Mapping the landscape of online job vacancies

Background report: Sweden

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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
IFAU	The Institute for Evaluation of Labour Market and Education Policy (Institutet för arbetsmarknads- och utbildningspolitisk utvärdering)
ISCO	International Standard Classification of Occupations
OJVs	Online Job Vacancies
PES	Public Employment Services
SCB	Swedish Statistics Office (Statistiska centralbyrån)
SSYK	Standard for Swedish Occupation Classification (Standard för svensk yrkesklassificering)
WP	Work Package

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 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 Sweden. It is based on desk research of available data sources in Sweden (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 Swedish 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 Sweden 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 Sweden 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

It has been challenging to find academic research related to the subject of the online job-portal market or the use of OJVs in recruitment and job-search in Sweden. The existing research about recruiting focuses on social media or on text analysis of the content of job advertisements.

Desk research was conducted on 16 May 2017. We searched five keywords on Google Scholar and on the IFAU ([1]) (The Institute for Evaluation of Labour Market and Education Policy), a Swedish research institute with a database for research articles and reports. All search terms were entered both with and without quotation marks. When searching on Google, we also searched with and without adding "Sweden":

Keyword in Swedish (with translation in English)	Google Scholar results	IFAU results
"Jobbannonser" (job vacancy)	491	0
"Jobbannonser online" (online job vacancy)	148	0
"Jobbportal" (job portal)	779	0
"Platsbanken" ([2])	334	0
"undersökning jobbannonser" (research job vacancy)	507	0
"rekrytering online" (recruitment online)	4,450	0

We also searched on Google, but these searches only resulted in links to job-portals, not in scholarly articles.

1.2.   Data Sources

The main data source for information about the labour demand in Sweden is the enterprise-based Job Vacancy Survey covering both the public and private sector ([3]) The results are published quarterly and current data is available for:

- **Job openings and vacancies**:
    – Business by region and industry Nace Rev 2, Quarter 2015K2-2017K4;
    – Business by region NUTS2, Quarter 2015K2-2017K4;
    – Business by industry Nace Rev 2, Quarter 2015K2-2017K4;
    – Business by number of employees, Quarter 2015K2-2017K4;
- **Recruitment and vacancy rate**:
    – Business by industry Nace rev 2, Quarter 2015K2-2017K4;
    – Business by number of employees, Quarter 2015K2-2017K4;
    – Business by region NUTS2, Quarter 2015K2-2017K4;
    – Business by region and industry Nace rev 2, Quarter 2015K2-2017K4;

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[1] In Swedish „Institutet för arbetsmarknads- och utbildningspolitisk utvärdering".
[2] "Platsbanken" is the Swedish PES online job-portal.
[3] The survey measures unmet demand for labour in vacancies, defined as unoccupied job openings to be filled immediately. In that, the survey follows the Eurostat definition of vacancies (http://www.scb.se/en/finding-statistics/statistics-by-subject-area/labour-market/).

- **Average recruitment time** (in months):
    - Business by Nace rev 2, Quarter 2015K2-2017K4;
    - Business by region NUTS 2, Quarter 2015K2-2017K4.

Concerning the use of OJVs in recruitment and job-search the desk research delivered only a small number of findings. Especially the scientific papers that were returned in the searches were not relevant to the project. Most results related to recruiting through social media. Surveys by other websites and recruitment agencies could not be found. Our interview subjects from the ESS-net explained that it is very hard to get any statistics on the use of OJVs from private actors. It either does not exist or accessing the information requires payment (E2). ESS-net is currently working on a project to collect this information, so hopefully it will be accessible in the future.

Interview subjects were selected based on the recommendations in the PowerPoint presentation at the kick-off skype meeting. It was difficult to make contact with interview subjects for this study. We were referred to several different people, and the response times from each of them was quite long. When we did conduct the interviews, the interviewees had trouble answering some of the questions, although we adjusted the questions for each interview. The stakeholders did not have specific knowledge for certain parts of the interview guidelines including OJV business models, specifics about EURES and the OJV infrastructure. We were able to use desk research to supplement our interview about the PES, but this was not the case for private job-portals, as this is a largely unexplored area of 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**	Arbetsmarknadsutsikterna hösten 2016/2016	Public Employment Service	Yes			Good
	Den kodade vinnaren: En diskursanalys om könskodning i IT-branschens jobbannonser/2016	Kühnemann, N./Chamera, C.			Yes	Good
	Yrken A-Ö/2017	Public Employment Service			Yes	Good
Source 2: **Research/surveys of interest groups**	Arbetsförmedlingen och arbetskrafts-förmedlingen – missbedömd eller dömd att misslyckas?/2015	Cronert, A./ LO	Yes			Good
Source 3: **Expert opinions**	Expert opinions 2017	Experts 1-5 (see the References for detailed information)	Yes	Yes	Yes	Good

Source: Strandendahl (2017).

