Online Resume Design: the Recruiters’ Perspective

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ABSTRACT

Despite the increasing number of publications in e-Recruiting, there is still scant research on the specific requirements of online resume fields, in particular from the recruiters’ perspective. In this paper, the fields for resume forms are investigated by analyzing literature, interviewing recruiters and systematically categorizing and content-analyzing the resume fields of the 40 largest Dutch e-Recruiting sites. The findings reflect the main categories currently used in online resume forms: current career state, desired job, education, work experience, extracurricular activities, skills and personal and contact information. These identified online resume fields are discussed in light of prior resume design literature and compared with resume requirements derived from interviewing recruiters. Recommendations for resume design theory and practice are proposed.

Keywords

e-Recruiting, Requirement Analysis, Resume Design, Recruiter Perspective

1. INTRODUCTION

Employee selection has been an important issue to academic researchers and practitioners in both the United States and in Europe [1,2]. Although the employment interview and its use in selection has attracted much attention from researchers [3,4,5] there is a major gap in research about specific requirements of online resume forms. The available literature on resume preparation, including resume construction, design and content, and (e)-Recruiting stems largely from practitioner journals and books [6]. Much of this data, however, is rather subjective and not supported by empirical research [7]. Also, most of the resume design literature is focused on the American context. Scant academic research in the European context is available. However, resume forms aimed at attracting other than American employees may require other design specification due to different demographics, industry and laws affecting the job search and hiring process.

Compared to research into applicants’ perceptions on e-Recruiting [8,9,10], less research attention has been paid to recruiters’ views [11]. This is surprising since recruiters are the clients who usually have to pay for using commercial e-Recruiting services [12]. Although the dominant perspective in human resource management research, and particularly in selection research, has been that of the organization and the recruiter [1], their perceptions on resume field design have received little attention [13]. Therefore, the purpose of this study is to fill this gap in the literature. Based on the available literature on resume design, interviewing recruiters and systematically categorizing and content-analyzing the resume fields of the 40 largest Dutch e-Recruiting sites, we propose a new framework for resume design. We investigate which fields in online resume forms are significant from the recruiters’ perspective and discuss how online resume fields and search functions may be complemented to improve the identification of relevant staff.

The paper is organized as follows: First, we review the relevant e-Recruiting and resume design literature. Next, the research method including the data analyses is depicted. Then, the results are presented, and finally, the paper concludes with a discussion of the results, limitations and future research directions.

2. LITERATURE REVIEW

To find relevant literature on e-Recruiting in general, and resume design in specific, a systematic search method was applied [14]. Besides analyzing the top 25 journals in Information Systems, the search engines Web of Science and Scopus were used with the following keywords: resume field, recruit* websites, electronic resume, online recruit*, recruit* resume, e-recruit*, resume preferences, recruiter preferences. Because the terms “resume” and “field” have multiple meanings, the search resulted in a flood of 1,250 articles. From these articles, only the most relevant ones addressing this paper’s research scope were handpicked. The selection was based on title, abstract, impact factor of the journal and number of citations of the individual papers. In addition, forward and backward citation search was applied. This search procedure resulted in 34 highly relevant articles for resume field design and e-Recruiting research in general.

Recent developments in recruitment practices show that job applicants, as well as professional recruiters and organizations in need of personnel, are increasingly using the internet to advertise job postings and search applicant pools [7,15]. In the last decade, e-Recruiting spread across the globe. All Fortune 100 companies recruit via the internet and currently roughly 40,000 job boards exist [16]. In fact, e-Recruiting is one of the leading e-commerce applications as a method for quickly reaching a large pool of potential job seekers. Major advantages cited for the rapid and successful adoption of e-Recruiting methods include cost savings, efficiency, and convenience for both recruiters and job seekers [17,18,19].

A number of e-Recruiting sources are available for job seekers and recruiters, including commercial job boards, niche job boards, e-Recruiting consortia and corporate career websites. Commercial job boards are recruiting intermediaries between recruiters and job seekers [20].

Reflecting on resume design research, a resume should represent a structured, professional profile or summary that showcases applicants’ strengths, accomplishments, interests, skills, and work-related experiences [7]. Recruiters use resume information to draw conclusions about an applicant’s work-related skills, abilities, motivation, personality, and job fit [21]. The resume is a critical tool for evaluating the potential qualifications of an applicant [7] and to determine who is invited for additional screening. The pre-screening of resumes is an important phase in virtually every personnel selection process [22,23]. Virtually every corporate website and
commercial job board allows online resume submissions via online forms and resume builders. Resumes are transmitted to an internal database to be used for automated candidate management [20]. The use of these resume databases has become very popular in recent years. Despite the increased popularity, little research has been conducted on the design and effect of resume databases [24,25,26]. While most professionals agree that resumes are vital, there is much disagreement about resume design requirements, i.e. the specific content to be included in resume forms.

