Can Social Media Help to Alleviate Skilled Worker Shortage? First Insights from the German Federal Employment Agency

Julia Klier[1,*], Mathias Klier[1], Volker Rebhan[2], and Lea Thiel[1]

[1] University of Regensburg, Regensburg, Germany
{julia.klier,mathias.klier,lea.thiel}@wiwi.uni-regensburg.de
[2] Bundesagentur für Arbeit, Nürnberg, Germany
volker.rebhan@arbeitsagentur.de

Abstract. Due to a growing skilled worker shortage ever more companies are looking for new and innovative ways of recruiting talent. While first companies have started using social media for recruiting, there is still a lack of research on this topic, in particular on the use of social media for active sourcing. Therefore, this paper investigates, based on a case study at the German Federal Employment Agency, how active sourcing via social media can help to alleviate skilled worker shortage. Our findings indicate that social media are a suitable means to staff open job positions for which the traditional recruiting process failed, in particular for job positions requiring a high-quality matching and applicants with an academic background. The creation of a modern brand and the strengthening of networking activities of employees are a positive by-product.

Keywords: Social Media, Active Sourcing, Skilled Worker Shortage, Case Study Research, Federal Employment Agency

1 Introduction

Recently, companies have been witnessing both a growing shortage of skilled workers and a "war for talent" [1-3]. Changes in technology are shifting labor demand towards highly skilled professions and talent. At the same time, demographic shifts are decreasing labor supply. Consequently in 2014, the 1,000 highest-grossing companies in Germany had difficulties to staff job positions for 35.8% of their vacancies; 5.8% of the companies expected vacancies to remain unstaffed [1]. This shortfall is expected to increase in the future [4]. Consequently, it is essential for human resource departments to find new and innovative ways of recruiting talent [5].

The rise of social media is considered to offer great potential for innovations and improvements along the whole value chain of organizations. To date, companies have been using social media in marketing, product development, sales, and customer support [6]. Therefore, in the context of the growing shortage of skilled workers the question arises whether social media, in particular business-oriented platforms like LinkedIn and XING, can offer new insights in and innovative means to recruiting

(e.g. [5], [7], [8]). Indeed, first companies have recently started to use social media for employer branding, for candidate screening as well as for searching potential job candidates, which is referred to as active sourcing (e.g. [9-12]). In research, however, the use of social media in recruiting has not been sufficiently investigated yet [8], [13], [14]. In particular in the context of active sourcing, there is still a lack of theoretically and methodically sound research. Furthermore, to the best of our knowledge, no previous research has focused on active sourcing of skilled labor via social media in cases where traditional processes reach their limit.

Thus, the aim of this paper is to analyze how social media can be used to alleviate skilled worker shortage. To gain deeper insights, we conducted an exploratory case study in cooperation with the German Federal Employment Agency. Note that in addition to placing and providing unemployment benefits, helping employers to staff open job positions is a core task of the Federal Employment Agency. As it bundles open job positions of a multitude of companies, it provides us with the opportunity to analyze active sourcing for a critical mass of open job positions.

The remainder of this paper is organized as follows. In the next section, we briefly review the theoretical foundations and related literature. In Section 3 we describe the research design and in Section 4 the data collection and analysis. Afterwards, we present our findings, followed by a discussion of the results in Section 6. Finally, the last section concludes with a brief summary.

2 Research Background

2.1 The Nature of Social Media

With the rapid proliferation of a new class of information technologies known as social media, communication, collaboration and networking among human beings have reached a previously unknown reach, intensity, and speed [15]. According to Kane et al., social media networks are characterized by four essential features namely that "users (1) have a unique user profile […]; (2) access digital content through […] various search mechanisms provided by the platform; (3) can articulate a list of other users with whom they share a relational connection; and (4) view and traverse their connections and those made by others on the platform" [15, p. 279]. Among the most well-known platforms today are Facebook, Twitter, and LinkedIn used by hundreds of millions people around the globe. Despite the wide-spread adoption of social media, their application for organizational use has just begun [15]. Previous studies revealed the great potential of social media along the whole value chain (e.g. [6], [16]), particularly in marketing (e.g. [17]) but also in product development (e.g. [18]), sales and electronic commerce (e.g. [19]), customer support (e.g. [20]), and knowledge sharing (e.g. [21], [22]). An area that, for a long time, has not been in the primary focus of researchers is the use of social media in human resources. First studies show that social media can be used to increase employees' motivation and identification with the company [23], and to "foster a culture of collaboration" [24, p. 8]. However, scholars argue that more "research needs to be conducted in order to evaluate the impact of utilizing OSN in the recruitment, selection and hiring process" [13, p. 22] (cf. also [1],

[25]). As first researchers follow this request, the next section gives an overview of studies in the context of social media and recruiting.

