

DOCUMENT DE TRAVAIL

JOB BOARD TOOLKITS:
INTERNET MATCHMAKING
AND THE TRANSFORMATION
OF HELP-WANTED ADS

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JOB BOARD TOOLKITS: INTERNET MATCHMAKING AND THE TRANSFORMATION OF HELP-WANTED ADS

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ABSTRACT

According to mainstream economists, the move of the job market onto the Internet should have essentially positive effects for both the job seekers and the employers. It should lower the cost of search, make it easier, simplify hiring procedures, and improve matching quality. In contrast with these predictions, we find that Internet job boards play a non-neutral role in the matching process. Expanding on the economic sociology approach, we examine job boards' activity and analyse hundreds of ads published on print and Internet media. Through these two investigations, we observe two phenomena. First, job boards exert a strong filtering of information. These new mediators emphasize certain types of profiles or competences. Second, we show that job boards' activity tends to strengthen the power given to recruiters and to intensify the preselection of applicants in the context of the French labour market.

Key words: labour market, job offers, intermediaries, matchmaking, information and communication technologies.

Activités des sites « emploi » et transformation des offres sur internet

Résumé

Selon l'analyse économique standard, l'installation du marché du travail sur internet devrait avoir des conséquences positives pour les deux versants du marché : baisse des coûts de recherche, allègement des procédures de recrutement, accès aux offres facilité et appariements de meilleure qualité. Cependant, cette approche tend à sous-estimer le rôle effectif des intermédiaires basés sur internet dans la mise en relation de l'offre et de la demande. Nous examinons de près l'activité des sites « emplois » et analysons plusieurs centaines d'annonces prélevées dans la presse et sur internet. Deux phénomènes sont mis en évidence. Premièrement, ces nouveaux intermédiaires opèrent un cadrage des mises en relation en filtrant fortement l'information. Leur intervention conduit à valoriser certains formats d'information. Deuxièmement, dans le contexte du marché du travail français, nous mettons en évidence la force des moyens donnés, par les sites, aux recruteurs pour capter les candidatures et préselectionner les candidats.

Mots-clefs : *marché du travail, offres d'emploi, intermédiaires, appariement, technologies de l'information et de la communication.*

INTRODUCTION¹

Since the mid 1990s, the Internet has emerged as a new means of connecting up recruiters and job seekers. Transaction cost analyses bring out the supposed advantages of the introduction of this Internet labor market: reduced search costs (Autor, 2001), simpler recruitment procedures (owing to their computerization), better access to job offers for applicants and better matching (Freeman, 2002). Consequently, improved market efficiency, combined with the markets' ability to organize themselves through the new technologies (Kuhn, 2000), is supposed to give rise to reduced frictional unemployment on the macro-economic level and increased well-being for firms and job seekers on the micro-economic level.

Our aim here is to show that these conclusions underestimate the influence of the market intermediaries, in this instance the job boards, which lie at the heart of these developments. Expanding on the economic sociology approach, we feel that it is important, on the one hand, to take a critical look at the analyses focused exclusively on transaction costs and, on the other, to consider the nature of the information itself and the channels used to convey it. Albert Rees (1966) and Mark Granovetter (1974) have shown that the organization and filtering of pertinent information constitute essential issues for participants in exchange. According to them, however, the filtering process is better handled by informal personal networks than formal means of recruitment. Within such a framework, the activity of the formal intermediaries of the Internet labor market does not necessarily constitute a relevant subject of investigation. However, these new mediators are at the center of a two-sided market: they must simultaneously attract job seekers and firms and place them in contact, which thus implies concrete involvement in the formatting of the information.

Our view is that the formal intermediaries also organize and filter information. The job boards, like the market professionals as a whole, may be described, as "arrangers" which "work over" the market (Cochoy and Dubuisson-Quellier, 2000) and attempt to "frame" interactions (Callon, 1998). On the Internet, this framing relies on technical tools – the search engines – which integrate the standards for presenting job supply and demand. This means that certain matching markers are privileged over others (Thévenot, 1997). But the selection of relevant information has effects on the way work and skills are evaluated: it leads to enhancing certain profiles and credentials and, conversely, excluding others (Eymard-Duverney and Marchal, 1997; 2000). Far from any technological determinism, these markers depend on the institutional context of the sites' activity (namely the legal environment and conventional agreements shared by the agents). The skills that are highlighted or rejected by the sites' actions may thus vary from one national context to another.