In the academic literature, Ross and Young [1] comprehensively reviewed the resume design literature including journals, periodicals, and book publications. Their research revealed eight key resume categories: (1) career objectives, (2) educational record-college, (3) educational record-high school, (4) related work experiences, (5) nonrelated work experiences, (6) personal information, (7) professional and personal involvement, and (8) references. Based on the available literature on resume design, they derived 72 resume content items. While the research of Ross and Young provides a starting point for this paper’s study, some limitations have to be mentioned. Ross and Young’s [1] resume items have been tested with recruiters from the recreation and leisure services industry. It is unclear if these resume items are similarly relevant for other industries. Further, the research was conducted in the American context with US recruiters only. Recruiters from other countries or industries than recreation and leisure services will most likely demand adjustments of the current categorization of resume items. However, most general job boards provide one straightforward resume form to be filled out by all applicants independent on age, gender, culture, or industry.

This research is motivated by the fact that sorting out applicants quickly, without screening out good candidates poses a time consuming challenge in recruitment. The Web makes it easy for job seekers to apply for many jobs in a short time period. This has the effect that applicant pools and job boards tend to inundate companies with large volumes of resumes, many from unqualified applicants. Some basic and automated sorting functions for handling the administrative selection issue are provided by most online job boards. Basic queries such as “Are you willing to move?” or “When are you prepared to start work?” are included in many of these online resume builders to screen out obvious mismatches [27].

A challenge in e-Recruitment is the possibility of discrimination [28]. Personal information is often provided directly or indirectly (i.e. name, date of graduation) by applicants when filling out online resume forms. Employers often discriminate against job applicants by selecting them based on personal information such as age, gender, marital status and ethnicity. As the process of finding and screening applicants becomes ever more automated, the danger of inadvertently using inappropriate criteria grows. Therefore companies that adopt online screening need to ensure that the resume form criterion clearly (1) relate to the open position’s role specifications, (2) predict job performance, and (3) do not discriminate [27]. This literature review clearly showed that more research in resume design is needed. Therefore, we investigate the following research question:

“What are the requirements of online resume forms from the recruiters’ perspective?”

In order to answer the main research question, three sub-questions are studied.

1. How can the fields used in online resume forms be systematically clustered?
2. Which fields in online resume forms are significant from the recruiters’ perspective?
3. How can online resume fields and search functions be complemented to improve recruiters’ identification of relevant staff?

3. RESEARCH METHOD

To start answering this paper’s research questions, the requirements for resume forms are examined by applying a mixed methods approach, i.e. analyzing literature, interviewing recruiters and systematically categorizing and content-analyzing the resume fields of the 40 largest Dutch e-Recruiting sites [29]. In order to get a wider perspective and understanding of requirements for resume design, it seemed reasonable to compare the realization of resume forms on existing e-Recruiting sites with literature and interview data. This mixed methods approach contributes theory and practice by offering more comprehensive understanding on resume design.

3.1 Interviewing recruiters

Involving end-users (such as users of e-Recruiting sites, i.e. recruiters) in system design has frequently been argued to be a critical factor in the successful implementation and operation of information systems [30]. Several information systems researchers have argued that the direct interview remains the best elicitation technique for requirements analysis [31]. For eliciting requirement of resume forms, data was collected by interviewing seven recruiters at a career fair and ten recruiters online. The 17 recruiters consisted of 12 females and five males with age 22 to 37 (average: 30). The recruiters had between one and 15 years (average: five years) of professional experience. Four recruiters work in a bank, four in finance and accounting, three in an IT company, three in technical companies, one in utility, and two work in a commercial recruiting agency. The interview questions were pilot-tested and included mostly open-ended questions. Recruiters were inquired about important resume fields and fields that should be added to current online resumes, important search options and search functions they miss. During the interviews at career fairs, the interviewer first observed the recruiters and made sure to only approach them when they were standing alone; waiting for potential applicants; and appearing to have time. The average interview took about 15 minutes. In most cases it was not possible to interview the recruiters longer since applicants came and waited to talk with them. While a tape recorder was taken to the interviews, the noisy environment at the career fairs led the interviewer to choose to take comprehensive field notes during and after each interview. For the online interviews, email addresses of recruiters where searched in job ads at Dutch e-Recruiting websites. An invitation to fill in the survey was send to 55 sites are categorized as follows: 18 general job sites, 4 government job sites, 6 personnel agencies, 5 student job sites,
3 search job ads on other websites, 2 internship and 2 healthcare sites. Six of the 40 sites did not have a resume database, three only offered job ads, and three websites where from employments agencies and only had a contact form but no resume forms. Here the resume has to be handed in print at one of the agency’s offices nearby. Considering the selected sample of job sites, the government resume forms as well as the resume forms of employment agencies do not have noticeable differences in resume form specifications with the general job boards. Because there were some notable differences between the resume forms at general sites and those of students (side jobs, internship, holiday jobs), we analyzed these differences in more detail. In the analysis process we first familiarized with all sites by visiting the sites, and carefully reading and comparing the different resume fields across the sites. Then we wrote down every resume category including fields, field type and input options. Differences in labeling and categorization where discussed between two coders. After the classification of the resume categories, the fields from all recruiting sites were categorized and a resume content framework was derived.

