

THE NEED OF DIGITIZATION IN HR THROUGH DEMOGRAPHIC CHANGES AND TECHNOLOGICAL INVENTIONS – ADVICE FOR EMPLOYERS

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Abstract: A comparative presentation is made of the current employment situation on the German and American labor markets. In particular, the potential of the use of social networks and social media for the hiring process is presented in theory and practice. The perspective of the applicants, which is determined and analysed by a questionnaire, is used to generate recommendations for action for German companies for social media recruiting. The aim of these recommendations for action is to optimize social media recruiting based on scientific findings while simultaneously reducing costs and increasing the number of applicants.

Keywords: Application, E-Recruiting, Networking, Social Media.

Introduction

In the past, companies could publish job offers in print media and wait to receive numerous applications. Due to changes in the labor market and in the behavior of different generations of applicants, it is essential that companies become more active in carrying out their recruitment measures. In the next few years, baby boomers will be drawing statutory old-age pensions and will no longer be available to the labor market. Due to the high employment rate in Germany and the USA, there are few skilled workers available on the labor market. These circumstances make it difficult for companies to find qualified successors on the labor market and to cover their personnel requirements.

Posting a job opening and then waiting for qualified applications is called post and pray, while contacting active as well as passive applicants directly is called active sourcing. In contrast to active sourcing, social sourcing does not directly contact qualified passive candidates. Instead, recommendations from friends and acquaintances are used to reach the passively searching candidate.

The shortage of skilled workers in various industries is an indicator that the use of social networks and social media in recruiting will increase in Germany in the future. In 2015, there was already a shortage of 39,000 skilled workers in the information and communications technology sector in Germany¹. The use of social media supports companies in this area in establishing contact with job applicants and creating a positive corporate

image². The more the shortage of skilled workers progresses, the less selective companies will be in their use of media and every option for establishing contact will be used. To find out how the use of social networking and media platforms can be optimized, the application process was screened and analyzed from the perspective of the applicant.

Research methodology

What criteria are particularly important to applicants when dealing with social networks and social media in the application process, so that they apply to a company or, if their application is unsuccessful, reapply to a company? Due to the intended large sample, which should represent a cross-section of society, the high significance of the survey results and the resource-saving use, a survey by means of a questionnaire, which is distributed and answered via a survey platform, was preferred to the other research methods. In order to create a meaningful questionnaire, the following steps have to be carried out, documented, and checked, sometimes several times: Deciding on the theory or part of it, formulating questions and answer specifications, determining answer options, analyzing the fit between questions and answer options, and analyzing the entire questionnaire [1]. For the questionnaire to investigate the experiences of applicants with social networking and media platforms (EASNMP), criteria were first established on the basis of the theoretical foundations, the significance of which can be tested for the applicants, and the hypotheses are to be confirmed or rejected on the basis of this feedback. In order to be able to prove or disprove hypotheses, it is necessary to make the assumptions and statements contained therein measurable [2]. A seven-point Likert scale is used to measure the different degrees to which a characteristic is expressed. Negative answer scales were omitted except for one question, as respondents might tend to avoid answers in the negative scale range. The questionnaire contains response options with frequency, intensity, or probability scales³.

A sample of a total of 201 employees aged 18 to 67 in Germany were surveyed without considering a regional distribution by population. The target group was defined as 50 % male and 50 % female respondents. From the item pool, 46 items were selected that adequately describe the theoretical construct. If items contain the relevant aspects of the theoretical construct, this is referred to as content validity [3].

The evaluation was carried out using descriptive statistics, among others. These statistics reflect the characteristics of the sample. Inferential statistics are used to draw conclusions about the population based on the results of the sample; error ranges are considered [4]. SPSS offers the option

of calculating standard errors, which is a measure of the dispersion of the mean values of the samples around the mean values of the population⁴.

Results

Germany, for example, had an unemployment rate of 3.2 % in December 2019 (see fig. 1). This unemployment rate was the second lowest in the EU. The U.S. had a comparable unemployment rate of 3.5 %. In the USA, as well, few qualified specialists are available on the labor market, which is why the high demand for qualified personnel cannot be met.