Our article draws on two separate investigations: an interview-based survey documenting job-board activity plus an analysis of job ads giving comparative insights into changes affecting the labor markets. The database used for the latter investigation was composed of four thousand print and Internet ads collected in three European countries (France, Spain, UK). In the first section of this article, we analyze the matching and framing performed by the job boards. Our focus is twofold: on the one hand, the constraints and solutions which the

¹ This paper was presented at the Conference on Economic Sociology and Technology, Cornell University, Ithaca, New York, 23-24 September 2005.

sites introduce in order to facilitate access to job offers and, on the other, the content of the offers as revealed by a comparison of newspaper and Internet ads. The matching of job seekers and recruiters on the web requires an intense effort on the part of the job boards. Does their activity profit both sides to the same extent? Is it influenced by institutional contexts? These are the questions addressed in the second section. Our empirical sources bring out two generally underestimated phenomena: the power recruiters are given to attract applicants and the intensity of the preselection that may result, notably in the context of the French labor market.

1. "ARRANGING" IN ORDER TO MATCH

Unlike print ads, which can be perused by turning the pages of the newspaper, the ads posted on the Internet are digitized and classified in databases that are presumably invisible.² Reading them requires learning processes that are not left to chance but rather, managed by the job sites. As intermediaries, these sites have to make sure that the respective expectations of recruiters and job seekers match up. They must therefore intervene on both sides of the market in order to give job seekers the right access keys (1.1.) and prompt those who write the ads to follow certain formats (1.2.). Site managers thus develop tools to facilitate "good" matches and prevent "bad" ones, which presumes choosing good matching signals.

1.1. Guiding job seekers by remote control

For site managers, the configuration of the search engine installed on the home page has a strategic dimension. How should the job searcher be informed? By means of a job title or an educational level? The location of the job or the salary level? Two pitfalls familiar to users of documentary research tools have to be avoided: if job seekers define the search criteria too selectively, they run the risk of missing ads to which they could reply – an overly selective search "dries up" the market; if they define the criteria too broadly, they may well be submerged by the flood of ads they receive – a search that is not selective enough "drowns" the market.

A closer look at several French sites brings out the "investments in forms" (Thévenot, 1984) intended to frame the visitors' action. Three means of access (affecting the presentation of both the information and job seekers' responses) may be privileged: the nomenclature, keywords and input fields. These different procedures reflect the varying intensities of framing imposed by the sites.

The nomenclature: planning the encounters

The job site asserts considerable influence when it imposes the adoption of a single convention and a single language for both recruiters and job seekers. The site of France's public employment service (ANPE), for example, is completely organized around an occupational registry (known as ROME). This nomenclature is the most pertinent means of access to the ads, and the job classifications play the role of a powerful "focal point" which advertisers and applicants are thus encouraged to use. But it also results in the imposition of

² The print format obviously does not eliminate the constraints of classifying, however. This is accomplished through the specialization of print media and what are, by definition, "classified" ads (Marchal and Tornay, 2000).

fixed categories that do not take into account the singular features of either the job seekers' profiles or those of the available positions. Thus, applicants with skills overlapping several occupations or ads relating to "emerging" fields are often badly integrated into the matching process or excluded from the market circumscribed by the ANPE.

The presence of a referent common to the two sides of the market nonetheless helps to lighten the cognitive burden weighing on players and reduce the uncertainty inherent in the matching of job seekers and positions. This mechanism requires heavy investments on the part of the public agency, which has to centralize the data and carefully regulate the information flows. It offers the advantage of maintaining a balance among the parties involved, who share the same core markers and can broaden their searches to related jobs. As we shall see, this is not the case when keyword entries are privileged.

Keywords: distributing the "calculation"

Unlike the occupational registry, the keyword search gives job seekers broad latitude in the definition of their search criteria. On most sites, this definition bears on the entire content of the ad: job searchers enter the keywords in a special field and the engine scans the database in order to retrieve the ads containing the search terms. These may be the job title (or synonyms), the activity sector, a skill, the name of a company, a tool or a programming language. The keyword search eliminates the need for creating a general classification and reflects the low level of the site's intervention in the matching process.

But while this kind of search reduces the framing of the matches, it can lead to a wide variety of "matching failures" resulting from, for example, spelling mistakes or ambiguous terms ("human resources" calls up all the ads instructing applicants to contact the "Human Resources Department"). This is a considerable issue for a site such as Keljob.com, a meta-search engine for ads. Its role consists in guiding job seekers' requests towards more than three hundred sites, including those of companies, recruitment agencies, temporary agencies, and others. To channel the searches and limit errors, the site's administrators require writers to summarize their ads: job seekers' queries do not scan the entire content of the ads but only the keywords associated with each one. This means that Keljob often advises the advertiser in the definition of the keywords pertinent to the referenced ad. In practice, the job board contributes to the standardization of the way job ads are summarized on the labor market.

With keywords, the calculation process behind the final matching is distributed among humans and non-humans (Callon and Muniesa, 2003) – recruiters, job seekers, intermediaries and search engines. But as we have just seen in the case of Keljob, this distribution can be unequal when the job seeker makes a blind search, without knowing which terms are privileged by the advertisers.