To control how many websites we needed to analyze to reach code saturation of resume fields, we documented the progression of resume field identification after each website. Code saturation was reached by analyzing 14 e-Recruiting sites. In total, 114 resume fields were identified, all of which have been used in at least one website. Of these attributes, 78 fields (68%) were identified within the first two websites. An additional 36 attributes were identified in the next twelve websites. After the fourteenth website no more new fields were discovered. To make sure the framework was saturated four extra recruiting sites where analyzed, but also these contained only already known resume fields.

Figure 1. Data saturation – general e-Recruiting sites

A distinct resume content framework has been coded for students’ e-Recruiting sites. In this case, code saturation was achieved earlier (after analyzing seven sites) than on general job sites. In sum, 40 resume fields (70%) suitable for student resume forms have been identified in the first two websites. In the next two websites 14 additional attributes were identified, for a cumulative total of 54, or 95% of all attributes of the framework. The three remaining attributes were found in the fifth and sixth website. The seventh website resulted in no new information.

Figure 2. Data saturation – student e-Recruiting sites

By controlling code saturation of resume fields, we can infer that our findings apply in the larger context to resume design practices of Dutch e-Recruiting websites.

4. RESULTS

The results are presented in two main sections: First, the main findings emerging from the interviews with recruiters in regard to resume design are displayed (4.1). Then, we present the results of the website analyses on Dutch e- Recruiting sites (4.2).

4.1 Recruiters’ preferences

The interviews with recruiters were useful to get insights into their usage of e-Recruiting sites, and helped to get a first idea on recruiters’ perspectives of important resume and search fields.

To the question on what fields they find highly important in resumes, and which fields are currently missing in online resume forms, recruiters provided the following answers: (see Table 1).

<table>
<thead>
<tr>
<th>Field</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>7</td>
</tr>
<tr>
<td>Years of professional work experience</td>
<td>6</td>
</tr>
<tr>
<td>Extracurricular activities</td>
<td>6</td>
</tr>
<tr>
<td>Ambitions</td>
<td>5</td>
</tr>
<tr>
<td>Personality</td>
<td>4</td>
</tr>
<tr>
<td>Hobbies and interests</td>
<td>3</td>
</tr>
<tr>
<td>Desired job</td>
<td>3</td>
</tr>
<tr>
<td>Phone number</td>
<td>3</td>
</tr>
<tr>
<td>Personal information</td>
<td>3</td>
</tr>
</tbody>
</table>

Four recruiters were satisfied with the e-Recruiting websites and found nothing missing. Two of these recruiters said: “There are too many fields in a resume. I only want to know their name, address, education and work experience”. Another recruiter said: “I see no need for additions because it otherwise is even less manageable and takes away more administrative time”. One recruiter mentioned: “I only want to the point work experiences, not paper filling! I get impatient when I see a similar job five times”. One recruiter found it very important that resumes should be easy readable. Another recruiter wanted to know why an applicant left the previous job. Further, one described: “Before an applicant gets invited for a job interview, the applicant has to do an analytical and mathematical test online”. Three recruiters requested to include phone numbers so that they can immediately call and talk to a potential applicant, before another employer makes contact. Two recruiters found
the highest education level highly important. Two recruiters mentioned the importance of business courses or training. One recruiter required to know how fast an applicant finished the education.

Further, recruiters identified several search criteria they find highly important for filtering online resumes (see Table 2).

Table 2. Highly important search criteria (n=17)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Search criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Years of professional work experience</td>
</tr>
<tr>
<td>9</td>
<td>Job title</td>
</tr>
<tr>
<td>6</td>
<td>Education level</td>
</tr>
<tr>
<td>6</td>
<td>Region</td>
</tr>
<tr>
<td>5</td>
<td>Keywords search option</td>
</tr>
<tr>
<td>4</td>
<td>Field of study</td>
</tr>
<tr>
<td>4</td>
<td>Industry</td>
</tr>
<tr>
<td>3</td>
<td>Age</td>
</tr>
</tbody>
</table>

