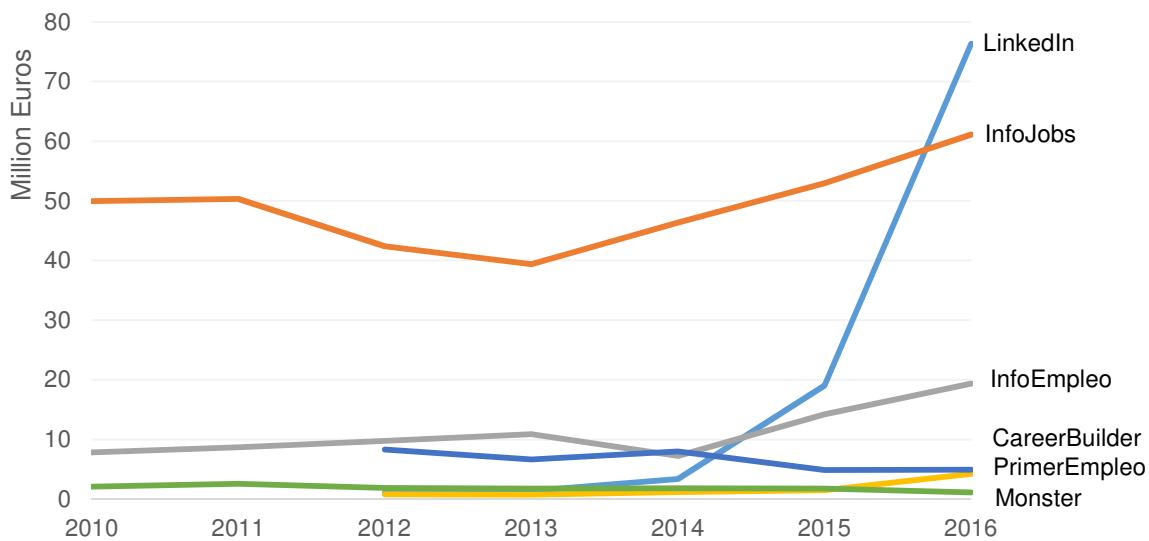
At the moment, two platforms (LinkedIn and Infojobs) with a very different vision of the world of employer branding and recruitment aggregate more than 65% of the offers of employment offers in Spain. LinkedIn's entry has introduced a new type of recruitment environment, which will become increasingly fluid and competitive.

According to the report "Investment Study. Job Offers in Jobsites 2016" by TMP Worldwide, in a labour market that continues to maintain a high level of unemployment, jobseekers are carefully assessing the usefulness of each of the platforms and their ability to adapt to a booming job market. Meanwhile, new portals continue to enter the market, many with mobile app platforms from the start. Large and well-financed players such as Monster, which is owned by the publishing firm Randstad, and LinkedIn, which is owned by Microsoft, also change the dynamic.

This same report explains that during the year 2016 there was a significant increase in the number of published online job vacancies, reaching almost one and a half million vacancies (61.24% more than in 2015). The study looks into the OJVs published by six major job portals in Spain: LinkedIn, Infojobs, Infoempleo, Monster, Primerempleo and Careerbuilder. The data comes from the monthly computation of the data of these sites, counting the number of offers published per month.

The market is now dominated by LinkedIn, with a 45.67% market share, followed by Infojobs, with a share of 36.54%. This is quite a change taking into account that in 2015 InfoJobs accounted for 52% of the market share and LinkedIn only accounted for 18.73%.

The financial investment by job portal is shown in Figure 1. In 2016, EUR 167,174,674 were invested in publishing job vacancies in the major job portals of Spain. The amounts have been calculated taking into account the prices employers and recruiters pay (from EUR 50 to 275) when posting ads in the particular site.

Figure 1: Investment in OJV ads by job portal

Source: Estudio Inversión Empleo 2016. TMP Worldwide.

InfoJobs, the second leading OJV portal, was established in 1998 to solve the recruiting problems encountered by the, at the time, emerging dot-coms. The use of InfoJobs in the technological sector was so effective that it is considered to have boosted OJVs both for employers posting and for job seekers visiting the Internet. InfoJobs exceeds seven million users a year, constituting one of the largest job portals in Europe. Schibsted Media Group has controlled this company since 2009. It has achieved the goal of becoming the top internet company in the human resources sector and has maintained local and national coverage. According to the portal, three million people applied for at least one OJV in 2016, and 29% of them got a contract through InfoJobs.

Infoempleo is another of the reference job portals in Spain. It belongs to the Vocento Group and has more than 30 years of experience in the field of employment and training. It currently has more than 5.5 million registered users and is the exclusive Spanish partner of "The Network", an international network of job portals that attracts more than 296 million candidates worldwide.

All private job portals sell their services to companies or recruiting agencies that wish to publish job ads. There is no fee for jobseekers. Employers pay for having the OJV available for a period of time (usually 60 days, some sites 30) and for accessing the registered candidates. Recruitment agencies have special prices as they are continuously posting vacancies. In Table 4 some prices are shown.