Input fields: defining the conventional matching markers

Most job sites adopt an intermediate position between the nomenclature and keywords. This consists of having job seekers do a "multi-criteria" search by completing input fields equipped with drop-down list boxes. In France, such fields almost always deal with job location, activity sector, position sought or kind of contract desired. But this list is not exhaustive and certain sites may ask applicants to indicate a minimum salary, the number of years of prior experience or the date of the ads.

With this procedure, the intermediaries select the conventional matching markers for the market they define - although they do not make them compulsory because job seekers can

always opt for “all” or “no preference”. The role of the sites, which remains visible without being intrusive, is decisive in establishing and maintaining market conventions. And it is all the more effective because it also bears on the drafting of the offer, thus contributing to a formatting of the ads that is not without effects on their content.

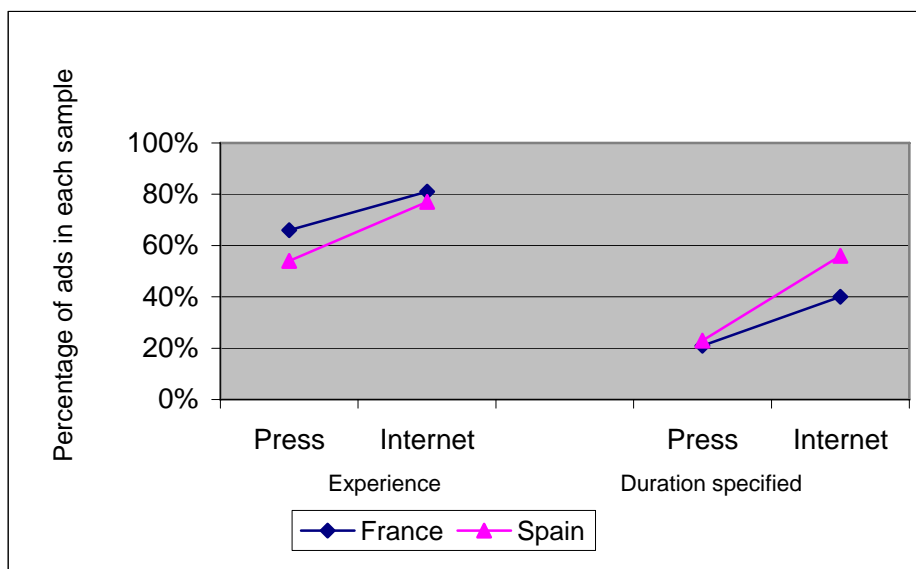
1.2. Formatting the ads

Through the use of input fields, the job board can tell the copy writer to follow a predetermined format. The framing may be discreet, if there are only a few fields, or it may be quite forceful. In this case, the formatting influences the way the ads are written. Indeed, the writer of the ad is not required to fill in all the fields but their very presence leads to a presentation of the offer in terms that are not necessarily those which would have been used spontaneously. In order to examine the impact of this ad formatting, we compared ads posted on the Internet at the beginning of the decade with those appearing in the press during the same period for French and Spanish corpus (see the methodological appendix). This comparison of several hundred ads taken from the two media shows that the sites' framing of information has a real impact operating on several levels.

Standardization and quantification

The presence of pre-existing fields on the websites strongly encourages those writing the ads to fill them in. Thus, the appearance of criteria such as prior experience, education or foreign-language proficiency, for which pre-formatting is frequent, becomes almost systematic in the Internet ads.

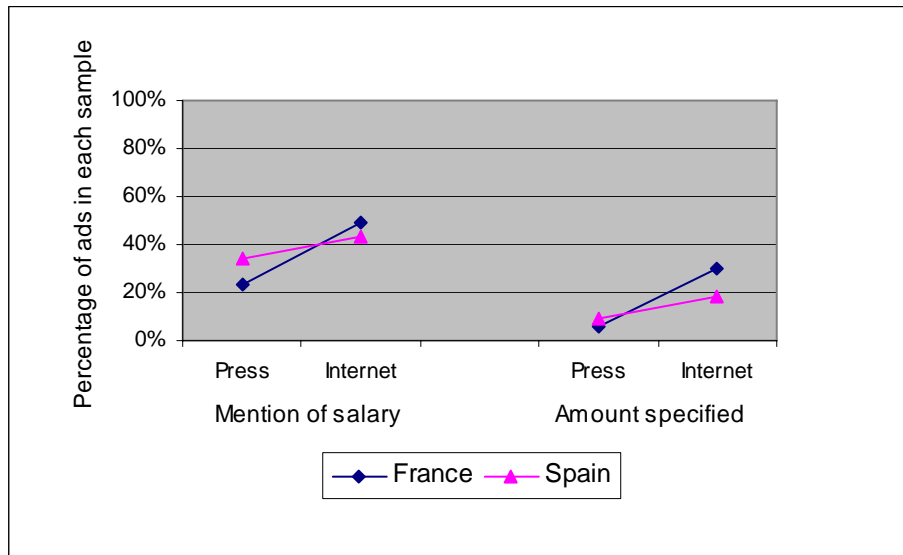
Fig. 1: Mention of prior experience and its duration



Certain input fields immediately call for indicating an order of magnitude: it is necessary to specify a “language proficiency level”, a “computer proficiency level” or a “salary level”. The ad writers also tend to sum up their requirements in quantitative terms through, for

example, the “length” of experience and not simply the fact that prior experience is required. With the shift from newspapers to the Internet, the ads show a sharp increase in the frequency of mentioning the experience required and its duration (Fig. 1).