The most important criterion to search resumes in e-Recruiting sites is years of professional work experience. Eleven of the 17 recruiters (65%) mentioned that one of their first search criteria is years of work experience. Nine recruiters (53%) said they search suitable applicants by searching for job titles, or synonyms of that job title or similar jobs. Further, five recruiters prefer to recruit applicants who live close to their company location. Six of the recruiters desire to search for education level, such as Bachelor or Master. Surprisingly, only four interviewees expressed an interest to search exactly for the field of education. One recruiter claimed: “It is more important how easy someone can learn something new than what he already knows. Most of the learned knowledge is either outdated or used different in the company”. Three recruiters like to search for industry or branch type. This finding is supported by the following quote: “Sometimes a job title has multiple meanings, like an architect can design buildings or computer software”. Three of the recruiters explained that they want as many suitable applicants as possible, and then want to manually check all resume forms of the applicants. Six recruiters said that it largely depends on the position to fill what resume design and search criteria are important. In this context, two IT recruiters claimed that additional criteria can be expertise or years of experience with a specific programming language. Two recruiters search for applicants with a certain career level. One recruiter suggested to filter out applicants who are not actively seeking a job. Another recruiter requested to filter out applicants who do not want to travel. One recruiter wanted to search applicants who indicated as their desired salary a similar salary offered by the hiring organization.

4.2 Website analysis

The categorization of resume fields has been inductively developed by analyzing the 40 largest Dutch e-Recruiting sites. While the recruiting sites have great overlaps between the resume categories and subfields, the sites differ in several fields, labeling and extensiveness of resume fields. For instance, some sites only include a field for the last professional work experience while others provide the option to fill in multiple work experiences. Many of the fields have different labels for the same resume content field or different input options to enter data. For instance: for desired work location, some websites only require to fill out if the applicant wants to move while other websites require data about the specific regions where an applicant wants to work or a maximum radius between current home and work address.

The most common labels and input options derived from the sites are presented in an UML diagram [32,33]. These fields are further discussed in chapter five. Every resume category is presented in a box, with the title and multiplicity is shown in the table header. The multiplicity shows how many times the box can be filled in. For example an applicant can fill in no work experience, or multiple work experiences (0..*). Personal Information can only be filled in once (1). Further, the fields (attributes) and their field types and input options are given. The field type of the field is included if this is not a text field (for example an option from a dropdown; the options are given between brackets).

Resume framework solely based on website analysis

<table>
<thead>
<tr>
<th>1 CurrentState</th>
</tr>
</thead>
<tbody>
<tr>
<td>-CareerStatus:Select (actively looking for a job, open to new opportunities, exploring careers)</td>
</tr>
<tr>
<td>-CurrentOrLastJobTitle</td>
</tr>
<tr>
<td>-CurrentOrLastEmployer</td>
</tr>
<tr>
<td>-CurrentOrLastSalary</td>
</tr>
<tr>
<td>-Industry:Select</td>
</tr>
<tr>
<td>-CareerLevel:Select (high school, bachelor, master, entry level, experienced (non-manager), experienced (manager), manager, executive, senior executive)</td>
</tr>
<tr>
<td>-EducationLevel:Select</td>
</tr>
<tr>
<td>-YearsOfProfessionalWorkExperience</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 DesiredJob</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Description:Textbox</td>
</tr>
<tr>
<td>-MinimumSalary</td>
</tr>
<tr>
<td>-MaximumSalary</td>
</tr>
<tr>
<td>-Industries:Checkboxes</td>
</tr>
<tr>
<td>-BusinessArea:Checkboxes</td>
</tr>
<tr>
<td>-JobTitlesYouWant:Textbox</td>
</tr>
<tr>
<td>-JobTitlesYou DontWant:Textbox</td>
</tr>
<tr>
<td>-JobStatus:Checkboxes (fulltime, part-time, per-diem)</td>
</tr>
<tr>
<td>-JobType:Checkboxes (Employee, Temporary, Internship, Seasonal, Volunteer, Lean-work agreement)</td>
</tr>
<tr>
<td>-MinimumHoursPerWeek</td>
</tr>
<tr>
<td>-MaximumHoursPerWeek</td>
</tr>
<tr>
<td>-WhenToStart:Select (direct/1 month/2 months/3 months/discussable)</td>
</tr>
<tr>
<td>-CompaniesWhereYouWantToWork</td>
</tr>
<tr>
<td>-CompaniesWhereYouDontWantToWork</td>
</tr>
<tr>
<td>-FringeBenefits:Textbox</td>
</tr>
<tr>
<td>-CompanySize:Checkboxes (1 trough 24 – more than 250)</td>
</tr>
<tr>
<td>-EducationLevel:Select</td>
</tr>
<tr>
<td>-DaysPerMonthAwayFromHome:Select (0 days per month – to 20 days per month)</td>
</tr>
<tr>
<td>-DiversityPolicy:Checkboxes (job for person older than 45, disabled person, foreigners)</td>
</tr>
<tr>
<td>-WorkJurisdictionForEU:Checkbox</td>
</tr>
<tr>
<td>-PreparedToMove:Checkbox</td>
</tr>
<tr>
<td>-DesiredLocations:Multiple</td>
</tr>
<tr>
<td>Country:Select, Province:Select, Place, WorkJurisdiction:Checkbox</td>
</tr>
<tr>
<td>-TravelDistance:Integer</td>
</tr>
</tbody>
</table>