2.2   Social Media and Recruiting

Previous contributions on social media and recruiting can be divided into research on employer branding, screening, and active sourcing of candidates. In the following, a short overview of the respective literature streams is provided.

The increasing use of social media for employer branding (cf. [1], [26]) led to a growing scholarly interest in this domain. Employer branding is defined as a strategy in human resources to promote a positive employer image to attract new talent and improve recruitment, retention, and commitment of employees [27], [28]. Previous research shows, for instance, that social media enable companies to improve the awareness of job candidates, in particular new target groups, for their employer brand [9] and support companies in establishing contact and actively communicating with potential job candidates [5], [12]. Hereby, social media facilitate a "shift from exchange-based recruitment practices to relationship-based approaches" [5, p. 152] (cf. also [12], [29]). Using social media for employer branding can furthermore increase the quality of applications [5]. The effectiveness of employer branding depends on several factors, for instance its alignment and integration within the organization's existing recruitment processes [12], a clear definition of target groups [7], as well as a careful selection of the information that companies present on their profiles [30].

Besides employer branding, practitioners and researchers increasingly address the use of social media for the screening of job candidates during the application process. Several studies investigate and critically discuss, for instance, the validity and reliability of information such as personality, intelligence and performance on social media platforms (e.g. [8], [10], [12], [13], [31], [32]). Furthermore, previous research analyzes how social media affect recruiting decisions showing that negative information on job candidates tend to outweigh positive information [33]. As boundaries between private and professional information are blurred on social media platforms, their use for screening candidates raises ethic and legal questions and calls for organizational policies ([8], [13], [34]), such as guidelines and trainings for employees [10], [12].

In contrast to employer branding, active sourcing aims to recruit specific candidates [9]. Despite the fact, that the growing shortage of skilled workers is raising the importance of active sourcing, only very few studies have addressed the use of social media for active sourcing. So far the discussion has been shaped by practitioners (e.g. [12]). According to these practitioners, social media platforms are mainly used to increase the talent pool of companies, for instance by enabling companies to address passive job seekers [11], [12]. Based on semi-directive interviews with eleven recruiters in software and computing services companies, Girard and Fallery [5] affirm this thesis. To date, no quantitative assessment of active sourcing to confirm the practitioners' thesis that social media can increase the talent pool has been conducted so far. Analyzing LinkedIn profiles of 200 randomly selected users, DeKay [11] even show that almost all members of business-oriented social media platforms indicate an interest in job offers on their profile, thus cannot be seen as true passive jobseekers. Be-

sides increasing the talent pool, first studies indicate that social media may affect the quality of the talent pool. Girard and Fallery for instance show that applications based on active sourcing on social media platforms are perceived by companies as "generally of better quality" [5, p. 151]. Practitioners have identified two explanations: First, passive candidates are often considered to be especially stable employees [11] and highly talented [12]. Second, social networks can help recruiters to better assess candidates since in social networks candidates tend to provide more information than in traditional applications [8]. In that context, companies claim active sourcing via social media to be time consuming because of the time invest for recruiters for identifying sourcing patterns, assessing users' personality and job-adequacy and converting candidates from passive to active jobseekers [5].

2.3   Research Gap and our Contribution

Summing up, despite the increasing use of social media in recruiting, compared to other fields recruiting has only been rarely investigated so far. In fact, several studies have acknowledged a need for future research stating that "more […] research needs to be conducted in order to evaluate the impact of utilizing OSN in the recruitment […] process." [13, p. 22]. Research is particularly needed in the field of active sourcing via social media. While first theses on advantages, disadvantages and best practices have been provided by practitioners (e.g. [12]), well-founded research is still lacking. Indeed, to the best of our knowledge no previous research has been conducted to quantitatively document and assess active sourcing processes via social media, in particular in context of skilled labor shortage. Against this background, we aim to analyze the use of social media for active sourcing using a multi-method approach, combining qualitative and quantitative methods [35]. In our context this seems particularly appropriate for two reasons. First, social media platforms are a multi-dimensional and complex domain that one method would be unlikely to capture adequately [36]. Second, using multiple methods allows enhancing the validity of findings by clarifying results generated by one method with another one and by drawing on strengths of several methods while offsetting their weaknesses [37], [38].