Fig. 2: Mention of salary and specific amount



With all of these measurable variables, moreover, we encounter a standardization of the expressions used in the ads: “x thousand euros a year” (for the salary), “x years of higher education” (for training required), “x years of experience”, “x to y” years old. The priority information is that which permits the job seeker’s profile and the nature of the job to be summed up with clear, quantifiable signals. In practice, the ad writers present more selective criteria on the Internet than in the print media, requesting, for example, someone who is “bilingual French/English” rather than someone with “knowledge of English”. The presence of information fields also requires job seekers to be more accurate than when the format is left open. Here too, the information is more often quantified: the mention of salary and the presentation of the amount in euros is considerably more frequent on the Internet than in the press (Fig. 2).

Markers: disclosed, forgotten, or emphasized

The increasing requirements observed on the Internet might be attributed to the specific nature of the ads that are posted there, namely the fact that computer specialists and managers, for example, were initially overrepresented. But the results vary from one site to another, depending on their degree of intervention in the presentation of the ads. The large majority of ads on *NewMonday* (UK) included education or experience criteria. Language proficiency levels and length of experience were more likely to be specified in the Spanish Internet ads. In each case, pre-existing input fields required the recruiters to define their position in these areas.

The presence of input fields also has clear effects on personal identity issues, which are in fact independent of the kind or level of job proposed. When, for example, there is a field

concerning the applicant's age, which is the case for half of the Spanish sites studied, more than a quarter of the ads mention it, compared to 11 percent among sites which do not have such fields. The existence of a given field thus encourages recruiters to disclose certain criteria, while others are less likely to be mentioned because the field does not exist. No site proposes a field for the applicant's gender, for example. As a result, this question is less present than in the print ads, as if the copy writer did not dare to mention a discriminatory criterion once it was not included in the list of information to be provided. This phenomenon may be observed in both French and Spanish ads.

Risks of standardized information

The way the access to the ads is structured and the degree of formatting vary considerably from one site to another. But one feature is constant: the two sides of the market have to undergo parallel treatment in order to be matched up. The privileged criteria are codified or standardized markers, or even quantified signals, which easily lend themselves to the search engines' matching calculations. The risk here is that of favoring a selection based on the most "observable" features, such as educational credentials, age, or experience, to the detriment of other variables (such as the applicants' pathways or their particular skills), which are considered "non-observable" (Kuhn and Skuterud, 2004). Credentials that cannot be quantified, or anticipated, have a hard time circulating on the web. They will be overlooked by the job boards, which are mainly concerned with generating large volumes of transactions. Highlighting only those qualities "observable" from a distance also runs the risk of effacing the distinctive features of job seekers and ads alike, since these require proximity in order to be brought out (Neuville, 2001). More generally, this kind of evaluation overlooks the role of confidence in the hiring relationship (Granovetter, 1974) and can even contribute to reinforcing uncertainties about the applicant's profile (Autor, 2001).

We shall now take a closer look at the question of the markers circulating on the Internet: are they intended to profile the applicant or the position offered? Is it possible to maintain a balance between the two? We shall see that the situation varies from one country to another and that the site administrators' control depends on the national context.

2. CONNECTING OR SELECTING?

In this section we shall consider the matching markers selected by the job boards. Some of them help to maintain a certain balance between recruiters and job seekers while others, on the contrary, privilege one side to the detriment of the other. The framing carried out by the sites may be considered more or less favorable to job seekers depending on whether the sites seek to inform job seekers about jobs and companies or to select them on the basis of their profile. Here, the sites are faced with tensions: while they are preoccupied with serving as "neutral" intermediaries responsible for the "transparency" of the market, they also have to satisfy their clientele, namely the advertisers (2.1.). This tension is reflected in the job ads, as we shall see from the comparison of British and French ads (2.2.).