Table 4: Unit price in € per OJV publication by job portal

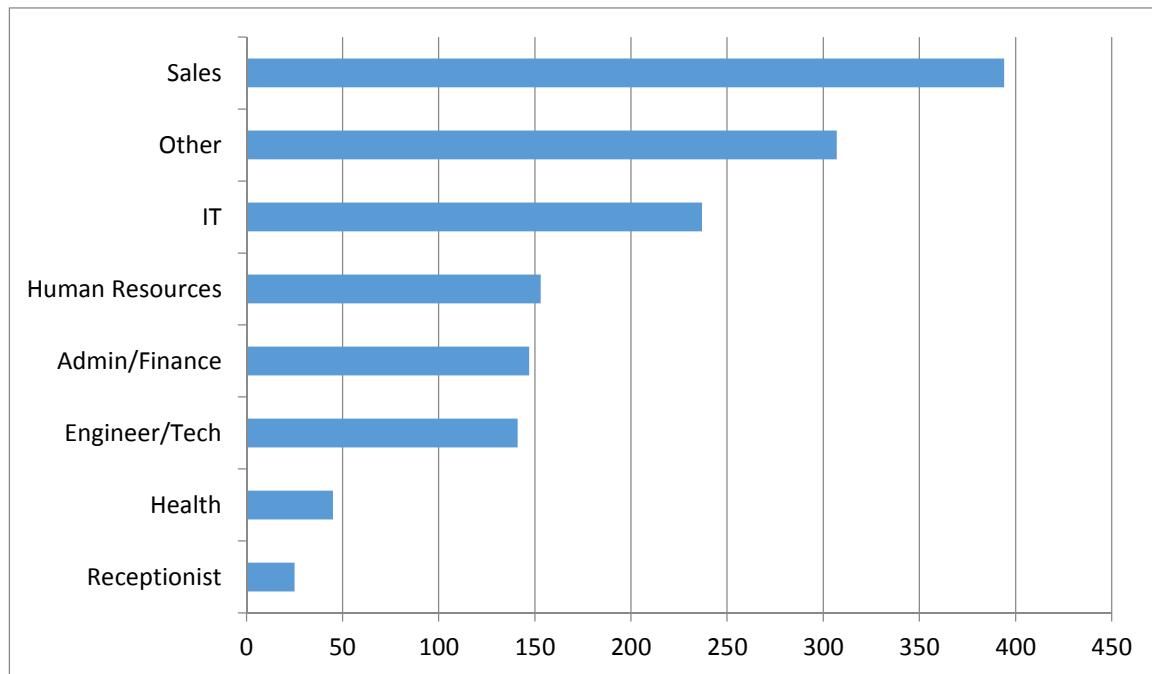
Portal	2016	2015
InfoJobs	275	275
Infoempleo	165	135
Monster	140	143
CareerBuilder	50	50
Primer Empleo	59	70
LinkedIn	149.95	139.95

Source: Estudio Inversión Empleo 2016. TMP Worldwide.

3.2.3. Focus of the Private Online Job-portals

According to the “Investment Study. Job Offers in Jobsites 2016” by TMP Worldwide, similar to past years, the most OJVs advertise positions in sales (27 %), followed by the Other category (not mentioned specifically) and IT sector with 21% and 16% respectively.

Figure 2: Areas of work advertised in the OJVs



Source: Estudio Inversión Empleo 2016. TMP Worldwide.

The ICT sector is booming and as a result many OJVs are directed toward programmers or ICT professionals. According to the experts, these OJVs do not have to identify any skills, because employers are so in need of these types of individuals, that they are less concerned with their current skills. It seems that the demand of specialised ICT experts surpasses the supply. Therefore human resource experts seek workers regardless of their bachelor's degree as long as the candidate demonstrates a solid training in computer languages and systems; or the capacity and willingness to quickly learn them. At the moment there are not enough professionals for this kind of jobs so employers cannot be selective and only ask for the qualification (e.g. computer engineering, telecommunications engineering) or any other specific training. They consider that whatever is required for the task, the candidate will learn it on the job.

There is also a regional differentiation according to the Infoempleo Adecco Report 2015. This study has analysed 265,242 OJVs (representing a total of 813,908 open positions) during 2014 and 2015. Although it is a large sample of OJVs which represents different sectors, occupations, regions, experience levels and education levels, it must be taken into account that it only includes OJVs published by the job portal infoempleo.com and the temporary agency Adecco, and they are not necessarily representative of the entire OJV market in Spain. With that in mind, the five regions that post the most OJVs cover 73.7% of all vacancies analysed. Madrid accounts for 23%, Catalonia 22%, Basque Country 11%, Andalusia 10% and the region of Valencia 7%. In terms of active population, these regions account for approximately 14.5% (Madrid), 16.4% (Catalonia), 4.5% (Basque Country), 17.5% (Andalusia) and 10.5% (Valencia) (EURES). Whereas Madrid, Catalonia and Basque Country have disproportionately strong OJV markets, Andalusia and Valencia have

less strong OJV markets compared to their populations. Nevertheless, these five regions traditionally account for the greatest industrial and business activity, plus they are home to the biggest cities and are the most populous regions in Spain. The remaining 26.3% of OJVs are distributed among the other 12 autonomous regions, plus the autonomous cities of Ceuta and Melilla.

3.2.4. Outreach of the Private Online Job-portals

In Spain employers generally do not publish their vacancies; most of the time they try to cover the job positions through personal networks (see Section 2).

When employers do publish their vacancies, online publishing is the preferred method of dissemination, and therefore experts estimate that around 75% of all vacancies are published as OJVs on private online job-portals. All of the analysed surveys indicate high use of job portals by employers, and although developed by the interest groups, it seems that the trend is genuine, and the experts confirm a high share of total OJVs on private online job portals.

3.3. Co-operation of Public and Private Online Job-portals

The public job portal of the Ministry of Employment (Empleate) is an example of co-operation between public and private online job portals. This portal aggregates OJVs from the 17 public job portals of each of the autonomous regions and some of the private job portals: JobandTalent, Monster, Infoempleo, Portaltento, TicJob, Universia, Trabajando.com and Hacesfalta.com. The Ministry has signed an agreement with these private portals, and their vacancies can be viewed on the Empleate portal. When the user clicks on the specific vacancy, he or she is then directed to the corresponding website.

Analysing the public online job portal and looking at its numbers, we can estimate that on average, as stated in section 3.1.4., only 5% of the job postings on Empleate originate within the national PES. The regional job offers account for another 15% of the job ads on the public online portal, which means that if we consider Empleate representative of the entire labour market, we can assume that the additional 80% of postings are located in the private portals.