3   Research Design

3.1   Case Study Research

We draw on case study research to determine how social media can be used to alleviate skilled worker shortage. A case study "is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context […]" [39, p. 18]. We believe that an exploratory case study is well-suited to be used for our problem for three reasons. First, case study research provides a way to analyze the use of social media in the context of recruiting in a natural setting. It is not limited to a specific aspect, but is looking at various organizational facets involving a high level of complexity, for instance how the use of XING in companies or organizations is perceived both internally and externally. Second, the case study approach is an appropriate way

to analyze a phenomenon at its early stages [40]. Since only limited research (in particular quantitative research) has been conducted so far on active sourcing via social media, a "holistic and in depth investigation", as provided by case study research, is required [41, p. 370]. Triangulating results using both quantitative data from documentation and qualitative data from interviews helps to reveal the multiple facets of the phenomenon ensuring that our research question is not explored through one lens only. Third, when analyzing active sourcing, phenomenon and context are not clearly obvious [42]. For instance, characteristics of positions or candidates may affect the results. The "ability [of other research methods like surveys] to investigate the context of a phenomenon is extremely limited" [39, p. 18].

3.2   Setting

The case organization we selected is the German Federal Employment Agency *(Bundesagentur für Arbeit)*. The Federal Employment Agency is the largest provider of labor market services in Germany, with more than 95,000 employees and a Germany-wide network of 156 employment agencies. It provides a comprehensive set of services for citizens, companies, and institutions. Its core tasks include the placement of unemployed in training and employment, career counseling, and the payment of unemployment benefits. Furthermore, it is responsible for helping companies find candidates to fill open job positions. In 2012, more than two million open positions were registered at the Federal Employment Agency.

Like countless other companies, in times of skilled worker shortage, the Federal Employment Agency is looking for new and innovative ways to find candidates, especially for job positions which require highly qualified candidates. As the Agency bundles job positions from a multitude of companies, the Federal Employment Agency allows us to investigate a critical mass of open job positions that could not be staffed otherwise. Thus, together with the Federal Employment Agency we set up a pilot study in which social media were used for active sourcing. To investigate active sourcing in the context of skilled worker shortage, we focused on job candidates for positions that could not be staffed using the traditional process. The pilot was conducted in three locations across Germany spanning a four-month period between November 2012 and February 2013. As a social media platform for the pilot respectively case study we selected XING, being the most commonly used social media platform for active sourcing in Germany [1]. Job counselors of the Federal Employment Agency involved in our case study were asked to create user profiles on XING representing them in their professional capacity as agency employees. In addition to user profiles, the Federal Employment Agency started an official presence on XING including information and news about the Federal Employment Agency. Before starting our case, no coordinated activity on XING was carried out.

3.3   Unit of Analysis

To relate the case study to a "broader body of knowledge" [42, p. 610], it is essential to define what the case is, by specifying the unit of analysis. In our case, the unit of

analysis is the process of actively sourcing job candidates via XING. With our focus on job positions for which the traditional process has been proven unsuccessful, we try to address a contemporary societal challenge with increasing relevance.

In the traditional process, open job positions registered at the Federal Employment Agency are filled by matching job requirements from employers with information on unemployed candidates in the internal information system. In a second step, potential candidates are contacted by phone, e-mail, per post or in a personal appointment. If candidates are interested, job counselors establish contact between the candidate and the employer and report the outcome of their interaction. In our case study, job counselors used XING for searching candidates for open positions for which the traditional process had proven unsuccessful. The process of active sourcing via XING consisted of five steps as represented in Figure 1. First, the job counselors chose open job positions for active sourcing. Employers, for whom the traditional placement process was not successful, were asked permission to use XING for sourcing activities. Second, using the XING Talent Manager (XING's active sourcing tool that enables recruiters to identify and manage candidates) they conducted a search in XING for potential candidates by filtering for qualifications and requirements. Third, using their user profiles, job counselors contacted candidates via XING asking whether they would be interested in the open job position and recorded responses. Note, that job counselors were solely allowed to contact candidates whose profiles indicated that they were interested in career perspectives. Furthermore, they were obliged to personalize each message by citing three matches between user profile and job position. Fourth, the job counselors filtered positive responses of candidates. For all positive responses, in a fifth step they established contact between the candidates and the employers. Based on interviews, the employers decided about placements and informed job counselors; the job counselors recorded all placements.
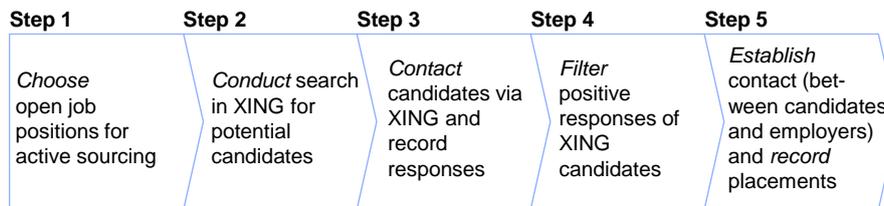
Step 1	Step 2	Step 3	Step 4	Step 5
Choose open job positions for active sourcing	*Conduct* search in XING for potential candidates	*Contact* candidates via XING and record responses	*Filter* positive responses of XING candidates	*Establish* contact (between candidates and employers) and *record* placements

Fig. 1. Description of active sourcing process via XING

4   Data Collection and Analysis

To get a richer picture of the phenomenon of interest, literature suggests using different sources of evidence to investigate the unit of analysis [39], [41], [42]. We had the opportunity to collect qualitative and quantitative data from two sources allowing the triangulation of data, fostering greater confidence in the validity of the results.