2. Labour Market Dynamics and Impact on the Online Job-portal Market

Sweden's labour market is characterised by high employment and high training and education levels. Although the market for highly qualified workers has remained stable in recent years, there has been a notable increase in temporary and part-time work and in low-wage work, indicative of market polarisation (Buhr and Frankenberger 2017). The growth of short-term contracts and staffing agencies have been in part the result of reforms that give employers greater flexibility in hiring, however Sweden has not implemented a minimum wage (The Swedish Economy 2016). The demographic shift towards an ageing society in Sweden is also significantly affecting the labour market, as there are fewer people of working age and a larger proportion of elderly individuals, which can be problematic for the welfare system. In the last couple of years, the lack of nurses (ISCO 5321) and nurses in geriatric care (ISCO 2221), for example, has steadily increased (Labour Market Outlook 2016).

Digitalisation in Sweden has also led to changes in the labour market. Sweden has above average Internet penetration (91% of households) and above average regular Internet use among individuals between 16 and 74 years of age (89%) and occupies the third place in the EU's Digital Economy and Society Index (DESI)[4], behind Denmark and the Netherlands (Buhr and Frankenberger 2017). There has been a decline in the demand for unqualified labour and an increase in the demand for skilled labour, which has resulted in skills mismatches among the job-seeking population. One example of this is shortage of engineers (ISCO 2141) and an excess of manual packers (ISCO 9321) (Labour Market Outlook 2016).

The labour market is currently strong and has been steadily strong for a long period, partly due to the **economic boom** Sweden is currently experiencing. Because of the high employment rate, which is the highest in the EU (77.1% for 15-64 year olds in 2017) according to Eurostat, many employers find it difficult to find the skilled workers they need for continued growth. The labour market is expected to grow by 68,000 jobs in 2018, and by the end of 2018, it is expected that four in ten employers will have experienced difficulties in recruiting. The ICT sector and the construction sector have experienced particular difficulties in hiring (Mångs 2017). According to the Swedish Job Vacancy Survey, the average recruitment time for the information and communication companies in 2017(Q3) was 1.7 months, followed by professional, scientific and technical companies (1.4 months), energy and environmental companies and real estate, financial and insurance activities (1.3 months) as well as the construction industry (1.1 months) ([5]). The average recruitment time was particularly high in Stockholm (one month), but also in East-Central Sweden, West Sweden and North-Central Sweden it was close to one month ([6]). In 2017, most vacancies were in companies with 10-49 employees (11,245), followed by companies with 1-9 employees (9,360).

To address this, employers have had to broaden their searches and use channels that they did not need to use before, such as social media and publishing on multiple job-portals for better dissemi-

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[4] DESI is an index composed of five dimensions, which surveys the development of EU member states towards a digital society. Developed by the European Commission (DG CNECT) the index encompasses connectivity, human capital, internet usage, integration of digital technologies in the economy and digital public services (e-government). The Index varies between 1 and 0, with 1 representing the highest value, cf. http://ec.europa.eu/ digital-agenda/en/digital-agenda-scoreboard (28.9.2016).
[5] The vacancy survey does not include information on recruitment channels.
[6] The average recruitment time was 0.9 months in these regions.

nation. In many cases, employers reduce the qualification requirements or train existing employees. However, despite the fact that employers have broadened their search for labour, the skills shortages are widespread, and they often result in difficulty recruiting (Labour Market Outlook 2016). This suggests that to fill vacancies it is crucial to use OJVs in order to reach as many people as possible.

The **inflow of refugees** in the autumn of 2015 also affected the labour market in Sweden and increased the demand for labour, particularly in the public sector (Labour Market Outlooks 2016). Examples of professions where the demand has increased as a result of this are social secretaries and curators (ISCO 2635), administrators (ISCO 2422), as well as treatment assistants and social workers (ISCO 3412). The number of OJVs published after the autumn of 2015 increased, and the shortages in the professions mentioned has persisted (Swedish ESS-net Q1 2017).

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

3.1. PES Online Job-portal(s)

3.1.1. Legal/Regulatory Framework

To publish OJVs at Platsbanken, the Swedish PES job-portal, there are several rules that need to be followed. Most importantly, the content of the advertisement should not violate the Anti-Discrimination Act. It must not discriminate against job seekers based on gender, gender identity or expression, ethnicity, religion or other beliefs, disability, sexual orientation or age. The Discrimination Act applies to all recruitment and employment. For example, if the employer wants a better balance between men and women in the workplace, it is forbidden to search specifically for one gender in an advertisement. On the other hand, the employer can encourage people from an underrepresented group to apply for the job. This is often written at the end of the job offer. Examples of formulations are, "we value diversity in our organisation", and "we would like to see female/male applicants" (E4).