2.1. Whose market?

The position that employment sites address themselves symmetrically to job seekers and recruiters and defend the interests of both parties is widely held by site administrators. The

following advertising pitch illustrates this point of view: “*With Keljob.com, job seekers can browse the entire job market in three clicks. A new form of job search has come into being: simple, fast, efficient. [...] Recruitment professionals can easily come into contact with motivated applicants who are informed of their new job opportunities in real time.*” Economic theory goes along with this logic of “bilateral” or “balanced” action. But the observation of the sites’ activity suggests a sharp tension between this discourse and actual practice, which is aimed at meeting advertisers’ requirements to the detriment of the job seekers. Their unilateral action strategy makes the site a “preselectioner” rather than a “facilitator”.

Transparency in theory only

Since George Stigler’s pioneering 1962 study, it is generally accepted that the time-consuming search for information can be optimized by comparing its costs to expected utility. Thus, job searchers check out job offers as long as their search is associated with a hope for gain – in this case, a better job. Since it is impossible to “browse the entire market”, the information search is a source of frictions. The existence of search costs justifies the emergence of intermediaries facilitating the encounter of potential recruiters and job seekers (Rubinstein and Wolinski, 1987). These intermediaries are presumed to be neutral, to the extent that they do not modify the nature of the good exchanged. They only reap a surplus associated with the reduction in search time that their activity permits. They thus serve as facilitators for recruiters and job seekers.

Have we entered a new age of intermediation with the Internet? The massive reduction of the costs of seeking and acquiring information is something recognized by most observers (Autor, 2001; Freeman, 2002). It is now possible for recruiters and job seekers to browse the market before they meet, thus validating the hypothesis of transparency, or perfect information, which characterizes the Walrasian market³. Concretely, this hypothesis signifies that an economic agent can be placed in contact with all the potential contracting parties and that he or she has precise information about the features of the goods – which eliminates the dilemma between extensive and intensive information margins (Rees, 1966). The action of the job sites appears to follow this logic. Through the search engines, they can potentially put all recruiters and job seekers in contact with one another. And through the circulation of ads and resumes, the sites provide them with precise information.

All of this presumes that recruiters and job seekers are well informed about the features of the good they are looking for. Recruiters should know enough about available skills and applicants for the job vacancies to set up a real competition. The resumes indicating applicants’ profiles must be matched by ads devoted exclusively to the description of the job proposed. The intermediaries’ action should not disturb the arbitrages and choices made on both sides of the market.

³ With one difference: the auctioneer-intermediary, whose function is the centralization and distribution of information. In addition, a Walrasian market presumes homogeneous merchandise and adjustment through flexible prices (two conditions which are not verified on the labor market). What concerns us here is the transparency hypothesis (Mellet, 2004).

Seeing or being seen

The site administrators' discourse thus offers direct support for the theory insofar as they present the job boards as media connecting up job seekers, firms, and market professionals, without favoring one or the other. But this discourse does not take into account tensions between the interests of job seekers and recruiters, which the sites, by virtue of their intervention, cannot avoid. As with traditional print media (Marchal and Torny, 2003), the websites are confronted with the constraint of organizing information. The job seekers' cognitive abilities are limited: if the ads corresponding to their searches are presented on a series of screens, those appearing at the top of the first one are privileged. And this means that the sites are tempted to offer advertisers a specially created "visibility bias": an advertising space or ad rates depending on the degree of visibility. If we take the advertisers' PR strategy, as conveyed by the sites, to its logical conclusion, we find ourselves far from the symmetry previously described.

The asymmetry is further reinforced when the job seekers cannot formulate their job preferences. In that case, access to the ads – and thus to the market – is subject to screening mechanisms based not on the description of the job vacancy but on the applicant's profile. The search engine on *Recrutex.com* (a site specialized in legal profession ads) thus asks job seekers to indicate the length of their past experience before they can even access the ads. Similarly, on the site of the Adecco temporary agency, job seekers are only shown assignment ads after they have completed forms that give detailed descriptions of their availability and skills, thus permitting them to be identified on the basis of their profiles. The emphasis placed on these profiles may well compromise a more elaborate description of the kind of job they would like to obtain.

Job seekers: calculating and being calculated

Although they do not have the same calculative capacity (Callon and Muniesa, 2003) as the advertisers, job seekers are nonetheless able to establish equivalencies and hierarchies, to define the terms through which they highlight their own candidacy. They are thus capable of making a rational job search. They can even outsmart the search engine's traps by reformulating their queries in a variety of ways. From their standpoint, the job sites constitute efficient tools for accessing information about vacancies.

The tools provided by the sites, however, can also help to increase or reduce their calculative capacity. And a "swing" occurs when job seekers are no longer paired up with the ads on the basis of the features of the job opening but on those of their own profiles. At that point, a logic of relative market transparency gives way, as far as they are concerned, to one of total opaqueness. Their own search criteria tend to disappear; they are "matched" by the search engines and matching algorithms solely on the basis of data describing their profiles and transforming them into beings perfectly – and mechanically – calculated for the needs of the firm that is recruiting. Under these conditions, how can job seekers take back the initiative for matching? Internet job search calls on the applicants' technical and semantic skills in face of computer tools but also their ability to decompose and recompose their profiles in order to multiply their chances for matching. Job seekers have to adapt themselves both to the way each site is structured and to the requirements of the ads. As we shall see in the next section, the exercise is not the same from one country to another; the matching markers are conditioned by the institutional contexts in which recruitment and selection take place.