Ausgewählte Erwerbslosenquoten, Dezember 2019

Werte für Griechenland und Vereinigtes Königreich: Oktober 2019, saisonbereinigt in %

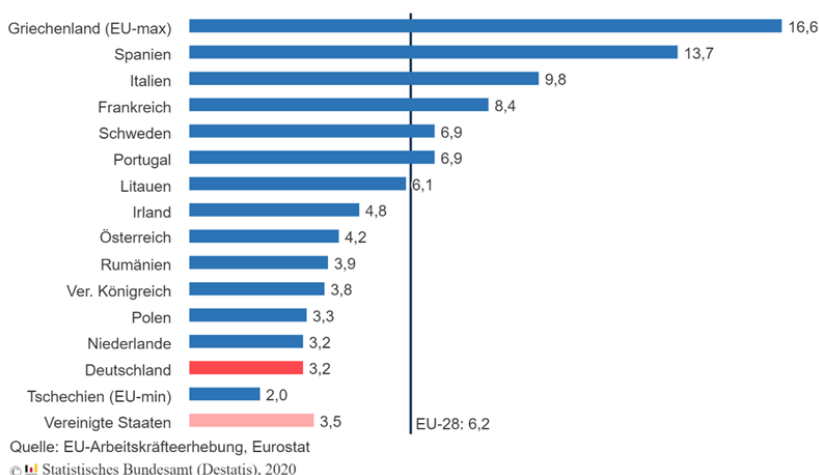


Figure 1: Unemployment rate December 2019⁵

The ANOVA table presents the linear relationship between satisfaction in general with the current employment situation or the current job (see table 1). With a squared linearity of 90.756, there is a very strong relationship between the independent variable of satisfaction and the dependent variable of desire to change jobs. This means that the desire to change increases linearly in proportion to the increase in dissatisfaction. The probability that an employee who is dissatisfied with his or her current employment situation wants to switch or can be enticed away is very high.

Table 1: ANOVA test – Correlation between dissatisfaction and desire to switch

ANOVA-Tabelle			Quadratsumme
Wie zufrieden sind Sie im Allgemeinen mit Ihrer aktuellen Arbeitsstelle/ Beschäftigungssituation? (Bitte wählen Sie eine Antwort auf der Skala). * Wie wahrscheinlich ist es, dass Sie sich innerhalb der nächsten 12 Monate beruflich verändern wollen? (Bitte wählen Sie eine Antwort auf der Skala).	Zwischen den Gruppen	(Kombiniert)	100,180
		Linearität	90,756
		Abweichung von der Linearität	9,424
	Innerhalb der Gruppen		380,069
	Insgesamt		480,249

58.7 % indicated that they would be willing to change companies if terms and conditions were better; the better terms and conditions can be identified as a strong reason as well. In contrast to the very strong linear relationship between dissatisfaction and the desire to switch (see table 1), the linear relationship between satisfaction with the employment situation and the desire to switch in the case of better conditions being granted by a new company (see table 2) is less strong at 23.007, but still significant.

Table 2: ANOVA TEST – Correlation between dissatisfaction and better conditions

ANOVA-Tabelle			Quadratsumme
Wie zufrieden sind Sie im Allgemeinen mit Ihrer aktuellen Arbeitsstelle/ Beschäftigungssituation? (Bitte wählen Sie eine Antwort auf der Skala). * Viele Beschäftigte sind bei besseren Konditionen (z.B. höheres Gehalt, mehr Freizeit) zu einem Wechsel bereit. Wie wahrscheinlich würden Sie unter diesen Umständen wechseln? (Bitte wählen Sie eine Antwort auf der Skala).	Zwischen den Gruppen	(Kombiniert)	45,512
		Linearität	23,007
		Abweichung von der Linearität	22,505
	Innerhalb der Gruppen		434,737
	Insgesamt		480,249

In the German-language questionnaire, no participant indicated using social media for more than ten hours a day. The average daily usage time of all respondents in the German-language questionnaire is two hours. In the English-language questionnaire, no respondent reported using social media more than 16 hours per day. The average daily usage time of all respondents to the English-language questionnaire is nine hours. The low usage figures of applications via social networks and media, the basic willingness to use them and the daily usage time for professional and private purposes indicate the potential of social networks and media.