1..* Education (Highest current and previous)

| -EducationLevel:Select (high school/bachelor/master) |
| -Category:Select |
| -FieldOfStudy |
| -Diploma:Checkbox |
| -InstitutionName |
### 5. DISCUSSION

In this section, we discuss the differences of resume fields based on our interview results, the recruiting website analysis, and extant literature. We also show differences in resume fields between general resume forms and student resume forms.

#### 5.1 Resume fields

**Current career state**

We found that recruiters first want to filter years of experience, job title(s), education level and the region of the applicant. This complies with the "current career state" category which is used as search filter as well as to get a quick overview. Only if recruiters are interested in the rough resume profile, they will read the rest of the resume.

**Desired job**

The survey from Ross and Young with leisure and service recruiters shows that an objective statement is very important \[7\]. They suggest including a brief but specific objective statement identifying the type of position the candidate is seeking in resumes. This could be either job focused or career focused.

However, our interview results and the website analysis show that a brief objective statement is not satisfying recruiters' needs. Recruiters need more detailed information about applicants when the recruiter uses resume database search. In this case, applicants do not directly apply to the recruiters' job ad, however recruiters themselves are the proactive part in searching suitable candidates in resume pools. Naturally, applicants only apply to job ads where they know beforehand the job description and the hiring company. This implies that applicants represent the proactive part, and can themselves
decide before applying if the job and company fits their requirements. When recruiters use resume databases to filter out the best fitting applicants for their job ads, this poses several challenges. Probably, the chosen applicant is not available anymore and has found a job elsewhere, or the applicant finds the company or job description not attractive, and consequently, does not respond to the recruiters invite for interviewing. In our interviews with recruiters, we found out that recruiters if using resume databases desire an extra resume category which we labeled desired job. In the desired job section the applicant should at least fill in when he or she is available to start a new job, preferred job titles, industries, companies, salary, and hours per week he or she wants to work. Also location is important. While the applicant makes the decision for each single job ad if travelling to the work location every day is feasible, when using resume databases, the recruiter has to decide on the feasibility of work commuting distance from the applicants’ home address, or eventually relocation issues. We recommend is include the applicants’ availability, start date and possibly end date (for season jobs, internships). If a website also offers international jobs, the desired salary should also take currency into account (select currency from a list).

**Education**

A significant number of researchers [7,21,34] agree with our interviewed recruiters that educational experience is an essential component of a good resume. The resume reader, i.e. recruiter may use this section to match educational accomplishments of the applicant with job requirements. The applicants’ competence may be further discerned from the reputation of schools attended (e.g., a prestigious private school versus a regional state university) and the field of study. Moreover, one may even attempt to discern the motivational level of the applicant in terms of length of duration of study. Degrees received and dates when degrees were conferred should be included under the education section in reverse chronological order [34]. The most suitable education to be included in resumes should be either university/college or high school level. Crosby [6] suggests that high school educational information should be included for applicants who apply for internships or student projects, and recent graduates. Hutchinsons and Brefka [35] indicate that there is little value in listing high school information unless it is the applicants sole educational experience or directly related to the open position.

Researchers have suggested that the frequent use of grade point average (GPA) is due to recruiters’ beliefs that GPA partially reflects an applicants’ intelligence, motivation, and other abilities needed on the job [36,37]. Hutchinsons and Brefka [35] however state that information such as grade point average (GPA) and class rank are relatively unimportant. Recruiters will attribute more weight to entry-level applicants’ academic qualifications [21]. For experienced professionals, recruiters will put more emphasis on previous work experiences.

Ross and Young differentiate between college experience and high school experience. From college experience, field of study, internship experience, major area of study, type of degree earned and date of graduation are rated very important [7]. Name of college attended, honors and awards, participation in campus organizations, grade point average in major, grade point average overall, list of college courses taken, transcripts attached, participation in athletics and class rank were rated somewhat important. For high school, honors and awards, date of graduation, activities in high school are rated somewhat important, and name of high school attended, participation in athletics, grade point average and class rank are rated not important.

The current practice largely corresponds with the literature. The categorization of study fields is convenient for recruiters, since the different high schools and universities give different names for slightly different studies. For students who search a temporary or holiday job etc. the expected end date of the current study should be given. Internship experience, honors and awards, or other activities can be filled in the description textbox.