First, we collected data on all steps of the process of active sourcing for the whole period of the pilot ranging from November 2012 to February 2013. The pilot was run

in three locations across Germany (in the south, southwest and west of Germany) to ensure a representative data selection. Overall, three teams of in total 15 people (each team with a team leader as the XING coordinator plus three to five job counselors) participated in the pilot. This team-based approach allows us to obtain a rich set of observations and quantifications thus fostering greater confidence in the results [43], [44]. All participants were qualified for online social network usage in a preparatory training. Data documentation was performed by all job counselors in MS Excel on an on-going basis. For each open job position the process of active sourcing was documented from end-to end, providing a comprehensive view.

Second, to get a comprehensive picture beyond the quantitative documentation, we conducted 12 semi-structured interviews with employees involved in the pilot to obtain their assessment of using XING for active sourcing. The interviews were conducted in March and April 2013. All interviews were based on an interview guide containing 15 questions (cf. [45]), ten of which referred to the evaluation of XING as an instrument for active sourcing. For instance, employees were asked "How satisfied are you as an employee with XING as an instrument for active sourcing?" and "In your opinion, what is the importance of XING for the Federal Employment Agency as a modern service provider?". The remaining five questions concerned the use of XING in the pilot, for instance "How much time per week did you spend on average on the process of active sourcing via XING?". In closed questions, the assessment of the interviewees was raised either using a Likert scale, reaching from 1 (worst manifestation) to 5 (best manifestation) (cf. e.g. [46], [47]) or a dichotomous question (yes/no). The interviews were conducted by telephone and took on average 18.5 minutes. They were documented in writing during the interview. Answers to open questions were coded based on the written documentation to allow for systematic clustering. Similar to Brecht et al., the coding was done in three steps: open, axial and selective coding (cf. [9]). To ensure a high quality of categorization we used the method of double coding, thus each statement was analyzed independently by three researchers (cf. e.g. [48], [49]). The reliability of agreement among the researchers was measured with Krippendorff's alpha [50] which has been appraised to be a well-suited measure of reliability in content analysis [51]. We observed a value for Krippendorff's alpha of 0.903 reflecting a high reliability of agreement within the team of researchers. Indeed, according to Krippendorff a value of 0.800 is required for convincing conclusions while tentative conclusions are still acceptable for values between 0.800 and 0.667 [50]. In case of disagreement, we based our decision on a team discussion. When presenting our findings, we use quotes for illustration. Since the interviews were conducted in German, all quotes were translated into English [52].

5 Findings

5.1 Key Findings from Documentation

To analyze active sourcing via XING, we calculated the absolute numbers for each step of the active sourcing process (from "choose open job positions for active sourcing" to "establish contact between candidates and employers and record placements",

cf. Figure 1) and conversion rates between all steps for the entire observation period from November 2012 to February 2013. Figure 2 illustrates the results (not to scale).

Overall, XING was used for 212 open job positions that could not be staffed via the traditional process. Job counselors identified 206 potential candidates for these job positions and contacted them via XING. Of those 206 candidates 86 responded (response rate of 41.7%). Even though we focused on jobs that could not be staffed the traditional way, this is clearly above the response rate of less than 21% that most companies report for active sourcing (i.e., 52.1% of companies report a response rate less than 21%, solely 11.8% a rate above 41%) (e.g. [53]). Moreover, candidates replied very quickly: 68.6% responded within less than five days, a mere 5.8% had not responded after three weeks. In their responses, 31 candidates indicated interest in the presented job (36.0% of all respondents). In sum, the positive response rate of 14.6% at the Federal Employment Agency (share of positive responses to contacted candidates) equaled the one reported in previous studies (e.g. [53]). In the end, five candidates (16.1% of all positive responses) were placed. Hence, overall we report a conversion rate from contact to placement of candidates in job positions for which no candidate was found using the traditional process of 2.4%.
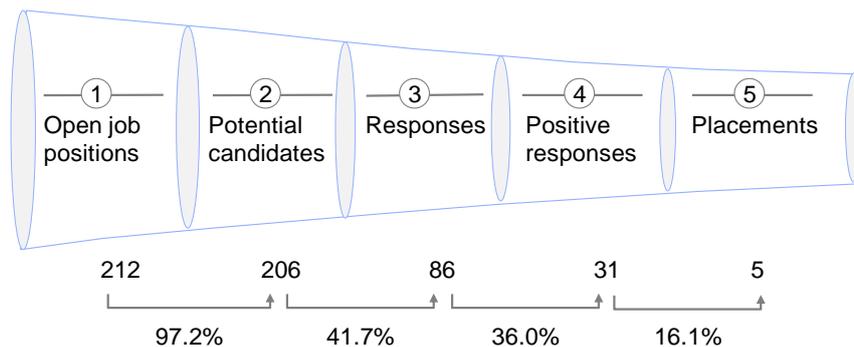