3.4. Role of other Recruitment and Job-search Channels

In Spain, lots of people find work through informal routes such as word-of-mouth, networking and spontaneous applications, especially in small to medium-sized companies. There is a highly shared belief in the country that employers hire candidates based on their professional connections and word-of-mouth, rather than on merit.

In fact, according to Lee Hecht Harrison (2017), three out of four job vacancies in Spain are in the “hidden market”, meaning companies recruit for these roles using their own sources: databases, intermediaries or by word of mouth. The percentage is even higher in the case of vacancies for qualified or specialised positions and, above all, in profiles of management and senior management for which 85% of job offers are not visible. The profile of the professionals who are best served by the hidden market is that of workers between the ages of 35 and 45, and generally men (60%). One of the main factors that motivate companies to hide some of their vacancies is concern for confidentiality. They want to prevent competitors from knowing their hiring strategy. It is often seen as preferable to hire professionals who are referred instead of taking a risk on unknown workers who, although they may have a good resume or extensive experience. In addition, in the

case of vacancies in management positions, many companies decide to look for professionals themselves, identifying the key person in the sector and addressing them directly or through head-hunters.

Despite so many hidden vacancies, job portals still have the reputation of being an effective pathway to find a job. Labour market advisors recommend that jobseekers use OJV portals even though networking and the word of mouth are still the most common hiring methods.

The internet has substantially changed how organisations in Spain disseminate their vacancies and how jobseekers search for a job. According to the Eurostat ICT Survey on Households and Individuals, 82% of the households in Spain have internet access. Moreover, 20% of whole population use the internet for job searches or for sending a job application. According to the INE's LFS (2016), 67% of unemployed people have searched for a job on the internet, and 40% have registered for at least one vacancy. However traditional channels such as friends or family are used by 83%, and even directly handing a CV to an employer is a preferred application method for 74% of unemployed people.

In general, it can be argued that people in Spain are still a little reluctant to use the internet for job search. As in other countries the younger generations are more comfortable with the internet; they are digital natives and prefer to communicate through the internet rather than through personal contacts.

Low skilled people (even younger people) are currently experiencing problems when registering in the OJV portals. Although comfortable with their mobile phones and tablets, they have difficulties answering questions required by OJV portals and need specific mentoring.

According to the Infoempleo Adecco report about Employment offer and demand in Spain in 2015, which surveyed companies who are using to the internet for job posting, the most popular means among these companies to spread their job offer are the job web portals, which are used by 95% of companies. Personal contacts (92%) and pools of applications (88%) follow. The size of the company vastly determines the way they post their vacancies: around 40% of the smallest companies use OJV to 100% in the larger ones.

3.5. Expected Trends in the Online Job-portal Market

In the coming years we are going to see more specialised portals and personalisation of vacancies. In spite of the number of existing job portals, new platforms dedicated to this continue to be developed. Provided that these new initiatives offer a different process or added value, it makes sense to launch new portals.

This is the case, for example, for Jobandtalent, a Spanish start-up which uses an inverted process to help the jobseeker find a job. The portal does not focus as much on offering an infinite number of vacancies but on matching: it analyses the users' CVs and, through the algorithms of their software, finds the offers that best fit their profiles. The algorithm of Jobandtalent is unique. Other job search platforms are limited to the user creating alerts about their preferences. The Jobandtalent algorithm uses user preferences, as well as the CV (academic and professional experience). The algorithm uses linguistic technologies of classification to be able to extract from the CV all key concepts and terms that define it, comparing them with those same concepts that are extracted from the OJVs. After the CV and the OJVs are compared, users are provided with a ranking of suggested OJVs. One of the most interesting characteristics of the algorithm is that the identification of these key concepts is "unsupervised", which means that it is not Jobandtalent that guides the algo-

rithm to look for, say, "computer engineer" and then compare it. It is the technology itself that is able to extract the key concepts. The success of this platform has not yet been externally analysed, however its model can be interpreted as hybrid between a generalist portal and a 'white collar' portal. It is similar to a generalist portal because it has OJVs for all types of qualification levels, while it resembles a 'white collar' portal, because its homepage ranks the most demanded professional categories (which tend to be white collar occupations) and names several of the large companies that are using its platform to hire new employees.

Smarter use of the information contained in the job portal is expected. Applying big data collection to OJVs will allow for more accurate matching and meta-searches. Mobile job apps are also expected to expand in the near future.

There is currently noteworthy growth in job portals targeting freelancers. This trend towards more freelance portals represents two realities that are increasingly present in our labour market: workers who, whether voluntarily or by circumstance, bet on building their future by working for several companies at the same time; and companies that decide not to take risks with indefinite contracts or who need personnel only for specific projects. This trend is important to the OJV market, as it indicates that temporary contract work may increasingly use its own portals and may develop in terms of formatting and content distinctly from portals hosting primarily permanent roles. Freelance work is more likely to be unregulated and may place a lower priority on requesting specific skills and competences and greater priority on soft skills and attitude.

In the experts' opinions the future will bring more interaction between employers and jobseekers, so OJVs won't require applications as they do today. Because of workforce shortages, employers will identify talent using CV matching and contact them directly through portals. Companies will also look for opportunities to use job portals to promote their company brands, as they will be concerned with standing out to and attracting job seekers.

4. Use of OJVs in Recruitment and Job Search

4.1. Use of OJVs in the Recruitment of Labour

The report Infoempleo Adecco about Employment offer and demand in Spain in 2015 offers a complete picture of the recruitment behaviours of companies in Spain. The report surveyed 613 employers and 8,478 job seekers. Among the job seekers, 64.2% identified as unemployed, 31.5% identified as employed and 4.5% identified as self-employed. The data for this analysis was obtained from two sources: a survey aimed at companies and HR professionals; and a survey aimed at all types of professionals in active employment. After an internal consistency test made by Infoempleo Adecco, the margin of error of the surveys for employers is considered $\pm 2.6\%$ and in the case of jobseekers, the margin of error is $\pm 1.2\%$.