2.2. Whose Markers?

One of the prerequisites for market transparency is a well-informed job seeker and this is not the case when the latter is matched or unable to access job ads without being selected. And even if they find a way to read a considerable number of ads, does that mean they are well informed?

Two different kinds of markers emerge from reading the ads: those which are intended to inform job seekers and those which are aimed at selecting them. The first kind let them know what is being offered: a job, proposed in a given kind of company and under given conditions (wages, contract, location, working hours). The second condition their candidacy: applicants should have a given profile, defined in terms of professional or personal skills. What is at issue is thus the balance that emerges between the job profile on the one hand and the applicant's profile on the other – information markers versus selection markers. This balance results from the multiple human and non-human players involved in the writing of the job ads: company representatives (HRM, company head, immediate supervisor and colleagues), job classifications, collective agreements, regulations, ad agents or recruiting consultants (Marchal and Torny, 2003). To which are then added the job sites, which also contribute to the formulating of the ads through their administrators, clients, information categories and keywords. All of these participants control the content of the ads, help to put them into words, format them, and circulate them. This collective effort necessarily generates uneven results from one country to another because of the different institutional contexts. We are now going to see how this takes place by looking at the way companies, jobs, and job applicants are presented in Internet ads in the UK and France.

The mark of the institutional contexts

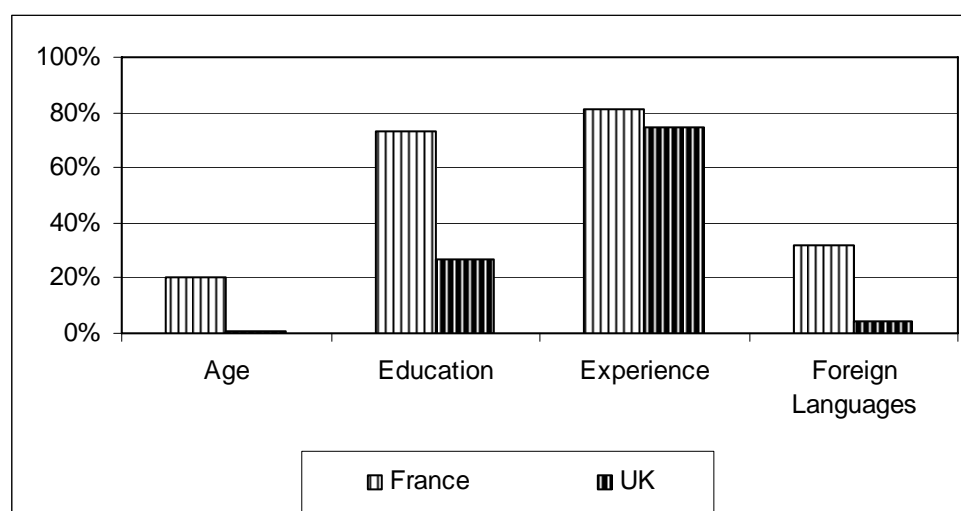
The importance of the institutional contexts may be gauged first of all in terms of labor market mediations (Bessy *et al.*, 2001). Here we may note the intervention of the agencies in 1970 percent of the British ads, while recruiting consultants appear in only one-quarter of the French ads. This difference has effects on the relative importance accorded to the companies and the jobs within the ads: the name of the firm figures in eight out of ten ads in France, where the number of personnel or annual turnover is often mentioned as well. This information fades into the background in the UK, however, where the agencies overshadow company names. On the other hand, the British ads provide a wealth of details about job content, location, and work hours (Marchal, Rieucau, and Torny, 2003).

Remuneration also emerges as a major preoccupation across the Channel: it is addressed in nearly nine out of every ten ads and quantified in six out of ten, whereas only 30 percent of the French job ads specify the salary proposed, notwithstanding the fact, already discussed, that the formatting clearly provides an incentive to do so. A good third of the British ads mention financial or in-kind benefits in addition to the base salary. Most of these “extras” are not indicated in the French ads, either because they may be assumed (social benefits defined by law) or because they are not customary in France (certified training programs, casual dress) or are negotiated during the final phase of recruiting (days off, etc.). In the UK, information about remuneration and benefits are thus provided to job seekers before any meeting with the recruiter. The job seekers can thus evaluate the quality of the proposal, which is not the case for their French counterparts.