There are also a number of guidelines and tips on how the content should be designed in an advertisement, but there are no formal requirements for the exact text of an advertisement. According to the PES' guide, the content and heading of the advertisement should clearly describe and highlight the most important tasks in the work. It is also important to be clear about what is required and what is recommended. In general, the advertisement should be kept short so that the reader can quickly determine if the job is a good fit. The employer is also encouraged to write something about their organisation in the advertisement. Moreover, employers are requested to describe the qualifications and personal characteristics required of the applicants in the advertisement (E4). Often these requirements are included in the job portals guidelines for publishing OJVs.

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

The Swedish PES is the central labour market authority. Labour market reforms implemented over the past decade, such as the tightening of unemployment insurance and the increase of the earned-income tax credit to incentivise labour market participation have resulted in the allocation of increased resources for the PES, but there has not been any major restructuring (The Swedish Economy 2016). The percentage of employers who felt that the PES services contributed to faster or better recruitment declined from 44% in 2015 to 41% in 2016, yet the percentage of job seekers who felt they got the help they needed from the PES increased over this period from 54% to 57%. Much of the matching work of the PES is done online, through vacancy search and the CV database. In 2016, the PES launched a new two-way matching feature to replace the older and simpler search engine previously used on its vacancy bank. As of 2016, Platsbanken had 4.3 million visits and 1.6 million unique users per month, and 1.3 million vacancies were announced to the PES, an increase of 21% over the previous year (Arbetsförmedlingen 2016b).

When publishing OJVs on Platsbanken, the type of information that should be included is relatively standardised, including the following: form of employment, full-time/part-time, place of employment, etc. Platsbanken also uses the so-called SSYK ([7]) structure (Standard for Swedish Occupation Classification) with standardised professional titles that must be chosen when publishing the adver-

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([7]) In Swedish "Standard för svensk yrkesklassificering".

tisement (E4). The translation between ISCO and SSYK is done according to tables. Several ISCO classifications are grouped together in one SSYK classification, which can be problematic when comparing different countries.

All advertisements published on Platsbanken have to follow the classification system; it is not possible to publish an advertisement without choosing a code (E4). This is because the PES wants to keep statistics on which professions are advertised, the extent to which they are advertised and what they look like over time. However, for employers this can be problematic, as the SSYK structure can be quite limiting, meaning employers might have to categorise a profession in a category that does not fully match their vacancy. A closer description in the text of the advertisement can help better describe the vacancy. Nonetheless, when job-seekers search for a job, they might miss an OJV in a category that does not seem to match their demand but would actually be relevant.

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

The employers who use the PES are often smaller companies, and they often have vacancies where the qualification level is quite low. This may be in part because it is free to publish an advertisement on Platsbanken. Large or medium-sized companies often broaden their advertising to include both Platsbanken and other large private job-portals in the hopes of reaching as many job-seekers as possible. Higher qualified job seekers generally tend to search on private portals more than low-skilled job seekers. Although the stereotype of PES vacancies is that they are mostly low-skilled, information from the Work Environment Survey, collected in 2011, and Statistics Sweden in 2014, indicate that there was an overrepresentation of jobs with relatively high qualification levels and relatively low wages (Cronert 2015).

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

It is difficult to determine the exact market share of the PES. According to one source, the PES has a market share of about 50% (Cronert 2015) of all OJVs in Sweden. Government, municipal and smaller companies tend to publish their OJVs on Platsbanken, while medium-sized companies seeking more specific skills or recruiting for senior positions tend to choose private portals to a greater extent (E3).

3.1.5. Posting of PES Vacancies on EURES

Most Swedish jobs on the EURES portal come from the vacancy database managed by the PES. Using the Web Services technology (i.e. information exchange between websites), the EURES search engine searches directly and in real-time through all national databases using the keyword "work". When the employers publish their advertisements on Platsbanken, they have the opportunity to choose to publish on the EURES platform as well.

The use of the EURES platform has become increasingly important in Sweden due to widespread labour shortages. Recruitment abroad is becoming increasingly common and is desired in most industries. For example, teachers are recruited from Finland, nurses and cooks from Spain and construction workers from Poland (E5). However, good knowledge in the Swedish language is still very important, with the exception of certain industries that accept employees who only speak English. Examples of these industries are the IT industry and the engineering industry. In other sectors strict language requirements make recruitment more difficult for employers, thereby inhibiting corporate growth.