According to the Infoempleo Adecco report, employers determine which channel to use to advertise a vacancy depending on the type of vacancy. For management positions, employers recruit through recruitment agencies (30%), although internal promotion is also an important way to fill positions of responsibility (around 25% of employers). For more technical profiles, employers prefer to search for new employees at the university. Employment forums are very useful for establishing contacts for specialised positions in companies; 30% of employers use encounters between universities and companies for recruitment.

Job portals are used for about 45% of other recruitment needs. However, the preferred way of recruiting is by using the pool of spontaneous job applications (52%). Contrary to what it may seem, sending a CV to a company without a job offer appears to be an effective move in the long run.

External staff or freelancers are sought, interestingly, through press adverts, too (20%). On the other hand, the use of press advertisements is overall on the decline.

The agriculture and construction sectors do not use job portals in general, and the hospitality sector did not use online portals in the past, but now they do.

The companies who advertise online most often are, according to the Infoempleo Adecco report, service companies (more than half of the total), followed by ICT and Industrial companies which each hold 16% of the market share. Regarding the geographical scope, no differences were identified, as companies seem to use OJVs regardless of whether they are recruiting locally, nationally or internationally.

Of the companies that use OJVs, 24% of them are large enterprises with more than 250 employees, 44% are SMEs and 32% of the companies are microenterprises with less than 10 workers. Taking into account the total number of companies in Spain (3,232,706) (Directory of companies DIRCE 2016) and that only 4,000 of these are large, while 96% of companies are microenterprises, there is clearly a lot of opportunity for online portal growth among smaller companies.

4.2. Use of OJVs in Job-search

According to a survey of 9,532 job seekers aged 18-67 (Adecco Infoempleo Report on the Labour Market and Social Networks Spain 2016), 98% of respondents indicated that they use specialised portals when they are actively searching for a job. Some concerns with this survey include that it

only surveyed individuals actively searching for a job. Also, since the survey was online, it only considered respondents who are familiar with the internet and comfortable considering it as a job search method. The sample from which the results of the study have been established is shown in Table 5.

Table 5: Survey Distribution

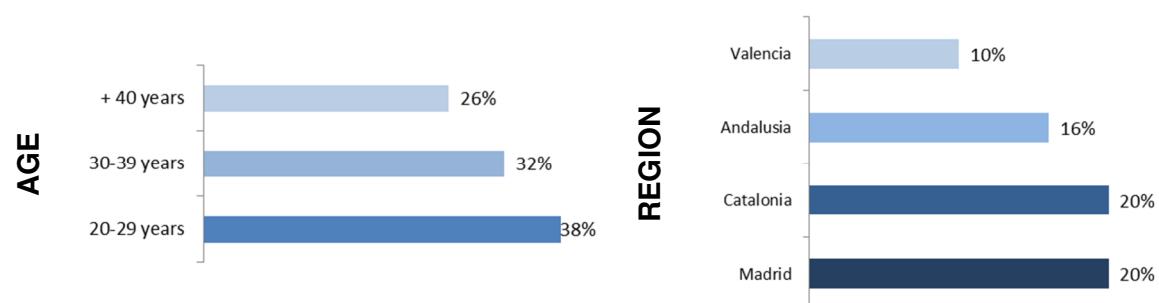
Population	Total Population	Survey Sample Size	Margin of Error	Confidence Level	Heterogeneity
Employed People	16,535,115	2,574	± 1.93%	95%	50%
Unemployed People	4,574,700	6,386	± 1.23%	95%	50%
Self-employed People	1,960,710	572	± 4.1%	95%	50%
Companies with a minimum of three employees	549,099	295	± 4.8%	95%	50%

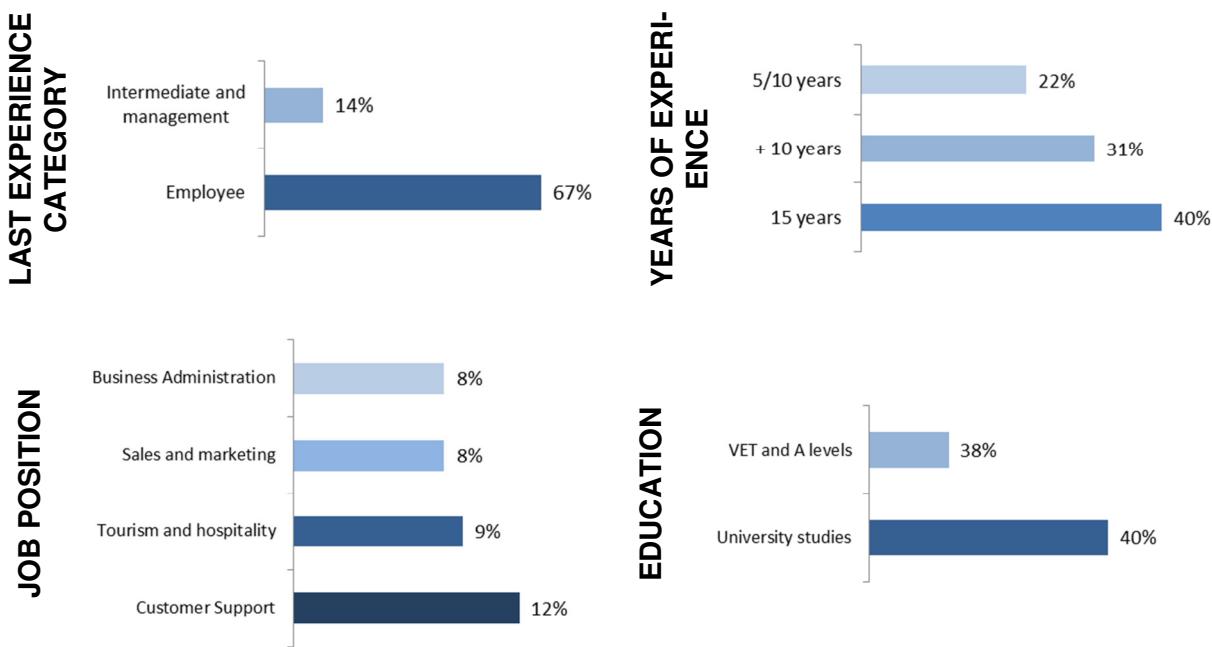
Source: Adecco Infoempleo Report on the Labour Market and Social Networks Spain 2016