To investigate the potential of social networks for placing job advertisements, a question asked which social networks had been used privately and/or professionally in the last 6 months. It is irrelevant whether the respondents would have noticed a job advertisement in the social networks in a professional or private context. 9.0 % of respondents do not use any of the specified social networks. The professional social networks LinkedIn and Xing are roughly on a par with 18.9 % and 16.9 %, respectively. The high usage rate of Facebook at 70.1 % and Instagram at 54.7 % illustrates their dominance and the potential for success for companies when Facebook and Instagram are used. Not to be neglected, however, are Google+ with 24.4 %, Pinterest with 21.9 %, Snapchat with 25.4%, and Twitter with 20.9 % (see fig. 2).

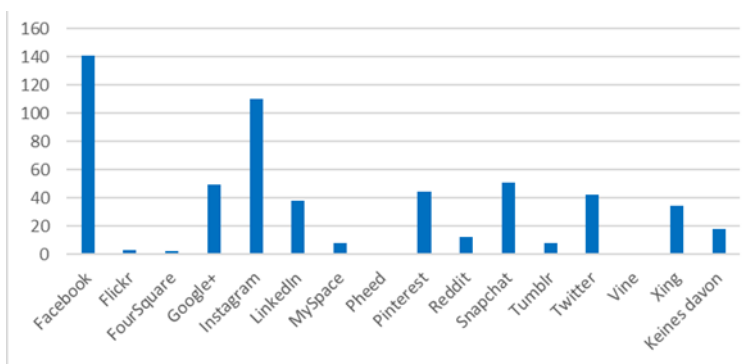


Figure 2: Private and/or professional use of social networks in the last 6 months

Although a large proportion of respondents in Germany last applied a few years ago, 70.9 % of respondents stated that they do not use or have not used social media for job applications. 84.0 % of respondents in the U.S. have applied within the last ten years, but only 49.3 % currently use or have used social media for the application process. Accordingly, 50.7 % of respondents indicated that they do not use or have not used social media for

the application process. 38,0 % of respondents in Germany stated that social media should be used more for application processes, 62.1 % were against. 45.2 % of respondents from the U.S. thought that social media should be used more often in the application process, 54.8 % were against it. Although 36.3 % of respondents in Germany, they last applied for a job in a short-term period of 0 to less than 2 years and 20.9 % in a short- to medium-term period of 2 to less than 4 years, and the alternatives and technical requirements for applications via social networks and social media are in place, the opportunities are not being fully exploited. 43.8 % of respondents indicate that it is likely that they would apply for a job offer in print media. 21.4 % of respondents indicated that they were neither likely nor unlikely to apply for a job opportunity in print media. 34.8 % of respondents have indicated that they would not be likely to apply for a job offer in the print media. The average number of applications is 12.17, the number of applications varies between 0 and 300. It is not possible to check the accuracy of the data. Differences in the number of applications submitted may be due to the industry, profession, or position of the employee. Respondents received invitations to an interview for 35.7 % of the applications. The information in the responses is subjective and dependent on the memory or estimation accuracy of the respondents.

Visual communication is becoming increasingly important in the context of digitization. For example, communication on social media platforms such as Facebook, Instagram and YouTube take place almost exclusively by means of visual and video language [5]. The social media platforms originally used privately or for advertising purposes can increasingly also be used by companies to attract and retain advertisers. In this context, consumer responses are summarized as "consumers' online brand-related activities (COBRAs)"⁶. The term COBRA can not only be used for consumers, but can also be applied to candidates who view, comment on, or actively share posts or write their own posts⁷. Social media are intended to increase the success of HR marketing in the long term by improving employer branding and enhancing the company's image⁸. The social media contributions used for employer branding generally do not incur any additional costs, and PR consultants or marketing agencies do not need to be hired. Employer branding is not the company's main goal, but the starting point for optimizing job offers and the regular use of social media⁹. The measures of employer branding are intended to support the strategic corporate goals. 17.9 % of the respondents do not consider it important to get to know the future employees in the company to be able to perceive a positive working atmosphere, for 26.9 % of the respondents getting to know future colleagues and the working atmosphere in advance is neither important nor unimportant. 55.2 % of the respondents would like

to get to know the employees in the company in advance to perceive whether the company promotes a positive working atmosphere.