3.2.   Private Online Job-portals

3.2.1. Legal/Regulatory Framework

The difference between the advertisements published on PES and in private channels, is that the latter do not have as many rules. They carry out a rough screening process to ensure that the content is not offensive in any way. However, rules according to the Anti-Discrimination Act are not applied in the same clear way. The rules are related to the format of the advertisement, which are generally standardised. The most standardised elements are: occupation, type of contract, working time (full/part time), sector and city. These are also standardised when publishing on Platsbanken, while the review of those advertisements is more thorough than that of those published at private job-portals (E1, E3, E4).

Private job-portals do not have as rigid a system of job titles as Platsbanken. Private job-portals set their own guidelines for publishing OVJs, but the majority of the private job-portals demand that employers choose a job title based on a drop-down list designed by the portal. This makes it problematic to compare and collect statistics about OJVs from different job portals.

3.2.2. Dominant Online Job-Portals and Their Business Models

Platsbanken is currently the largest portal in Sweden. It is a primary job-portal with approximately 125,000 vacancies. The next most popular portals are Jobbsafari (88 000 vacancies) and Metro Jobb (83 000 vacancies), which are both private job-portals with a combination of primary and secondary functions, meaning employers can post directly to the portal and that additional OJVs are sourced from other portals (see Section 3.3.). Jobbsafari, for example, advertises that in addition to publishing OJVs that are directly published to the site, it also searches over 500 job sites and company pages every night to gather additional open vacancies. It is free for job seekers to search the portal, post a CV, apply for a job or set up alerts to receive notifications about newly posted jobs. Employers pay for a variety of services. For example, employers can pay Jobbsafari to design and publish an ad and carry out a targeted search for qualified candidates using the portal's CV database. This service costs SEK 6 995 (approximately EUR 705). There are also options, such as a Multiuse ticket, which offer discounted rates for employers who have high and frequent recruitment needs, or the Lion's Den, which is a branding posting with logo to give companies that are frequently recruiting general exposure. Jobbsafari also offers options to expand searches to include LinkedIn and Facebook as well as to post to the company's sister sites in Norway and Denmark. Employers can peruse the CV database, with over 100 000 candidates, and invite candidates for interviews free of charge, but if a candidate is employed through this function on Jobbsafari, the employer pays SEK 3 650 (approximately EUR 368). Employers can also turn the entire recruitment process over to the portal for a set fee of SEK 6 995 (approximately EUR 705), and if the process leads to a successful hire, the employer pays an additional SEK 25 000 (approximately EUR 2 521).

Metro Jobb is also free to job seekers. Posting a basic OJV for 30 days costs SEK 3900 (approximately EUR 393), but the price increases if an employer chooses to add additional features to increase the exposure of the OJV. For example, increasing the general visibility of the ad on the portal costs an additional SEK 1,000, posting to Facebook adds an additional SEK 3,900. Interestingly, a free feature that is available to anyone who purchases the general ad package is adding video presentation to an OJV (for additional information about Metro Jobb, see Section 5.2.). Other examples of significant job-portals are the secondary job-portal Offentliga Jobb (28,000 vacancies), the primary job-portal Blocket Jobb (11,000 vacancies) and Career Builder (8,000 vacancies), which has a combination of primary and secondary functions.

The aforementioned job-portals are all cross-sectoral, except for Offentliga Jobb, which only includes vacancies in the public sector

The majority of all OJVs are in Swedish, but some are in English. In industries like IT where English is used quite frequently, there are more advertisements in English than in other professions. However, for other professions such as teachers, it is not as common because almost all teaching takes place in Swedish.

3.2.3. Focus of the Private Online Job-portals

Depending on the skills sought by an employer and what kind of work sought by a jobs-seeker, the type of job-portals used seems to vary (E3). As mentioned, if an employer needs more qualified and specialised labour, they will often turn to private job-portals. Because the PES and private job-portals tend to attract different kinds of job-seekers and employers, it is important to include both private and public job-portals in the scraping activities.

3.2.4. Outreach of the Private Online Job-portals

Statistics are not available regarding the market share of private job-portals or social media.

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

It is unclear to what extent there is overlap between public and private online job-portals. Because many private job portals are a combination of primary and secondary job portal functions, they also republish advertisements from the PES through open data (see Section 3.2.2.). For example, Jobbsafari's website claims that they scrape vacancies from company websites, other job-portals and Platsbanken. If a portal does not want Jobbsafari to crawl its postings, the companies must contact the portal and request that their vacancies no longer be crawled or included on the aggregator's site. However we were not able to find information about agreements between the PES and private portals.