The results show that four out of five people turn to social networks for job searches and four out of five recruiters rely on social media to make job vacancies visible. New social networks come into play and will continue to do so, however at the moment, LinkedIn and Facebook are considered the most relevant.

The first choice for candidates when actively seeking a job is the online portals, used by 98% of the respondents. Of these, 85% use the portals always or almost always; 13% visit them occasionally. The recruitment agencies and the employers' websites are the other two channels most often used by individuals seeking new professional opportunities. Although social networks are important for job search (78% of users use social networks regularly or on an occasional basis), according to the study, social networks are used sporadically or complementary to the use of other channels of job search. Head-hunters and press ads are the options that fewer applicants turn to when seeking for a job. The Public Employment Service (SEPE) continues to lose support and, despite being used by two thirds of the candidates, only 36% of the respondents consult the PES when they seek employment.

The jobseekers' characteristics using OJVs are displayed in Figure 3:

Figure 3: Characteristics of jobseekers using job portals



Source: Atin based on InfoJobs annual report of 2016.

4.3. Expected Trends in the Use of OJVs in Recruitment and Job-search

Regarding the future of recruitment, in the Infoempleo Adecco report, it has been predicted that within two years, job portals will likely be used by 75% of companies, nearly as much as the social/personal networks. Taking into account that the “hidden market” in Spain is vast and that only one in four vacancies is published, this can be considered a very optimistic forecast. What could be a more foreseeable development is that the number of ads in print will continue to decrease dramatically.

Unfortunately, according to the Infoempleo Adecco report, the Spanish Public Employment Service is the least optimal way to contact new employees; 51% of companies believe that contact with the candidates is very poor through this agency and 68% indicate that they are unlikely to use this service again.

5. Identifying Online Job-portals for Web-crawling

5.1. Documentation of the Job-portal Research Process

5.1.1. Identifying the Online Job-portals Through Google Search

In order to identify the most widely used job-portals, two main sources have been used: the internet and interviews. We have googled keywords, and we have searched through the results pages to find relevant databases. Interviews with experts have also directed us to some previously unidentified websites.

Google searches identified a number of job-portals, all of which have been listed and described in the spreadsheet. Job-portals have experienced a significant standardisation process over the last few years. The most dominant portals, Infojobs and Infoempleo, have a certain structure and look that is now expected from the rest of the websites. They have set the handful of rules to follow. Some, despite not copying the structure, do copy or imitate the look and the content distribution of the largest portals.

Table 6 shows the search terms used in Spanish alongside their English translations and the number of results returned by Google.

Table 6: Grid for documenting the Google search for job-portals

Search 1	Busco trabajo	Looking for job
	Number of results per search term	16,100,000
Search 2	Trabajo en España	Job in Spain
	Number of results per search term	115,000,000
Search 3	Anuncios de trabajo	Job adverts
	Number of results per search term	23,900,000
Search 4	Páginas de empleo	Employment websites
	Number of results per search term	28,400,000
Search 5	Portal de empleo	Job-portal
	Number of results per search term	27,900,000
Search 6	Vacantes empleo	Job vacancies
	Number of results per search term	11,500,000
Search 7	Ofertas empleo	Job offers
	Number of results per search term	35,100,000

Source: Atin (2017).

Based on these internet searches, we identified 21 job portals shown in Table 6.

Table 6: Job Portals Identified through Google Searches

	Combination of primary and secondary functions	Cross-sectoral
infojobs		
infoempleo	Combination of primary job-portal and secondary functions	Cross-sectoral
Laboris	Primary job-portal	Cross-sectoral
Monster	Combination of primary job-portal and secondary functions	Cross-sectoral
Trabajamos.net	Primary job-portal	Cross-sectoral
Empléate	Combination of primary job-portal and secondary functions	Cross-sectoral
Empleo Marketing	Secondary job-portal	Specific for one sector
TICJob	Primary job-portal	Specific for one sector
Tecnoempleo	Combination of primary job-portal and secondary functions	Specific for one sector
Primer empleo	Primary job-portal	Cross-sectoral
ieTeam	Primary job-portal	Cross-sectoral
Simplyhired	Secondary job-portal	Cross-sectoral
indeed	Secondary job-portal	Cross-sectoral
Jobijoba	Secondary job-portal	Cross-sectoral
buscojobs	Secondary job-portal	Cross-sectoral
Jobdiagnosis	Secondary job-portal	Cross-sectoral
Hays	Primary job-portal	Cross-sectoral
Gastroempleo	Primary job-portal	Specific for one sector
Ocupa2	Primary job-portal	Cross-sectoral
trabajando.com/ trabajando.es	Secondary job-portal	Cross-sectoral
Page personnel	Primary job-portal	Cross-sectoral
Michael Page	Primary job-portal	Cross-sectoral

Source: Atin (2017).

5.1.2. Identifying the Online Job-portals Through Expert Interviews

The experts in the interviews analysed our list of job portals and suggested nine additional important job portals: Cornerjob, Adecco, Randstand, Tecnoempleo, Universia, Marca Empleo, Porttalento, Jobandtalent and Michael Page.