**Work experience**

The work experience section may be the most important part of a resume. In this section, job titles, major duties and responsibilities of the jobs listed by the applicant can be compared with the requirements of the job to which an applicant applies [35]. Ross and Young [7] found job responsibilities, dates of employment, position title, achievements and accomplishments, reason for leaving, name of employer, name of supervisor, part-time or full-time status, location of employer and salary very important. Cole et al [21] found that individual job achievements, holding a supervisory position, full-time work experience, and internship experience provide significant information to hiring managers. Although Augustin [38] recommends including full- and part-time jobs as well as related and nonrelated work experiences, Ryan [65] suggests including only work experiences that are most meaningful and directly related to the position sought. Project-based teams and more flexible assignments are eroding the tradition of clearly defined jobs with position titles that convey meaning outside particular work groups and companies, hence it is important to have descriptions and titles for open jobs that will be understood by employers [27].

In our recruiting website analyses, we found that some sites require applicants to only fill out the last or current work experience. This finding also corresponds with our interview results: Four recruiters mentioned that resumes should be read easily and should not be overloaded with information. If a site enables filling in multiple experiences, then the last or current relevant work experience related to the desired job should be clearly indicated. Based on the literature, recruiting websites should include a checkbox so applicants can see if a job is full-time or part-time. Also, an applicants’ prior responsibilities and achievements should be collected. Both literature and interviews show a high importance of job titles. The current recruiting websites enforce recruiters to try a lot of different job titles since there many job titles are used for similar work (software engineer, software developer, programmer). Also some job titles like architect can have multiple meanings, e.g. an architect for designing houses or a software architect for designing computer programs. It is therefore very important that job titles are clearly defined [27], and recruiting sites should take synonyms into account. We therefore recommended standardizing and carefully categorizing job titles.

**Extracurricular activities**

Cole et al [21], Brown and Campion [39] as well as our interviewed recruiters find extracurricular activities the third most important section of the resume. These activities include memberships in professional societies, memberships in college clubs, holding elected offices, memberships in social fraternity or sorority, and voluntary community activities [21]. The number of activities, type of activities (i.e. professional vs. social), and number of leadership positions held influence an applicants’ leadership capabilities, interpersonal skills, and
motivational qualities. Given that most entry-level applicants' prior work experience is either limited or non-existent [40], recruiters are likely to focus more on applicants' academic qualifications and extracurricular activities [18]. Ross and Young label this category as “personal and professional involvement”, and find it should include, in order of importance -- certifications, professional organizations, community involvement, professional presentations delivered, professional conferences attended, professional publications written -- as very important; and hobbies as somewhat important. However, four of our 17 interviewed recruiters found hobbies highly important.

The resume design literature finds the applicants’ prior positions held in extracurricular activities very important. This information should be included in resume forms. The extracurricular activities could be more structured, by enabling applicants to fill in separate experiences, like in the education and work experience sections. For each experience the date (for publication or presentation) or period (for community involvement and memberships) should be stated.

Skills
The online resume forms of the 40 Dutch recruiting sites require applicants to fill in only standard skills. For instance, in regard to computer skills, only knowledge of Microsoft Office such as Outlook, Word, Excel, Powerpoint and Access are specifically listed in the Dutch resume forms. Certainly, these rough skill lists need to be extended so as to more comprehensively reflect an applicants computer skills. For instance, programs like AutoCAD, Photoshop or other industry specific software and programming languages need to be included. An indication of level of experience (beginner, intermediate, advanced, expert) would strengthen the readability of the skills section. Two recruiters in IT state that information on applicants’ detailed programming languages and experience level is needed. Ontology-based skill databases need to be integrated in human resource information systems to systematically match language skills, software skills, business skills, law skills, project management skills etc with the open position.

Personal and contact Information
The inclusion of personal information, such as age, gender, ethnicity, marital status and photograph is seen as being at the discretion of the applicant [41]. or, perhaps to be excluded [42]. Over time, fewer employers indicated that personal information is desirable in resumes. Similarly, Hutchinson and Brefka [35] found that inclusion of personal information was considered to be unimportant, and some respondents pointed out that such information would be "struck out" for legal reasons. Holley et al. [43] discovered that over half of the applicants for Director of Personnel positions provided their marital status, and large numbers indicated their age and amount of children in their resumes. These researchers suggest that, as prospective employers are barred from requesting certain types of information, some employers may prefer not to receive such information due to fears of discrimination claims.

Personal information is usually supplied by job applicants to enhance their chances of obtaining an interview [44] even though such information has also been found to create discriminatory evaluations in preselecting decisions [45,46,47]. It is possible, too, that some applicants believe that they are required to provide personal information in their resumes; they may be unaware that antidiscrimination legislation, in some countries, makes it illegal for employers to base decisions on such information [28].