Selection markers in France: forms and weight

As we have seen, one of the signs of the market's "swing" in favor of advertisers is the possibility of matching not on the basis of the job vacancy, but rather, on that of the job seeker's profile. This kind of shift is manifested by job ads containing a large number of selection criteria, which means that all the applicants who do not have the requisite profile are refused access to the ad from the outset. Such a degree of exclusion is more visible in the ads posted on websites in France than in the UK, and this difference is confirmed by all the selection criteria considered in our analysis: age, education, experience, foreign languages.

Fig. 3. Selection Criteria of French and British Ads



As Fig. 3 shows, the proportion of French ads containing one or another of the prerequisites is always larger than that of the British ads. The only benchmark common to advertisers in both countries is experience, mentioned in over three-quarters of the ads. The most significant difference concerns educational background, which is mentioned three times more often in France than in the UK and almost exclusively entails the requirement of post-secondary studies. Education and experience do not compensate for one other in France, moreover: both are frequently cited within a single ad, which thus becomes even more selective.

The issue of foreign-language proficiency also distinguishes the two countries' ads. In France, this requirement essentially concerns English and constitutes a *sine qua non* for access to all kinds of jobs. By contrast, the international nature of the English language exempts British applicants from such a requirement. The mention of age is exceptional in the UK, which might well surprise French applicants, who still face this criterion. Indeed, the absence of allusions to age, gender, or other personal descriptors in British ads reflects the effectiveness of that country's anti-discrimination struggle.

We thus find striking differences. British ads characteristically contain very few markers which would allow recruiters to make a selection but offer precise information about the salary, which is considered an essential benchmark. The profile of French ads, conversely, is

marked by the diversity and weight of the criteria intended to screen the job seekers beforehand, while the job seekers themselves seem to have relatively little information about the employment conditions proposed. This screening goes hand in hand with specific forms of establishing contact between recruiters and job seekers. The initial contacts mainly occur through the mail (postal or electronic) in France, where candidates have to send an application (with a varying amount of documentation) prior to any direct meeting. The contact is established more interactively in the UK, where potential candidates are encouraged to telephone for further information before they apply.

These divergences offer valuable insights into the balance of power in hiring relations. In the UK, where there is a high rate of labor turnover, the firms privilege market transparency and the job sites back them up in this approach. In France, job seekers are highly preselected before they can even submit their candidacies and the job boards echo the recruiters' requirements and policies in this area. Indeed, the recruiters are in a position of strength and do not hesitate to multiply preselection criteria, which the sites integrate into the means of access to the ads and thus accentuate them. Education requirements provide us with a good example of this: they are more often formulated in the French ads found on sites with a specific "education" field than on others. Conversely, we find that no British site has such a field. By backing up recruiter policies, the sites' actions may thus be beneficial or, on the contrary, reinforce an uneven balance of power, as would seem to be the case in France.

CONCLUSION

The organization and filtering of relevant information are critical to the functioning of the labor market. And what economic sociology teaches us on that issue may also be applied to the formal intermediaries now based on the Internet. By analyzing how the job boards operate, we have shown that in fact their role is not neutral: in the process of "matching" recruiters and job seekers, they filter data on the applicants and highlight the skills that are most easily codified, which in the most extreme cases can amount to simple quantitative signals. In addition, the sites echo the demands of the recruiters who pay them. In this respect, the institutional context limits players in their choice of markers and their use of corresponding matching technologies. In the French context, where there is a high level of unemployment, recruiters are encouraged to select job seekers very far upstream from the actual recruiting process. By providing them with tools and services for preselection and screening, the job boards in fact contribute to reinforcing the asymmetries between employers and workers: applicant profiling becomes a major factor in filling a vacancy.

That said, the flexible nature of Internet uses allows us qualify our conclusions somewhat: e-mail, discussion lists and newsgroups, and personal sites all constitute tools contributing to a more interactive job search through information channels that are less formal than those we have examined here. These matching technologies develop another use of the medium that is especially pertinent to professions associated with occupational markets (computer specialists offer a paradigmatic example of this). Addressing such multiple uses implies paying particular attention to the job seekers themselves, in order to show how they actually use the Internet, alternately bypassing or drawing on the resources and framing introduced by the market intermediaries.