Fig. 2. Key findings from documentation

5.2 Key Findings from Interviews

Besides the quantitative results based on the documentation, we used the employees' qualitative assessment of using XING for active sourcing to obtain a broader perspective. In total, 12 employees were interviewed. Overall this assessment was predominantly positive. 6 interviewed employees were pleased or very pleased with XING as an instrument for active sourcing, not a single employee was strongly unsatisfied (2 refrained from this question). Furthermore, 83.3% of the interviewees voted for adopting XING Germany-wide as a regular, additional instrument for active sourcing, while solely 16.7% voted against. According to one interviewee "you cannot always measure the impact of XING with performance indicators [...], but I benefit from XING immensely in my daily work" (Quote of interviewee 3 further referred to as *i*3). We identified two main reasons for this satisfaction.

Improvement of Quality. 58.3% of the interviewees assessed the target of raising the quality of matching job positions and candidates via XING as exceeded or sub-

stantially exceeded. They stated that "XING supports the quality of matching processes" (*i*9). According to the interviewees, this is due to additional and more detailed information about candidates (e.g. "XING enables us to better prepare ourselves for peculiarities of contact persons, for instance using their resumes on XING" (*i*2)). Apparently this overcompensates for the partially "limited functionalities of XING" (*i*6) of search algorithms some job counselors complained about.

Reaching New Target Groups. According to the interviewees XING should be used as a targeted recruiting approach. 75.0% of them evaluate XING to be an adequate or very adequate method for reaching new target groups. In particular candidates with an academic background can be reached via XING (e.g. "XING can be particularly useful for the staffing of management positions or positions that require an academic background" (*i*6)). In addition to the level of education, adequate target groups are defined by industry and region (e.g. "The effectiveness of XING strongly depends on [...] the industry of the companies" (*i*4); "We observe regional differences that determine whether XING is useful or not" (*i*6)).

In contrast to quality, efficiency was not explicitly mentioned as an advantage of active sourcing via XING (e.g. "XING is useful to improve quality. As for efficiency, XING is rather problematic, from my point of view" (*i*9)). However, although we focused on job positions difficult to staff (i.e. job positions that could not be staffed via the traditional process), the average assessment of time consumption did not substantially differ from the traditional process. In fact, four of the interviewees assessed the time-consumption of active sourcing via XING as comparable to the traditional process; surprisingly, four assessed it to be less time-consuming while only two stated that using XING for job sourcing was more time consuming (one interviewee refrained from this question). Besides temporary IT challenges, the time it took to explore whether candidates were interested in career opportunities (otherwise job counselors were not allowed to contact them), was named the main reason for the time intensity of using XING for active sourcing. (e.g. "To find out whether a candidate is interested in career opportunities takes often quite some effort" (*i*6)). Moreover, we observed two positive, unexpected effects of XING.

Creation of Modern Branding. According to 75.0% of the interviewees, using social media for active sourcing has a high or very high relevance for branding the Federal Employment Agency as a modern service provider (one of the Agency's strategic business objectives). The perception of the Agency was described as "modern" (*i*2, *i*5), "contemporary" (*i*9), "uncomplicated" (*i*2, *i*8) and "less formal" (*i*8).

Support of Networking Activities. Furthermore, some interviewees indicated that XING could be effectively used for networking enabling them to access new contacts and information (e.g., on professional events) "in a fast, uncomplicated and less formal way" (*i*8), as well as to create a more personal and familiar relationship (e.g. "XING is a new way of connecting with others and a different emotional level to start, expand and intensify contacts" (*i*3)). As, besides the Federal Employment Agency, several other organizations, for instance labor unions or the (local) chambers of commerce, are involved in initiatives counteracting skilled worker shortage and unemployment, networking is essential for the Federal Employment Agency.