3.4. Role of other Recruitment and Job-search Channels

Personal contacts and word of mouth are also important recruitment channels, especially for young people trying to enter the labour market. But, for more qualified persons and those who are established on the labour market, recruitment firms and job-portals are the most important channels. These groups also use career-oriented social media, like LinkedIn, where they can directly contact people in the industry who can provide tips on job openings (E4). According to data from the Swedish Labour Force Survey in 2016, just under 25% of men and women were recruited through personal networks. Although a similar percentage of women were recruited through direct contact from the employer, nearly 30% of men were recruited in this way. By contrast, just over 20% of men and women were recruited based on direct application to an employer. Although the Labour Force Survey does not indicate the extent to which recruitment channels take place online, it includes statistics for recruitment through the PES (just over 10% for men and 15% for women) and through advertisements (around 8% for men and around 11% for women). In general, women are more likely to be recruited through external search channels (Statistics Sweden 2017).

3.5.   Expected Trends in the Online Job-portal Market

The experts were not able to provide specific expected trends for the online job-portal market. However, it is clear that job matching tools are becoming more popular and more necessary on the PES and on private-portals, as a result of the increasing shortages and skills mismatches. Not only employers, but also job seekers will turn more to tools and advisers to help match them with appropriate positions. According to the PES website, matching and support services represent a growing area of concern, and an area in which the PES is devoting more resources. It is also anticipated that the matching instruments will continue to improve in quality (Arbetsförmedlingen 2018).

4. Use of OJVs in Recruitment and Job Search

4.1.   Use of OJVs in the Recruitment of Labour

Some of the interviewees claim that, depending on the industry and the geography, it can still be important to advertise in print media alongside online job-portals. In addition, social media, such as LinkedIn, Facebook and Instagram, are used with increasing frequency, as well as career pages on companies' websites and Platsbanken, the PES portal. When recruiting for a managerial position, recruitment companies are often used. OJVs should ideally be distinct, concrete and only contain useful information. When recruiting, employers try to reach as many job-seekers as possible, which leads to them to publish on both Platsbanken and different private job-portals (E1, E3, E4). If an employer publishes an advertisement in the newspaper, it is also usually published as an OJV, otherwise it is very difficult to find the labour force needed. OJVs are almost always tied to a vacancy. It is quite rare to post advertisements for the purpose of building up a pool of potential candidates in the absence of a legitimate vacancy. On the PES portal, employers are only permitted to advertise if they have a vacancy. This is ensured by a mandatory approval process, which is required before an employer can create an account. Moreover, there is also a review stage before an OJV appears on the PES portal.

The following types of jobs may be published on the PES portal:
- Vacant jobs offered directly by an employer;
- Vacant jobs offered through a career fair, provided that the vacant job also can be sought through other channels. It must be stated in the advertisement that the vacant job can be sought both at the event and in what other ways the employer receives applications;
- Vacant jobs posted through an agency, but only if the recruitment company has a specific job assignment from an employer.

Vacancies and other postings that may not be published at Platsbanken are as follows:
- Employment, such as franchises, assignments, assignments for self-employed persons, etc.;
- Other employment forms such as au pairs, internships, etc.;
- Professional activities that are not directly related to an employment offer.

If the rules are not followed, the PES reserves the right to close the account immediately. Advertisements are automatically reviewed based on current terms and conditions. Approved advertisements are published directly on Platsbanken. The advertisements which seem to violate any of the terms according to the automatic review, are also reviewed manually (Skapa konto för arbetsgivare). The PES estimates that in 2016, 31% of employers used the PES for recruiting, compared to 28% in 2015 (Arbetsförmedlingen 2016).

There is also the possibility to register a resume on the PES CV database in order for employers to search for the skills needed. In fact, Platsbanken recommends that some users create multiple CVs or profiles on the portal, as they may want to highlight different experiences and skills for different jobs. There are over 100,000 candidate profiles available on the PES portal, although because of multiple postings, it is unclear how many unique job-seekers are represented. Private job-portals usually have a similar function if they are a primary job-portal or a combination of primary and secondary functions. If a private portal is a secondary job portal, there is usually no option to post a resume.

4.2.   Use of OJVs in Job-search

The interviewed experts indicate that skilled job-seekers are more likely than unskilled job-seekers to use private job-portals and social media when searching for a job. This is to be expected because job advertisements for more qualified professions are more likely to be published on those channels. Jobs requiring unskilled labour are more likely to be published on the PES portal. For both groups, it is common to use personal contacts in the job search.