Ross and Young [7] identified telephone number as essential information in resumes. Also three of our interviewed recruiters requested the inclusion of phone numbers so that they can immediately call and talk to a potential applicant before another employer makes contact. The current permanent address is seen as very important while fax and social security number are somewhat important. Age, military experience, birth date, gender, marital status, word “resume” as title of resume, number of dependents, birth place, photograph and ethnicity were rated by our interviewed recruiters as not important by Ross and Young.

Whereas Monsterboard.nl, a US e-Recruiting website, does not require applicants to fill in personal information like gender or birth date, all other analyzed e-recruiting sites require applicants to fill in gender and birth date. Stepstone.nl, a Norwegian site even demands information on nationality. Further, werkenbijdeoverheid.nl, a Dutch site, asks marital state. Similarly, one of our interviewed recruiters claimed: “As recruiter you want to know everything you can about any potential applicant”. Yet, most resume forms let the applicant choose to show or hide personal and contact information to potential employers. In case of a full anonymous resume (a resume without personal and contact information), recruiters can get in contact with applicants by anonymous mail. Also the applicant can choose not to include resume information in resume databases. In such cases, applicants can manually send in online resumes when applying to a job ad. Nuwerk.nl gives the option to explicitly include or exclude companies who can see the resume profile. In this way, applicants can assure that for instance current bosses cannot find them.

We conclude that since employers are prohibited to select employees based on gender, birth date, nationality or marital state, online resume forms should not ask for this personal information.

References
Ross and Young have found an overwhelming agreement in academic (i.e. Hutchinson and Brefka [35]) and practitioner literature that references, or even the statement “references available on request” should not be included in the resume. Ross and Young [7] identified references from previous employers as very important, and teachers as references, complete reference citations, reference letters attached and references available on request as somewhat important, and relatives as references as not important. As an alternative to including references in the resume, Fournier & Spin and Besoon [48,49] preferred preparing a separate list of references to send to the prospective employer only when the candidate becomes a finalist for the position. In our website analyses, only one website asked applicants for references. Similarly, none of the interviewed recruiters expressed the need for references.

5.2 Differences between general and student jobsites
The resume forms of student job sites are generally less detailed than general resume forms. The analyzed student resume forms did not include the following categories: certificates, career highlights, memberships, honors and awards, references and career goal. More specifically, student resume forms do not have academic title(s) included. This makes sense because students have not graduated yet, and consequently haven not received an academic title yet.

Student job sites specifically ask if an applicant searches an internship or graduation internship and require the desired
region and period to be filled in resume forms. The desired job for student jobs can only be described in industries, regions, job types, employers and availability. However, availability is more detailed taken into account on student recruiting sites than on general recruiting sites: On student sites, the desired start date of a job can be given, also the students’ availability during the week should be included: whole week job, one or more days a week, evening job, weekend job, temporary full-time or temporary half-time.

While general e-Recruiting sites ask applicants to indicate if they have drivers licenses, resume forms of student websites also ask if the applicant has a car, or other transportation options. Most students do not have a car, but most of the students have a public transportation card. Resume forms of student websites ask for previous education level as well as current or highest education level. Education systems are different throughout the world, therefore specification in resume forms are required in regard to education data. The career status on the studied student recruiting sites only contains a checkbox for actively searching for a job whereas general e-Recruiting sites provide a selection box for up to six different career states (see 5.3 the resume framework for details).

5.3 The resume framework

Based on this paper’s literature review, our e-recruiting website analysis, and interviews with recruiters, we derived the following resume design framework:

Recommended resume design framework

1. CurrentState
   -CareerStatus:Select (actively looking for a job, open to new opportunities, exploring careers)
   -CurrentOrLastJobTitle
   -CurrentOrLastEmployer
   -CurrentOrLastSalary:Amount:Integer, Period:Select (hour,day,month/year), Currency:Select
   -Industry:Select
   -CareerLevel:Select (high school, bachelor, master, entry level, experienced (non-manager), experienced (manager), manager, executive, senior executive)
   -EducationLevel:Select
   -YearsOfProfessionalWorkExperience

1. DesiredJob
   -Description:Textbox
   -MinimumSalary:Amount:Integer, Period:Select (hour,day,month/year), Currency:Select
   -MaximumSalary:Amount:Integer, Period:Select (hour,day,month/year), Currency:Select
   -Industries:Checkboxes
   -BusinessArea:Checkboxes
   -JobTitlesYouWant:Checkboxes
   -JobTitlesYouDon'tWant:Checkboxes
   -JobType:Checkboxes (Employee, Temporary, Internship, Seasonal, Volunteer, Lean-work agreement)
   -MinimumHoursPerWeek:Integer
   -MaximumHoursPerWeek:Integer
   -StartAvailability:Date
   -EndAvailability:Date
   -CompaniesWhereYouWantToWork:Checkboxes
   -CompaniesWhereYouDon'tWantToWork:Checkboxes
   -FringeBenefits:Textbox
   -MinimumCompanySize:Integer
   -MaximumCompanySize:Integer