9,0 % of respondents answered that positive communication behavior of the company is not important to them, for 21.4 % of respondents it is neither important nor unimportant, and 69.7 % of respondents would like to see positive communication behavior of the company, including feedback, transparency, friendliness, individual responses, etc (see fig. 3). The Likert scaling goes from 0 – no to 3 – neither to 6 – yes. A positive reputation of the company cannot be achieved in the short term but can only be achieved in the long term through skillful personnel marketing. To achieve this, the company must use appreciative communication to establish contacts in social media, be open to suggestions and criticism, and publish credible posts.

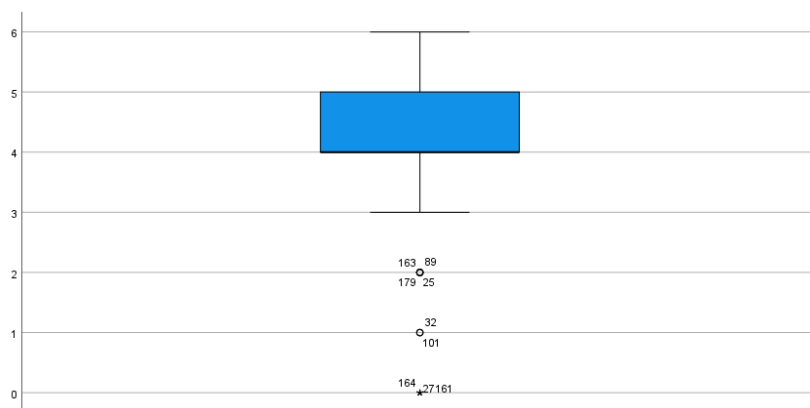


Figure 3: Boxplot diagram on the importance of appreciative communication

The aim of employer branding is not to fill a current vacancy, but to increase the number of applications [6]. 18.4 % of respondents do not care about the company's image, 27.4 % of respondents neither do, and 54.2 % of respondents do care about the company's image. For 24.2 % of respondents, it is not important whether the company they want to apply to is present on the Internet. 19.4 % of respondents neither confirmed nor denied this question and for 56.2 % of respondents it is important that the company is present on the Internet.

26.9 % of respondents do not wish to be directly approached by, for example, headhunters in social professional networks such as Xing or LinkedIn, 28.4 % of respondents are neither positive nor negative about a direct approach, and 44.8 % of respondents would like to be directly approached in professional social networks. From this response, it can be

deduced that companies must become more active in professional social networks (active sourcing), for example by hiring headhunters. The extent to which e-recruitment is used can vary depending on the needs of the company in question. E-recruitment offers the possibility of storing applicant data in compliance with data protection regulations, and e-recruitment also represents a communication medium between companies and applicants and reveals standardized solutions as a computer program or app based on the algorithms stored [7]. WhatsApp is becoming increasingly important as a communication medium. For this reason, it is beneficial to integrate WhatsApp into recruiting measures. Forwarding job offers in WhatsApp or the group chat function are optimal elements for companies in the recruiting process¹⁰.

Due to the Covid 19 pandemic, on-site interviews were not possible in some cases due to high incidence and contact restrictions. Companies have had to offer alternatives at short notice (see fig. 4).

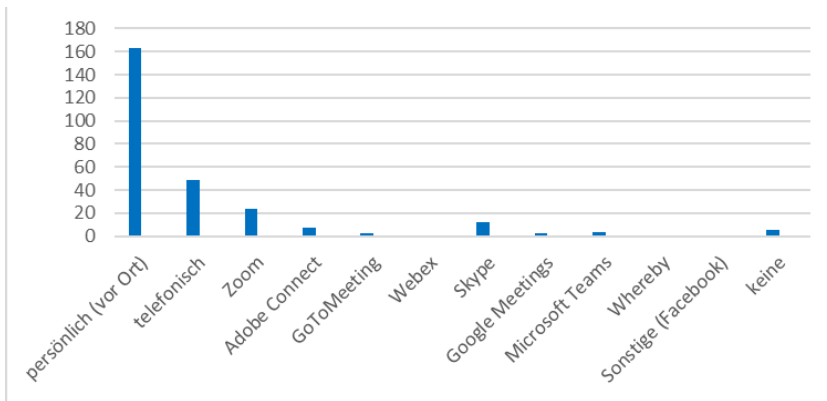


Figure 4: How has the interview been conducted?