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

The opinion of the interviewees on future developments of OJVs was rather fragmented. Some thought it would not change much, while some suggested OJVs would develop to include videos about the companies looking to attract employees and that there would tend to be less text and more graphics. Today, different skills are recruited in different ways, particularly based on the level of the job. Many of the experts thought that this differentiation would become even more extreme. Employers will continue to use different platforms to broaden the reach of their OJVs. They will tend to turn to recruitment agencies to find managerial positions, for example. For low-skilled work, regular OJVs will be sufficient to find the skill needed (E3).

Another interviewee also believed that employers will market themselves more and highlight what the workplace can offer in terms of benefits, culture, values and development. "Selling" the workplace will be particularly important for employers who find it difficult to recruit employees with the right skills (E1).

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

Table 2: Grid for documenting the Google search for job-portals

Search 1	"Lediga job"	Job vacancies
	Number of results per search term	25,900,000
Search 2	"Jobb"	Job
	Number of results per search term	98,800,000
Search 3	"Jobbannons"	Job ads
	Number of results per search term	296,000
Search 4	"Jobbportal"	Job portal
	Number of results per search term	511,000

Source: Strandendahl (2017).

In this study we have chosen to describe the private job-portal, Metro Jobb, in addition to the PES portal, Platsbanken. Metro Jobb was selected because three out of four interviewees indicated this job-portal as one of the dominant actors on the Swedish OJV-market. When evaluating the number of OJVs on portals, it was the third largest job-portal, with nearly 83 000 job advertisements at the time of collection.

5.1.2. Validating the Selection of Online Job-portals

To validate the choice of online job-portals for the web crawling, we contacted the ESS-net representative, since they have used a similar selection process. Their results were consistent with ours, and we could therefore conclude that the portals mentioned in Section 3.2.2., Platsbanken, Jobbsafari, Metro Jobb, Offentliga Jobb, Blocket Jobb and Career Builder, are relevant to include in this study.

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

To publish an OJV on Platsbanken – the PES website, one must first create an account, and have the company registered at the SCB ([8]), the Swedish Statistics Office. After registering the company, one receives a company ID, which is mandatory to enter when publishing an advertisement on the PES.

After creating the account and logging in, the first step is to write a title for the advertisement. The second step is to choose the category of professions in which the job fits. This can be done manually or by selecting from a drop-down list. The next step is to indicate the number of vacant positions available. The default options are one to four vacancies, but the employer can enter a larger number if more vacancies are available with the identical title and job description. The name and address of the workplace needs to be added. If the job is located in Sweden, the address should automatically populate, since the company ID contains that information. There is also an option to select if the vacancy is located abroad or has an unspecified workplace (meaning the position may be offered for multiple workplaces or may require travel between workplaces). For vacancies that are abroad, the country can then be included, but if the job has an unspecified location, this section can be left blank. The next step is to describe the work tasks through a free text box with a maximum of 5 000 characters. Following this section, there are drop-down lists to select the type of employment (regular employment, summer job or temporary employment), duration (until further notice, six months or longer, three to six months, eleven days to three months or maximum ten days) and the nature of the vacancy (full/part time).

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

When publishing at Metro Jobb, the employer begins by entering the advertisement's title, job title and employer name. After that, the employer chooses the appropriate sector from a drop-down list followed by the subcategory / profession. The next step is to enter the region, i.e. the country, county and municipality in which the job will take place; this is also done through a drop-down list. The next step is to specify the length of the vacancy and then add the number of vacancies being offered. Afterwards, the vacancy is described in a textbox. There is no minimum or maximum number of characters for describing the vacancy. An application link or e-mail to send the application is entered as the last information in a separate textbox. The deadline for sending an application for the vacancy is not specified in the advertisement, but the OJV is posted for 30 days. If an employer wants to specify the last application date, this must be entered under the description of the vacancy.

There are three tabs of information to place an advertisement on Metro Jobb. The first is dedicated to the design of the advertisement, the second is a preview of the advertisement and the third is the final publication. The third tab displays the cost to publish a standard OJV (SEK 3 900 or approximately EUR 393), as well as various options to increase the exposure of the advertisement. Examples of an add-on are "Social Boost Pro", described like this on their website:

> *"Facebook is by far the most widely used social channel. LinkedIn is Sweden's largest CV database and the superior professional network. Here it is considered legitimate to send unknown people job offers. In other words, if you want to get really good visibility for your vacancy, choose Social Boost Pro. Based on the service, we design audiences and provide*

([8]) In Swedish "Statistiska centralbyrån".

you with two different options for each channel. You choose the ones you like best - we boost your audience in both mobile and desktop - and you'll get the boost links right in your inbox. You will also receive a report after the end of the campaign to plan future recruitment strategies. Your company does not have to be a member or have a company page on Facebook or LinkedIn to purchase the product." ([9])

The price for this add-on service is SEK 3 000 (approximately EUR 300), in addition to the base cost of SEK 3 900. There are also other options for increased exposure which range in price from SEK 1 000 to SEK 3 000 (approximately EUR 100 to 300) op top of the base cost.