1. Resume
   -ResumeTitle
   -Date:Date

1. ExtracullicularActivities
   -Memberships:Multiple
   -StartDate:Date, EndDate:Date, OrganisationName, OrganisationDescription:Textbox, Activities:Textbox
   -Careerhighlights:Multiple
   -StartDate:Date, EndDate:Date, Description:Textbox
   -HonorsAndAwards:Multiple

1. Education (Highest – current and previous)
   -EducationLevel:Select (high school/bachelor/master)
   -Category:Select
   -FieldOfStudy
   -Diploma:Checkbox
   -InstitutionName
   -Country:Select
   -City
   -Description:Textbox
   -InternshipExperience:Textbox
   -StartDate:Date
   -(Expected)EndDate:Date

0. WorkExperience
   -JobTitle:Select
   -CompanyName
   -Industry:Select
   -BusinessArea:Select
   -City
   -Country:Select
   -StartDate:Date
   -EndDate:Date
   -CurrentPosition:Checkbox
   -JobDescription:Textbox
   -JobResponsibilities:Textbox
   -AchievementsAndAccomplishments:Textbox
   -PartTime:Checkbox
   -LearnedSkills:Textbox
   -SupervisoryPosition:Checkbox

1. Skills
   -ComputerSkills:Multiple
   Skill:Select, ExperienceLevel:Select (beginner, intermediate, advanced, expert)
   -BusinessSkills:Multiple
   Skill:Select, ExperienceLevel:Select (beginner, intermediate, advanced, expert)
   -Languages:Multiple
   Language:Select, Level:Select (Beginner/Intermediate/Advanced/Fluent)
   -DriversLicence: Checkboxes (Motor/PassengerCar/CarCart/Truck/Bus/BusCart)
   -Skills:Textbox

1. TravelDistance:Integer
   -MinimumEducationLevel:Select
   -MaxDaysPerMonthAwayFromHome:Integer
   -DiversityPolicy:Checkboxes (job for person older than 45, disabled person, foreigners)
   -PreparedToMove:Checkbox
   -DesiredLocations:Multiple
   -Country:Select, Province:Select, Place, WorkJurisdiction:Checkbox
   -TravelDistance:Integer
0. Certificate
- CertificationName
- InstitutionName
- Location
- StartDate:Date
- EndDateOrDateOfReceipt:Date
- RequiredEducationLevel:Select
- Description:Textbox

1 Personal Information
- Title
- FirstName
- MiddleName
- LastName
- Personality:Textbox

1 Contact Information
- Street
- PostalCode
- City
- Province
- Country:Select
- TelephoneNumber
- MobileTelephoneNumber
- EmailAddress
- AlternativeEmailAddress
- ContactPreference:Select (phone/mobile phone/email)

1 Career Goal
- DesiredCareerLevel:Select
- DesiredSalary:Amount:Integer, Period:Select
- Industry:Select
- CompanyType (public/private/non-profit/government)
- WhatDoYouFindImportant:Textbox
- Companies:Textbox
- FringeBenefits:Textbox
- SkillsToDevelop:Textbox

6. CONCLUSIONS
This paper addresses requirements of online resume forms. We conducted interviews with 17 fulltime recruiters and content-analyzed the resume forms of the 40 largest Dutch e-Recruiting sites. The content-analysis provided insights into the state-of-the-art practical realization of content items used in resume forms. These current practices were compared with extant resume design literature and concepts emerging from interviewing recruiters. Based on this multi-method approach, recommendations for resume design theory and practice have been drawn. Consequently, our research is useful for managers and designers of online resume forms, recruiters, applicants and academics doing e-Recruiting research. We also developed a resume field framework which includes the following categories: current career state, desired job, education, work experience, extracurricular activities, skills and personal and contact information. Our research provides two new resume categories as extension to previous academic literature: “Current state” and “Desired job”. Both categories provide significant information for recruiters using resume databases. “Current career state” makes it effortless to quickly sort out applicants which are not suitable for the open position, and “desired job” gives the recruiter information if an applicant would be actually interested in an offered job vacancy. This study is not without limitation. Quantitative research involving a larger sample of recruiters would be needed to study our identified resume categories in a more comprehensive way. Further our suggested resume framework may need revision depending on branch and industry type of e-recruiting services. Also, this research focused on analyzing Dutch e-Recruiting sites and interviews with Dutch recruiters, however resume preferences and resume fields may be categorized differently in other cultures.

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