6 Discussion

6.1 Implications for Theory and Practice

To the best of our knowledge, our exploratory case study is the first to give initial insights on how active sourcing via social media helps alleviating the recent and increasingly relevant skilled worker shortage. In fact, we showed that active sourcing via XING made it possible to find and staff adequate candidates on open job positions for which the traditional process failed. We proposed a paradigmatic active sourcing process consisting of five steps. By tracking results on each step, our study is the first one to provide quantitative data on active sourcing in context of skilled worker shortage. This is especially relevant, since an unconfined comparison of the overall conversion rate with the one of traditional processes is not possible: Job positions for which active sourcing is (successfully) used are positions that could not be staffed otherwise, thus differing from regular positions in the traditional process. Therefore conversion rates are assumed to be lower in our case than for jobs in the traditional process. However, both surprisingly and counter-intuitively, we observed that the share of (positive) responses in our process was at least as high as for jobs overall reported in previous studies (cf. e.g. [53]). This indicates that social media platforms are a promising way to staff even those job positions that are hard to staff otherwise.

Second, based on our observations we did not only find that active sourcing via social media is working per se but that it also seems to provide high-quality matching of candidates and job positions due to additional and detailed information about candidates in social media. This finding is in line with practitioners' statements (e.g. [5]) and insights in e-recruiting in general (e.g. [54], [55]). Furthermore our interviews indicate that active sourcing via social media seems to be specifically suitable for job positions requiring qualified applicants with an academic background. Both our findings from interviews and our documentation results do not indicate improvements in time-efficiency compared to the traditional process: Overall, to staff one open job position, more than 40 candidates must be found and screened which certainly is a substantial effort. This finding is in line with previous theses from practitioners (cf. [5]). However, bearing in mind that we focused on job positions difficult to staff (which could not be staffed via the traditional process), an equal assessment of time-consumption as for the traditional process may be interpreted as a positive rather than a negative attribute. Furthermore we observed that the time between first contact and response by the candidates was short. Thus active sourcing via social media could help to improve time-to-hire as also observed for online-application forms [54]. Taken together, as regards to practitioners, our above findings suggest that social media should be used as a targeted recruiting process for job positions where both high-quality matching and applicants with an academic background are required, justifying the time investment. Thus it is an additional recruiting channel, not a substitute.

Third, the findings of our study indicate that using social media for recruiting can have the positive by-products of a modern and positive company branding for companies and organizations as well as a strengthening of employees' networking activities.

6.2 Limitations

Despite our contribution, there are limitations which require critical discussion and can serve as starting points for future research. First, we only conducted a single case study within a public sector organization, raising the question, whether all finding can be transferred to other organizations and companies. Nevertheless, we believe that our results are significant as the German Federal Employment Agency was selected for several reasons: First, it is substantially affected by the shortage of skilled workers. Bundling open job positions of various (private) companies allowed us to consider a critical mass of job positions in different industries. Furthermore the pilot was conducted in three different locations of Germany. Thus we may well assume that our results have certain significance and hold also true for other companies and organizations in other countries and sectors. Also this case allowed us to gain deep insights in a natural setting [41]. Second, in our analysis we focused on job positions that could not be staffed using the traditional process, making it difficult to compare the outcomes of active sourcing via XING with the traditional process. We deliberately chose this design, accepting this drawback, to evaluate the potential of active sourcing via social media in the context of skilled worker shortage, a focus which, to the best of our knowledge, has not been addressed by any previous study. Indeed, in times of an increasing shortage of skilled workers, companies and organizations are searching for innovative recruiting processes precisely for such jobs. Nevertheless, future research should also analyze active sourcing via social media for jobs in general and in comparison to the traditional process. Third, we must mention that we did not economically evaluate the benefits and costs of using social media for active sourcing although companies or organizations should not neglect that using social media is associated with costs, for instance for training recruiting specialists [56]. Thus, it is necessary to further investigate the cost efficiency of social media and determine to what extent it is worthwhile to use social media for active sourcing.

7 Conclusion

Due to a growing skilled worker shortage, ever more companies are searching for new and innovative ways to find and attract talent. Despite the increasing interest of practitioners to use social media in recruiting, there is still a lack of research on active sourcing [8], [13]. The aim of this paper was to address this gap and analyze how active sourcing via social media can help to alleviate skilled worker shortage. We conducted a case study in cooperation with the German Federal Employment Agency. Being faced with a vast number of open job positions in innumerable companies it seems a good choice for our research question. Our findings indicate that XING is a suitable approach to find candidates for open job positions for which the traditional recruiting process failed. In particular, active sourcing via social media is suitable as a targeted approach for job positions requiring high-quality matching and applicants with an academic background. Time-efficiency is rated equal to the traditional process. Our study furthermore indicates that active sourcing via social media can have positive by-products, such as the creation of a modern company brand and the

strengthening of the networking activities of its employees. With our paper, we hope to contribute to a better understanding of the emerging phenomenon of active sourcing via social media and to stimulate further research on this fascinating topic.