5.3. Contacting the Online Job-portal Owners

The ESS-net in Sweden has started a project to try to set up a database of OJVs in Sweden, however, they met with some resistance when they requested data from private job-portals. Some agreed to share their data, some requested compensation and some did not consent to any data sharing (E2). This might make it difficult to carry out scraping activities on private Swedish job-portals. However, the ability to access data from the PES will not be a problem.

Retrieving and analysing data from the PES is convenient, because the structure of the OJVs appears more or less standardised. Private job-portals are more problematic, because the advertisements on each site are structured differently. In some cases much of the content of the advertisement is in the free text, which makes it more difficult to identify locate specific information (E2).

We sent a request to the job portals identified in the WP2, and received one approval and one refusal to scrape the portals. The remaining job portals have not yet responded.

([9]) https://www.metrojobb.se/rekrytering/produkterochpriser.

6. Format and Content of OJVs

6.1. Legal/Regulatory Framework

Using OJVs in Sweden is very common and has been for several years. One aspect that makes OJVs more attractive than traditional print advertisements is the possibility to include more features and content. It also makes it easier for employers to reach a national or even international audience.

The content and structure of OJVs in Sweden looks relatively standardised. Uniformity and clarity are important for the job advertisement to be accessible to all and to get as many applicants as possible. Description of tasks, requested competences and information about what the company offers to their employees usually form the basis of the text.

As mentioned in Section 5.2., the rules for publishing an OJV are mostly related to the format of the advertisement, which are often standardised. The standardised part is usually compulsory, whether it is published on the PES or on a private job-portal ([10]). The compulsory standardised design on almost every job-portal includes occupation, type of contract (full/part time), type of employment (e.g. further notice, temporary employment or a temporary post), city, publication date and terms of employment. This affects the content of the OJVs and provides limited space for a description. At Platsbanken, the PES job platform, the wage information is also compulsory and standardised, but it is stated in "fixed monthly, weekly or hourly salary" or "variable chord or commission salary" rather than the exact salary. If there are additional benefits such as healthcare, different forms of discounts and so on, this information will appear in the advertisement as a way to increase the attractiveness of the company.

6.2. Content of OJVs

Uniformity between ads is important for publishing on both Platsbanken (Swedish PES online job portal) and private job-portals. It is important for job seekers to easily review the job offers and determine whether it is a job for which they can or want to apply. However, languages and content in OJVs may vary depending on the profession being advertised. For instance, when recruiting a teacher, the ad is generally written quite factually and concretely with little "selling" content. When recruiting a sales person, there is more focus on selling the company, trying to appeal to the interests of the applicant and branding the company. However, it is still important that the advertisement remains neutral (E3). It is very common that important soft skills for the profession are described in the advertisements. Characteristics such as flexible, accurate, structured, communicative, having social skills and cooperative are common. OJVs may also describe opportunities for career development. It is also common for employers to have a description about their own organisation including visions, goals and values, as well as what the workplace can offer to the applicant in terms of values.

The content may also vary depending on the industry. Some industries are looking for certain types of people and use specific types of competences and descriptions to indicate the personal qualities they seek. For example, employers seeking biomedical analysts often use terms related to competences, such as "analytical", "accountability" and "accuracy", while employers looking for retail workers use terms such as "customer-focused", "collaborative" and "service-oriented" (Yrken A-Ö).

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[10] Concluded through review of the PES and several private online job-portal ad forms.

These type of competences and personal qualities are included, because employers are placing more importance on the personality and qualities of the person they hire than on their education or earlier experience. It is common for employers to write "We attach great importance to personal suitability" in the advertisement.

If the OJV is for a more qualified profession, a relatively large part of the description consists of skills and experience requirements. If it is an advertisement for a more low-skilled job, the description of the tasks and the workplace tend to take up more space than the qualification requirements. Sometimes the language varies as well; more academic language is used for highly-skilled professions. Overall, the language in OJVs is relatively simple to make it accessible to everyone.