Furthermore, the interviewed experts identified some of the portals as central for the crawling activities:

- Infojobs;
- Infoempleo;
- Empléate;
- Job and Talent;
- Indeed;
- Monster.

5.1.3. Validating the Selection of Online Job-portals

The ESSnet member in Spain has validated the list of the 30 job portals for potential web crawling.

5.2. Conditions for Drafting and Posting OJVs in the Selected Job-portals

5.2.1. Drafting and Posting an OJV on the PES Online Job-portal

We have analysed the processes of uploading an OJV to both public and private websites, observing that their online functions are quite similar; however, the PES website requires more bureaucracy, which makes the whole process slower and according to interviewees discourages some companies from posting their OJVs.

The first step to posting a job to the PES is to register and create an account. In private job portals you can publish immediately, but the PES portal has to validate the VAT number and social security number of the company.

One of the main differences between public services and private services is the number of forms required before allowing an offer to be published there. The public portals require many more forms, so the whole process is slower, and it is seen by some companies as unnecessarily long and tedious. In addition, although they do sometimes make good matches, employers are more used to receiving candidates that do not match their requirements or meet their expectations. As a result, the public portals are more widely used to recruit for lower skilled jobs. When searching for highly qualified individuals, such as engineers, they are not seen as the prime option, and private portals are preferred by employers.

Empleate (the PES portal), asks for the contact details (name of company and email), description of the job position, optional fields for the salary and the type of workday, and the requirements which are the training, speciality and years of experience. The number of characters allowed is more limited than in the private portals and therefore companies tend to be less descriptive in the PES portal, also because the job positions are generally less demanding than in the private portals.

Regarding pricing, the PES portal is free.

5.2.2. Drafting and Posting an OJV on a Private Online Job-portal

As mentioned in Section 5.1.1., two portals, Infojobs and Infoempleo, dominate the market and dictating trends followed by other job-portals. The main outcome of this development is the simplification of formats and templates, making the offers more homogeneous, and, thus, somewhat more difficult to distinguish between. Two additional consequences to this standardisation trend stand out:

- (a) It is harder for new portals to arise and for the unemployed to decide where they should look to find jobs suiting their profiles;
- (b) It is easier for unemployed individuals to sort through OJVs quickly and makes the decision of whether or not to apply for a job post much more straightforward.

. Employers regard Infojobs' template the most user friendly.

During the drafting process the employer selects on which websites to publish the OJV. Normally, companies try to offer as much information as possible about the job. However, some companies are more prone than others to give details about the job.

The mandatory fields are quite similar to those required by the PES portal: the company, description of the company, job title, province (region), town-city (in some cases this field might be optional), postal code (in some cases this field might be optional), job tasks and job description, required

skills, qualifications and languages. The rest tend to be optional – type of contract, salary and so on.

Infojobs, for example, asks for the location of the company, salary (optional), minimum experience required, type of contract and type of workday. Infojobs also asks for the minimum level of education level completed, and skills, including both minimum requirements and desirable requirements; then the description of the job position, followed by classification of the OJV according to sector, category (Infojobs's own classification of sub-sectors, e.g. logistics, purchasing...), department and level (junior, senior). The name of the company is an optional field, it is not mandatory whereas in the PES portal it is.

The private OJVs are generally more complete and offer more information whereas the public ones tend to cover the basic information only, in part because companies do not pay for the public OJVs.

Each private website has its own set of prices for individual offers. Nevertheless, most websites offer the option of contracting a whole year of uploads for a flat rate. The options vary from site to site, with some limiting the number of OJVs available for a flat fee and others offering unlimited use. The individual policies of the job-portals cannot be generalised.

5.3. Contacting the Online Job-portal Owners

All 30 job portals were contacted at the end of June 2017 to inform them about the planned scraping activities. We have only received two answers: a positive response from a small sector-based, Gastroempleo, and a negative response from the major portal, Infoempleo, stating that they do not wish to be involved in any more scraping and that they are already part of many projects and processes.

6. Format and Content of OJVs

6.1. Legal/Regulatory Framework

There is no legal framework governing job vacancy adverts, regardless of whether they are online or in print. However, there are a few laws that have an effect on OJVs. The most important one is the constitution itself, which states in the 35th article that, "Every Spaniard has the obligation to work and the right to work, the right to choose with complete freedom their profession or sector, the right to be promoted and the right to have a wage sufficient to cover their needs and those of their family, without ever discriminating on the grounds of sex." The first paragraph of the 13th article states that, "Foreigners will have the same freedoms that Spaniards do" and in the 14th article it is stated that, "Spaniards are equal before the law, without any discrimination on the grounds of birth, race, sex, religion, opinion or any other personal condition or circumstance." Therefore, no job offer can be discriminatory.

The other legislation that may apply to OJVs is the "Data Protection Law". The objective of this law is to protect personal data. This is particularly pertinent to online job portals as it prevents them from sharing the personal data of their users without permission. It also prevents them from informing third parties about who has applied to which OJVs. Although it is not usually done, companies' contact information can be shared. Before online portals were popular, print vacancies posted contact information about an employer, but nowadays, when the vacancy is found online, the websites handle the contact, sometimes even including a chatting service.

6.2. Format of OJVs

In Spain, aside from LinkedIn, Infojobs and Infoempleo are the most well-known and well-used websites. However, despite these being the most important ones (according to a report by *Tmp-Worldwide* in 2015), other portals are also important. Depending on the kind of job vacancy, the offers vary, as do the choice of portals. For example, there are many websites dedicated to ICT jobs. There are also many sites for low-skilled jobs. These tend to be app-based platforms in which contacting speed is a key factor. Still, as the two cross-sector employment websites dominate the online job searching market, there is a standardisation movement going on. This standardisation shows that the portals are adapting to the applicants, recognising that they have become familiar with the big portals and accustomed to this format.