REFERENCES

- AUTOR D., 2001, "Wiring the Labor Market," *Journal of Economic Perspectives* 15 (1), 25-40.
- BESSY C., EYMARD-DUVERNAY F., LARQUIER G. de, MARCHAL E. (eds), 2001, *Des marchés du travail équitables? Approche comparative France/Royaume-Uni*, Brussels, Peter Lang.
- CALLON M., 1998, "An Essay on Framing and Overflowing: Economic Externalities Revisited by Sociology", In Callon M. (ed.), *The Laws of the Market*, London: Blackwell, 244-269.
- CALLON M. and MUNIESA F., 2003, « Les marchés économiques comme dispositifs de calcul », *Réseaux* 122, 189-233.
- COCHOY E. and DUBUISSON-QUELLIER S., 2000, « Introduction. Les professionnels du marché : vers une sociologie du travail marchand », *Sociologie du travail* 42 (3), 359-368.
- EYMARD-DUVERNAY F. and MARCHAL E., 1997, *Façons de recruter*, Paris: Métailié.
- EYMARD-DUVERNAY F. and MARCHAL E., 2000, « Qui calcule trop finit par déraisonner : les experts du marché du travail », *Sociologie du travail* 42 (3), 411-432.
- FREEMAN R. B., 2002, "The Labour Market in the New Information Economy", *Oxford Review of Economic Policy* 18, 288-305.
- GRANOVETTER M., 1974, *Getting a Job*. Cambridge, Mass.: Harvard University Press.
- KUHN P., 2000, "Policies for an Internet Labour Market", *Policy Options / Options politiques*, Oct., 42-47.
- KUHN P. and SKUTERUD M., 2004, "Internet Job Search and Unemployment Durations", *American Economic Review* 94 (1), 218-232.
- MARCHAL E., RIEUCAU G. and TORNBY D., 2003, *Des standards nationaux à l'épreuve d'internet. Sites et offres d'emploi en France, en Espagne et en Grande-Bretagne*. Noisy-le-Grand, Centre d'études de l'emploi, Research Report no. 12.
- MARCHAL E. and TORNBY D., 2003, « Des petites aux grandes annonces : évolution du marché des offres d'emploi (1960-2000) », *Travail et emploi* 95, 59-72
- MELLET K. 2004, « L'internet et le marché du travail : cadrage des interactions et pluralité des formats d'information », *Réseaux* 22 (125), 113-142
- NEUVILLE J.-P., 2001, « Les bons 'tuyaux' du marché de l'emploi », *Sociologie du Travail* 43 (3), 349-368.
- REES A., 1966, "Labor Economics: Effects of More Knowledge. Information Networks in Labor Markets", *American Economic Review Papers Proceedings* 56 (2), 559-566.
- RUBINSTEIN A. and WOLINSKI A., 1987, "Middlemen", *Quarterly Journal of Economics* 102 (3), 581-593.
- STIGLER G. J., 1962, "Information in the Labor Market", *Journal of Political Economy* 70 (2), 94-105.
- THEVENOT L., 1984, "Rules and Implements: Investments in Forms", *Social Science Information*, 23 (1), 1-45.
- THEVENOT L., 1997, « Un gouvernement par les normes. Pratiques et politiques des formats d'information », In Conein B. and Thévenot L. (eds), *Cognition et information en société*, Paris, EHESS, 205-241.

METHODOLOGICAL APPENDIX

This article is based on several studies dealing, on the one hand, with help-wanted ads and, on the other, with Internet job sites.

1. Help-wanted ads

These come from a database of 4,000 ads compiled from the press or the Internet. Samples may be extracted from this base for the needs of specific analyses. In this case, we have worked with several of these samples:

Ads taken from the French and Spanish press at the beginning of this decade are compared with ads posted on the Internet in these two countries during the same period (section 1)

Ads posted on French Internet sites in 2001 are compared to their equivalents on British sites (section 2).

Press Sample	Newspaper Sources
800 French ads	<i>Le Monde, France Soir, Le Figaro, L'Express, Le Parisien, Ouest France, Le Moniteur, Les Echos</i>
400 Spanish ads	<i>El País, ABC, El Mundo, Segunda Mano</i>

Internet Sample	National Sites	Transnational Sites*
400 French ads	<i>Email Job, Recrut, Cadremploi, Cadronline</i>	<i>NewMonday, Jobpilot, Stepstone, Monster</i>
400 Spanish ads	<i>Todotrabajo, Trabajo, Infojobs, Trabajos</i>	
400 British ads	<i>Netjobs, Fishforjobs, Jobscout, Jobsunlimited</i>	

* The transnational sites have variants in each country while the national sites exist for a single country only.

The selection principles were identical for all ads, regardless of medium or country: a fixed number of ads were drawn from a variety of media (newspapers or websites) in proportion to the distribution of ads by sector (banking, trade, etc.). Our samples are thus representative of the diversity of the ads posted rather than the relative weight of each medium. All the data were analyzed in their original language with Prospéro, a textual data-processing program.

2. The operation of Internet job sites

Several dozen sites were subject to ongoing observation intended to identify the ways job seekers and firms were invited to access the site, browse, and arrive at the information provided. We developed a typical profile of an Internet job seeker in order to test the appropriateness of the tools and compare the framing carried out by each site.

In addition to this systematic monitoring process, interviews were conducted between 2001 and 2004 with administrators of French websites (including Monster.com, Recrulex.com, Cadremploi.fr, Anpe.fr, Keljob.com) and market professionals (recruiting agencies, PR consultants, human resources supervisors).

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