Acknowledgement

References

1. Weitzel, T., Eckhardt, A., Laumer, S., von Stetten, A., Maier, C., Weinert, C.: Recruiting Trends 2014. Monster Worldwide Deutschland GmbH (2014)
2. Ruiz, G.: Performance management underperforms. Workforce Management 85, 4749 (2006)
3. Shah, C., Burke, G.: Skills shortages: concepts, measurement and policy responses. Australian Bulletin of Labour 31, 44-71 (2005)
4. Dobbs, R., Lund, S., Madgavkar, A.: Talent tensions ahead. A CEO briefing. McKinsey Quarterly (2012)
5. Girard, A., Fallery, B.: e-Recruitment. From Transaction-Based Practices to Relationship-Based Approaches. In: Bondarouk, T., Huub, R., Looise, J.K. (eds.) Advanced Series in Management, pp. 143–158. Emerald Group Publishing Limited (2011)
6. Heidemann, J., Klier, M., Probst, F.: Online Social Networks. A Survey of a Global Phenomenon. Computer Networks 56, 3866–3878 (2012)
7. Brecht, F., Eckhardt, A.: Employer Branding via Social Network Sites. A Silver Bullet to Attract IT Professionals? In: ECIS Proceedings (2012)
8. Davison, H.K., Maraist, C., Bing, M.N.: Friend or Foe? The Promise and Pitfalls of Using Social Networking Sites for HR Decisions. J Bus Psychol 26, 153–159 (2011)
9. Brecht, F., Koroleva, K., Guenther, O.: Increasing Global Reach: Using Social Network Sites for Employer Branding. In: Wirtschaftsinformatik Proceedings (2011)
10. Brown, V.R., Vaughn, E.D.: The Writing on the (Facebook) Wall. The Use of Social Networking Sites in Hiring Decisions. J Bus Psychol 26, 212–225 (2011)
11. DeKay, S.: Are Business-Oriented Social Networking Web Sites Useful Resources for Locating Passive Jobseekers? Results of a Recent Study. Busin. Comm. Quart. 72, 101–105 (2008)
12. Doherty, R.: Getting social with recruitment. Strategic HR Review 9, 22 (2010)
13. Black, S.L., Johnson, A.F.: Employers' Use of Social Networking Sites in the Selection Process. Journal of Social Media in Society 1, 7–28 (2012)
14. Richter, D., Riemer, K., Vom Brocke, J.: Internet Social Networking. Stand der Forschung und Konsequenzen für Enterprise 2.0. Wirtschaftsinformatik 53, 89–103 (2011)
15. Kane, G. C., Alavi, M., Labianca, G., Borgatti, S. P.: What's Different About Social Media Networks? A Framework and Research Agenda. MIS Quarterly 38, 275–304 (2014)
16. Back, A., Gronau, N., Tochtermann, K.: Web 2.0 und Social Media in der Unternehmenspraxis. Grundlagen, Anwendungen und Methoden mit zahlreichen Fallstudien (2012)
17. Trusov, M., Bucklin, R.E., Pauwels, K.: Effects of word-of-mouth versus traditional marketing. Findings from an internet social networking site. J. of Market. 73, 90–102 (2009)