No matter the portal, OJV content is very similar. However, each of the portals has its own way of structuring the OJVs. This format has been inherited from the advertisements in print (newspapers and specialised magazines). Although Spanish national, regional and provincial newspapers used to advertise job vacancies daily, nowadays most jobs are advertised only in the Sunday editions. Job vacancies, when published in the company websites, also follow the same pattern as the portals. The company vacancies are usually found under the heading "recursos humanos" (human resources), "empleo" (employment) or "trabaja con nosotros" (work with us).

Across the most popular portals in Spain, the most common fields in the OJVs are the following:

- Name of employer;
- Job position description;
- Employer's offer;

- Area;
- Category;
- Location;
- Date;
- Type of contract;
- Type of working day (full time, part time, shifts...);
- Salary;
- Number of vacancies;
- Education required;
- Speciality;
- Years of experience;
- Languages;
- Skills;
- Other requirements (car, driving license).

The level of education is one of the most important fields in OJVs in Spain. Together with the job description or offer, this is the section most frequently filled out by employers. Depending on how precise the employer is, he or she will fill in all of the fields or simply write a paragraph under the "description" field. Hence, OJVs don't look very much alike even if they are advertised in the same portal. In the public portal, employers seem to provide fewer details, and in private portals employers appear more cautious and sometimes won't even post the name of the employer in order to prevent competition from finding out about their needs.

Public employment services have their own portals, but they are more focused on policies that help to promote employment, training, job counselling, etc. The private job portals are intermediaries between companies and candidates, and many of them collaborate with the PES in different projects to provide information about the labour market and visualising OJVs on their websites and vice versa.

Usually OJVs include a section about the opportunity for the candidates, especially by listing the benefits offered by the company, salary and working hours. There is also a part dedicated to the requirements necessary to perform the position, which are usually the training, experience, skills and knowledge. Other additional aspects can be requested, such as an individual's geographic mobility or personal aptitudes.

International offers, unlike national offers, give more attention to branding the company through its corporate presentation. These OJVs provide employer information and job description information in great detail, including many aspects that in Spain would normally be discussed in another phase of the application process.

Sometimes the type of contract offered by the employer is missing. This often implies that the employer is willing to formally contract a self-employed person or freelancer. This is done to attract potential applicants. Although companies save money by contracting a self-employed person and not including him or her formally in the company, it is more labour intensive for the contracted person due to future tax returns. Another common omission is the salary. Most websites offer the opportunity to express what the wage is, yet many do not use it. In fact, this is one of the questions applicants are frequently asked in interviews. Many employers prefer not to say the wage, because it is considered a restricting factor; employers usually adapt it to the candidate's experience, so sometimes it can exceed or be inferior to the original salary intended for the position. The type of work day is another of the fields that is not always completed.

One of the most common requests, no matter the sector, is for the applicant to have a car or at least a licence to drive a car. However, this requirement, together with the location, will become less important in the future, because of teleworking and telecommuting.

When it comes to occupations and sectors, according to the aforementioned TMP Worldwide Report, almost a third of the OJVs sought some kind of salesperson. It should be noted that in this salesperson category, the following jobs are included: PR and telemarketing, customer service, marketing personnel and Telemarketing. IT experts are also in high demand and are recruited, in addition to on the general portals, on sector specific websites: TicJob and Tecnoempleo. Despite minor discrepancies, the proportion of OJVs in each website is similar to the general dissemination. Some sectors are underrepresented because of their traditional way of looking for an employee. Local bars and restaurants do not tend to post online about open positions, for example

Another feature that impacts portal selection is the cost of posting to each site. Infojobs is the most expensive of the sites, charging EUR 275 per OJV. It is, however, the portal with the biggest audience and the one that has most OJVs. On the other hand, careerbuilder.es charges just EUR 50 per OJV. Some might think that posting in the biggest portal is best in order to attract more candidates, but others would rather publish their OJVs on a smaller, maybe sector specific website.

Spanish is the language of all OJVs and the sole language of the major Spanish job portals. The regional public portals in four regional communities are obliged to publish in both Spanish and the corresponding official language (Basque, Catalan, Valencian or Galician) but the rest of the regional public portals and all of the private portals only advertise OJVs in Spanish.

6.3. Content of OJVs

In Spain, employers are not yet accustomed to requesting skills on OJVs. The most important field in an offer is the formal qualification and/or professional certificate. Although more and more demanded, skills remain an unresolved matter, and therefore they do not appear on as many OJVs aside from buzzwords such as teamwork, communication, etc. In general, applicants are expected to be able to work with the Microsoft Office package, since it is the most widely used office software. Soft skills, such as the ability to work as a team, are not as frequently requested, although they are becoming increasingly common. The most demanded "hard skills" are specific knowledge of the work to be done, IT skills, language and general knowledge. The most demanded soft skills are team work, problem solving, communication skills, organisation and planning, initiative, ethic, positive attitude, empathy, resilience, pressure tolerance, multitasking, flexibility, time managing, creativity, contacts, innovation, and ambition. The request of skills is so incipient that there is not yet information around the specific skills demanded by the different sectors or occupational categories.

Requesting a certain kind of personality or appearance is unusual, however they are more common requests when the job includes direct contact with customers, e.g. shop assistant, waiters and so on. The request for skills depends a lot on the level of qualification. Higher qualified jobs tend to require more skills, whereas the less qualified positions ask for fewer skills. According to the experts, skills are usually included in the description of the job position or in the requirements but can also be included in a specific field with keywords that work as tags to identify certain specific characteristics, skills or knowledge. The goal is that at a glance, candidates can see what the company requests.

Another skill which may vary from sector to sector and which definitely varies from region to region is the need to be able to speak in the regional languages (Basque, Catalan, Valencian or Galician).