According to their own statements, 34.3 % of respondents were unable to use social networks and media adequately. In contrast, 29.4 % of HR administrators were unable to use them. 31.3 % of respondents and 28.9 % of HR administrators were neither able to operate the social networks and media according to the respondents. 34.3 % of respondents and 41.8 % of HR administrators were able to operate the social networks and media. 22.4 % of respondents do not care about technical barriers or challenges, 34.8 % of respondents neither care nor do not care about technical challenges, and 42.8 % of respondents care about technical challenges. It is extremely important that the contact person can often not be found in the social networks and media or can only be found after a lengthy search. This

was criticized by 31.8 % of respondents. Too large attachments also cause difficulties for 25.9 % of respondents. Merging several PDF documents into one file was difficult for 27.4 % of respondents. 30.8 % of respondents stated that none of the technical difficulties mentioned applied to them, with 1.5 % stating other difficulties. This indicates the need for companies to make application processes technically simpler.

Conclusions/discussion

It can be confirmed that there is a correlation between an employee's dissatisfaction with the current employment situation and the desire for a career change. There is also a correlation between satisfaction with the current employment situation and the lack of desire to make a career change. There is also a correlation between being offered better conditions when changing jobs and the desire to change careers. Based on the responses to the questionnaire, the hypothesis that applications for a job offer in a print medium ("Post and Pray") are now only submitted by applicants in exceptional cases could not be confirmed. Respondents regularly consider applying for job offers in print media. However, respondents also apply equally intensively via social network and media platforms. The fact that applicants want to find out about the company and working atmosphere and that a company website with a career page or videos of the employees are suitable for this purpose was confirmed. For this reason, a multi-channel mix is recommended. The multi-channel mix makes it possible to reach applicants who use a wide variety of application forms.

Digitization and technological change offer companies numerous opportunities to improve recruitment processes and successfully counter the shortage of personnel. The following recommendations for action can be derived from the questionnaire. More active sourcing in professional social networks (e. g. Xing or LinkedIn) generates an increased number of applicants. The career website must be made more attractive and clearer, this increases the cost-benefit ratio of the career website. The use of private social media and networks has a very large potential, this is where employers can start and plan and implement communication measures depending on their company size or industry. Feedback on all applications is quick and easy via social networks and media, this opportunity should be used. HR professionals need to practice using social networks and media so that no weaknesses in handling are apparent. A positive working atmosphere is important to many applicants, so companies should take advantage of this opportunity to increase their own attractiveness. Communication behavior toward applicants is very important, and companies should aim to optimize it. Since some applicants refuse to use

social media, print media can also continue to be used for job offers; a multi-channel mix makes sense to increase the range of applicants. Private social networks can be used more widely, especially for small companies it is advisable to show presence. The own employees can be asked to share the posts to increase the sender and recipient circle.

Conclusion

In further research, due to the rapid changes and innovations regarding social media, the same questionnaire could be used again in five years to illustrate the change in applicants' attitude towards applications using social networks and media. Thus, a progression could be presented to see if there is an increase in the number of applicants who have used social networks and media for the application process within five years. The attitudes of the respondents may change. The empirical results of the questionnaire showed that the use of social media for professional and private purposes in the application process in Germany will possibly increase further in the next few years once applicants have become familiar with their use. Since the use of social media for the application process is a recent phenomenon, it was not possible to compare the research results with the technical development of several decades. For future research, however, a comparison of social media trends and common social media in the application process would be interesting.

46 items were included in the questionnaire, making it very comprehensive and meaningful. This enabled numerous conclusions to be drawn for the generation of recommendations for action for companies.

Notes

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About the author

Elisabeth Dewaldt has finished her avocational B.A. study in Business Administration in 2018 and her excellent M.A. study in Business and Law – Management in 2020 at Diploma Private Fachhochschule Nordhessen (Germany) while working full time for Allianz life insurance in Germany. The title of her master's thesis was ‘#Application – A Comparison of the Use of Social Media in the Application Process in Germany and the USA’. Now she is enrolled in the State University of Library Studies and Information Technologies in Sofia, Bulgaria as PhD student in Business Administrative – Social Communications and Information Sciences. The focus of her research is on the digitization of HR through the use of social media in the application and hiring process.

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