18. Kozinets, R.V., Hemetsberger, A., Schau, H. J: The wisdom of consumer crowds. Journal of Macromarketing 28, 339–354 (2008)
19. Wang, C., Zhang, P.: The Evolution of Social Commerce. The People, Management, Technology, and Information Dimensions. Comm. of the Ass. for Inf. Systems 31, 105–127 (2012)
20. Bonchi, F., Castillo, C., Gionis, A., Jaimes, A.: Social network analysis and mining for business applications. ACM Transactions of Intellig. Systems and Techn. 2, 22–37 (2011)
21. Berger, K., Klier, J., Klier, M., Richter, A.: "Who is Key…?" – Value Adding Users in Enterprise Social Networks. In: ECIS Proceedings (2014)
22. Vaezi, R., Dusya, V.: Weblog Impact on Organizational Intellectual Capital and Innovative Capabilities, In: ACIS Proceedings (2011)
23. Riding, D., Lapke, M.: Social Networking Media Usage To Increase Expatriate Employee Perceived Organizational Support And Decrease Turnover. In: SAIS Proceedings (2013)
24. Bibbo, D., Sprehe, E., Michelich, J., Eun Lee, Y.: Employing Wiki as a Collaborative Information Repository in a Media and Entertainment Company: The NBC Universal Case. In: ICIS Proceedings (2010)
25. BMELV: Umfrage zu Haltung und Ausmaß der Internetnutzung von Unternehmen zur Vorauswahl bei Personalentscheidungen des BMELV (2009)
26. Thew, D.: LinkedIn - a user's perspective. Using new channels for effective business networking. Business Information Review 25, 87–90 (2008)
27. Barrow, S., Mosley, R.: The Employer Brand. Bringing the Best of Brand Management to People at Work. John Wiley & Sons (2005)
28. Ambler, T., Barrow, S.: The Employer Brand. J of Brand Management 4, 185–206 (1996)
29. Skeels, M. M., Grudin, J.: When Social Networks Cross Boundaries. A Case Study of Workplace Use of Facebook and LinkedIn. In: ACM Proceedings (2009)
30. Backhaus, K.: An Exploration of Corporate Recruitment Descriptions on Monster.com. Journal of Business Communication 41, 115–136 (2004)
31. Kluemper, D.H., Rosen, P.A.: Future employment selection methods: evaluating social networking web sites. Journal of Managerial Psychology 24, 567–580 (2009)
32. Narisi, S.: Social networking profiles more accurate than resumes?, http://www.hrtechnews.com/social-networking-profiles-more-accurate-than-resumes/ (Accessed 21.01.2010) (2009)
33. Madera, J.M., Chang, W.: Using Social Network Sites to Investigate Employees in the Hospitality Industry. In: International CHRIE Conference Proceedings (2011)
34. Zeidner, R.: How deep can you probe? HR Magazine 52, 57–62 (2007)
35. Ågerfalk, P.J.: Embracing diversity through mixed methods research. European Journal of Information Systems 22, 251–256 (2013)
36. Mingers, J.: The paucity of multimethod research. A review of the information systems literature. Information Systems Journal 13, 223–249 (2003)
37. Creswell, J.W., Clark, P., Vicki, L.: Designing and conducting mixed methods research. Sage Publications (2011)
38. Venkatesh, V., Brown, S.A., Bala, H.: Bridging the Qualitative-Quantitative Divide: Guidelines for Conducting Mixed Methods Research in Information Systems. MIS Quarterly 37, 21–54 (2013)
39. Yin, R.K.: Case Study Research, Design and Methods. Sage Publications (2009)
40. Roethlisberger, F.J.: The Elusive Phenomena. Harvard Business School, Division of Research (1977)
41. Benbasat, I., Goldstein, D.K., Mead, M.: The Case Research Strategy in Studies of Information Systems. MIS Quarterly 11, 369–385 (1987)

42. Dubé, L., Paré, G.: Rigor in Information Systems Positivist Case Research: Current Practices, Trends, and Recommendations. MIS Quarterly 27, 597–636 (2003)
43. Eisenhardt, K.M.: Building Theories from Case Study Research. The Academy of Management Review 14, 532–550 (1989)
44. Patton, M.Q.: Enhancing the Quality and Credibility of Qualitative Analysis. Health Services Research 34, 1189–1208 (1999)
45. Bryman, A., Bell, E.: Business research methods. Oxford University Press (2011)
46. Holm, K. (ed.): Die Gültigkeit sozialwiss. Messen. Francke, München (1974)
47. Lehmann, D.R., Gupta, S., Steckel, J.H.: Marketing research. Addison-Wesley (1998)
48. Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriaine, K., Kyngäs, H.: Qualitative Content Analysis: A Focus on Trustworthiness. SAGE Open 4, 1–10 (2014)
49. Schreier, M.: Qualitative content analysis in practice. Sage Publications (2012)
50. Krippendorff, K.: Content Analysis. An Introduction to Its Methodology. Sage Publications (2004)
51. Hayes, A.F., Krippendorff, K.: Answering the call for a standard reliability measure for coding data. Communication Methods and Measures 1, 77–89 (2007)
52. Regmi, K., Naidoo, J., Pilkington, P.: Understanding the Processes of Translation and Transliteration in Qualitative Research. Intern. J. of Qualitative Methods 9, 16–26 (2010)
53. ICR: Recruiting Report 2013, http://www.competitiverecruiting.de/RecruitingReport2013QuoVadisRecruitment.html (Accessed 14.07.2014) (2013)
54. Laumer, S., Eckhardt, A., Weitzel, T.: Status Quo and Trends in E-Recruiting. Results from an Empirical Analysis. In: CONF-IRM 2009 Proceedings (2009)
55. Von Stetten, A., Laumer, S., Eckhardt, A., Keim, T.: Does IT matter in Recruiting. Eine Länderübergreifende Kausalanalyse. Wirtschaftinformatik Proceedings, 307–318 (2009)
56. Eckhardt, A., Laumer, S., Maier, C., Weitzel, T.: The transformation of people, processes, and IT in e-recruiting: Insights from an eight-year case study of a German media corporation. Employee Relations 36, 415–431 (2014)