Regarding the style of language used in OJVs, this may vary depending on the offer but is most evident based on the type of platform. For instance, the app-based OJVs are usually targeted to less experienced, lower skilled people for jobs mainly in restaurants and hotels. These apps usually have a chatting service too, making the conversations ever so slightly more informal, without ever getting fully informal. It should also be noted that in Spain, unlike in France or Germany for instance, the use of “usted”, the formal form of you – “vous” in French and “Sie” in German –, is not used at all. So many OJV adverts are written in a formal register, but without the use of “usted” and its verbal conjugations. This is the case as well in the PES portal.

Similarly, the way OJVs are framed depends on the employer. Some try to frame a job as an opportunity for the applicant’s future career, while others just list a number of tasks to fulfil once the job has been assigned. Generally, there is no sector in which one format clearly prevails. OJVs are directed towards a specific target audience and the format is adjusted to address this group. For example, recently graduated applicants tend to prefer a career-like framing. However, no statistical analysis backs this hypothesis, and it is just a perception some people have. On the other hand, the list of abilities one should have in order to be eligible for a job is less and less common in OJVs and is generally only seen in newspapers, where companies pay for the use of space, thereby incentivising brevity.

In general, according to the experts’ opinions, the two websites dominating the OJV market set the benchmarks and the rhythm that others follow. The internet has brought a change in the way OJVs are framed and formulated. They have varied from newspaper-style short commands to a list of tasks in some cases and descriptions of career opportunities in others. The contents of the OJVs are similar from portal to portal, but although the essential fields are the same, some differences can be found based on the platform selected. There are two frequent omissions from OJVs: type of contract and wage.

As to what makes companies choose one site or the other, there are three main factors: quantity, quality and price. In other words, how many people will see the OJV; of that number, how many individuals have the appropriate qualifications; and how much does it cost to publish an OJV to that portal. There are no explicit regulations about OJVs, but there are two laws which apply: the Spanish Constitution, prohibiting any kind of discrimination; and the Data Protection Law, protecting applicants’ personal information from being revealed or shared. Last, but not least, the OJV market is likely to develop significantly in the coming years. Websites will likely become more standardised in how they present OJVs; skills will be of greater importance; OJVs will be framed with the companies’ cultures in mind, and therefore, with their brand in mind. Technological advances will make filters more effective and even predictive, and there will be more interaction between employer and jobseeker through the proliferation of job apps.

6.4. Main Differences Between the Public and Private Online Job-portals

There are no main differences in the format and content of OJVs posted on public and private online job-portals. The recently created public OJV portal has tried to be as user-friendly as the private ones, following their structure, format and content.

6.5. Expected Trends in the Format and Content of OJVs

The primary factor shaping OJVs is the company posting the job based on its mission, vision and values. The OJV reflects the kind of worker that is sought and the way in which the company functions. It also depends on the website or platform they choose on which to publicise their vacancy. The internal culture of each company determines, or is determined by, the way they treat their current and potential future employees. According to Kapferer's Brand Identity Prism, culture stands within the internal part of the constructs which build the brand. As more companies see the benefits, or even the possibility, of building their brand through their OJV framing and format, it can be expected that they will start paying more attention to how they communicate their own ideals. There are two main advantages: brand building and the potential to attract more suitable applicants.

According to the experts, the websites where OJVs are registered will continue to get standardised, copying the most successful websites and profiting from the fact that people already know how to search in these formats. The brands of these websites will be determined more by how they look than by how they work. In terms of internal functions, the improvement of algorithms will make filters and searches more effective and accurate with the implementation of predictive offers to better suit individual needs. For example, if one person usually focuses on one kind of OJV, then those will be prioritised whenever that person logs in. Employers and recruiters will also be able to search candidates more precisely. Thanks to big data, new search tools and interactive dashboards, more fruitful matching will be enabled.

The format or content will be maintained. It is true that in recent years Spain has moved from paper CVs to job search platforms or apps, however the elements that are shown remain the same. Companies need to know the experience, knowledge, studies, languages, skills and competences that a person has. However, aspects such as recommendations, working on one's personal brand so that head-hunters find one before other candidates, or being able to give visibility to the works or projects carried out will be key elements that, thanks to the expansion of the internet and the technologies, will be more present.

Skills are, according to the interviewed experts, another trend that will grow in the future. Employers have started to identify in the OJVs the skills they need for a certain position instead of exclusively relying on the formal qualification of the person.

In recent years, the major job portals have been very focused on developing platforms for mobile use with the aim of adapting to the new market trends. For the future, they will be very focused on improving mobile interfaces and usability of their tools through an easy and intuitive web that is adjusted to the needs of its users, working hand in hand with technology and digitalisation.

The experts believe that most of the changes will focus on improving the visibility of users, actions aimed at improving their personal brand and having a real impact on others through what they share in existing digital channels. In the case of companies, the aforementioned will be of great value to them, since it will serve to evaluate a candidate in a global way and take into account aspects of a more informal nature that can contribute to know how a professional works.

New specialised job portals are currently entering the labour market, and this trend will continue in the future, together with the meta-searchers and apps that allow more interaction between jobseeker and employer.

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Infojobs: <https://www.infojobs.net/>

Infoempleo: <http://www.infoempleo.com/>

Expert Interviews

Name of organisation	Type of organisation	Expert's position	Interview date
Spanish National Statistical Institute (INE)	Statistical Office (ESSnet)	Head of Area of Labour Costs and Vacancy Statistics	17 May 2017
Spanish Public Employment Service (SEPE)	PES	Manager for Statistics and Information	22 May 2017
Recruitment agency	Private labour market intermediary	Recruiter	23 May 2017
Online job-portal	Private online job-portal	Sales manager North	10 July 2017
Online job-portal	Private online job-portal	International Sales Manager	10 July 2017
EURES Spain	EURES	EURES adviser	4 September 2017