An 2016 survey conducted on the content of OJVs, "The Coded Winner: A Discourse Analysis of Gender Coding in the IT industries job ads", consists of discourse analysis of approximately 60 job advertisements from three professional groups in the IT industry gathered from Employment Services. The result shows that job advertisements have neutral rather than gendered coding. This often proves negative for women, as they tend to avoid advertisements that are neutral or masculine. Men, however, tend to be less affected by the coding. They are looking for a job regardless of whether the coding is masculine, feminine or neutral. However, the structure of the job advertisements in the survey is similar to the vast majority of job listings - they are likely to be written based on the three categories: personal characteristics, tasks and what the employer offers the applicant (Kühnemann and Chamera 2016).

If the employer wants a better balance between men and women in the workplace, it is illegal to search specifically for a specific group in an advertisement. However, the employer can encourage people from the underrepresented group to apply for the job. According to the experts, the content and headline of the advertisement will clearly describe and highlight the most important tasks in the work. It is also important to be clear about what is required and what is considered an asset. It is also important that the OJVs are brief so that the reader can quickly determine if the job is a good fit. The employer is encouraged to include some branding in the OJV. They are also invited to describe desired qualifications and features in the advertisement (E4).

Opportunities for career development are another feature that is often included in an OJV. It is also common for employers to have a description about their own organization, such as visions, goals and values as well as what the workplace can offer the applicant in terms of soft values. This sometimes takes up a lot of space in the ad, although guides say it should ideally be kept relatively short (E4).

One factor that influences the content of OJVs is the shortage of skilled labour. Certain industries, such as the engineering industry, do not advertise at all, because they are aware that it is almost impossible to find employees through this approach. Instead, they try other recruitment methods or simply increase the workload of existing employees. Other recruitment methods include headhunting from competing companies. It is also common for companies to borrow personnel from one another, especially in smaller towns (E4).

6.3.   Main Differences between the Public and Private Online Job-portals

Posting an OJV on the private job portal Metro Jobb does not require as much information as on the PES, Platsbanken. The form for placing an advertisement on Metro Jobb consists of one tab, while the PES requires four steps to post an advertisement on Platsbanken. On the PES portal, much of the information has to be filled into separate fields. This is because the PES advertise-

ments contain mandatory headings to facilitate the structure. The advantage of this is that the employer automatically includes a lot of relevant information. At Metro Jobb, the employer can write extra information in the job description, but this can make it difficult to find.

The following information is compulsory on both job portals: *title of the advertisement, job title, geographical location, job description and how to receive applications*. Additional mandatory information for publishing at Platsbanken is: *duration, work extent, type of salary, number of vacancies, description of the ideal candidate, employment form, address to employer, how long the advertisement will be published* and *the deadline for the application*. This results in content-rich OJVs with significant information that may be useful when applying for the job. Metro Jobb OJVs use more free text and the employer has more choice of what information to include. The advertisements published on Platsbanken are significantly longer, which might make it harder to review the content.

6.4.   Expected Trends in the Format and Content of OJVs

The format of OJVs will probably not change significantly, although there may be features that will become standard that are optional today (E1, E4). The interviewee from the PES believes that in the future, OJVs will be even more focused on descriptions and matching of abilities and personality traits. Tests to confirm the abilities of the candidate will probably become more common features of the recruitment process; it may even become a step that precedes the CV and cover letter. The employers will probably also market themselves more and highlight what the workplace can offer in terms of benefits, culture, values and development. Today's job advertisements are often somewhat unstructured, so there are great opportunities for recruiters to design their own headlines and use bulleted list. For greater consistency and recognition, advertisements could become more structured to make it easier for job seekers to scan the content quickly. It is also possible that there will be a structured list of employers for job-seekers to search for organisations that may be a good fit for them (E4).

According to experts, the content of OJVs will significantly change (E1, E3) as it will probably be more common to include short videos about the company in OJVs and to let a colleague tell future applicants about the workplace and job tasks. OJVs are likely to have less text and will probably include eye-catching graphics. It is also becoming more common to look at personality traits of applicants rather than at the resume, so there seems to be less emphasis on qualification levels and greater focus on personality fit (E1, E3).

Also, several of the interviewees expressed that it would be beneficial to optimise the format and content of all job offers, so that the information that job-seekers receive is consistent and contains all the relevant facts they need to know (E4).

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Expert Interviews

Interview	Name of Organisation	Type of organisation	Expert's position	Interview date
E1	Private online job-portal	Provider of labour inter-mediation services	HR-administrator	10 May 2017
E2	Statistiska centralbyrån	Swedish Statistical Office	Statistician	19 May 2017
E3	Private Recruitment Agency	Provider of labour inter-mediation services	Operative manager	26 May 2017
E4	Arbetsförmedlingen	PES	Analyst	26 May 2017
E5	EURES	EU Job-portal	Representative	25 April 2017