

DATA ANALYSIS FROM THE APPLICANT TRACKING SYSTEM**Miroslava Peicheva¹**¹ Professor Dr., Department “Human resources and social protection”, UNWE, Sofia.*E-mail:* mpeicheva@unwe.bg

ABSTRACT

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According to the results from research (Rodriguez, 2022), 90% of Fortune 500 companies use Applicant Tracking Software. It is obvious that ATS is here to stay.

The main purpose of this article is to analyze the types of data that applicant tracking systems (ATS) provide and how these data serve to make informed decisions. The tasks through which the goal will be achieved are: analysis of the essence of systems for tracking applicants for a vacant position, analysis of the main functions of ATS (using the example of BambooHR), analysis of the data that ATS provides, analysis of advantages, benefits from the use of ATS and the data they provide. Some of the key conclusions are that ATS reduces human effort and frees up recruiters' time to perform in-depth data analysis and make informed decisions; ATS will change how candidates prepare the content of their resumes.

Limitations of the present article: only some data that are present in the ATS reports will be analyzed. The article does not aim to analyze the debate on the difference between data and information.

Keywords: *data analysis, the applicant tracking system, resume parsing, yield ratio, offer acceptance rate*

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INTRODUCTION

According to the results from research (Rodriguez, J., 2022), 90% of Fortune 500 companies use Applicant Tracking Software. The applicant tracking system is gaining more and more popularity in the practice of attracting and selecting personnel because it greatly facilitates this process. The applicant tracking system uses automated intelligence to screen for the best, most qualified candidates, thanks to which the process of attracting candidates for the vacant position is streamlined. Results from research (Kolomic, V.) show that "manual" candidate screening takes 23 hours, while automated candidate screening will take an estimated 1 hour. The data from the cited research indicates that the "manual" publication of the advertising of the vacancy takes about 1.5 hours, while the automated one takes 15 minutes. And more, „A massive 46% of candidates lose interest in a role if they don't hear back from the employer within one to two weeks“ (Mizzi, 2022).

Years ago, the process of sifting through documents took up a significant portion of recruiters' time. Applicants' documents were divided into "stacks" which were checked either by the "four eyes" principle or independently, respectively by an officer/s responsible for the selection activity. Often, hundreds of candidates applied for the advertised vacancy, which the recruiters sifted through "by hand" and subsequently with Excel. In the spreadsheet developed in Excel, the names of the candidates who applied for the vacant position, contact information of the candidates (e-mail address and telephone), the results of the evaluation of the candidates' documents, the date of the scheduled interview with the candidates for a vacant position. This way of sifting through documents can be clunky, time-consuming, and error-prone, making data analysis difficult.

This gradually necessitated the use of applicant tracking systems in the practice of the recruitment process. ATS is evidence that as Lyubomir Stefanov says, "There is also a serious development in the field of software used in human resources management information systems, including mass use of cloud systems, software and architecture as services, self-service of employees, mobile applications and components of artificial intelligence." (Stefanov, 2021, p. 22)

That is why, the main objective of this article is to analyze the types of data that applicant tracking systems provide, which data serve to make reasoned decisions. The tasks through which the goal will be achieved are: analysis of the nature of the applicant tracking systems for a vacant position; analysis of the main functions of the applicant tracking systems (on the example of BambooHR); analysis of the data that the applicant tracking systems provide; an

analysis of the advantages and benefits of using job applicant tracking systems and the data they provide.

Analysis of definitions for ATS

According to Henderson's definition „An ATS is a computer software program that manages the hiring process. It does this by collecting and sorting thousands of resumes.“ (Henderson, 2022).

Another definition states that „An applicant tracking system (ATS) is software that manages the recruiting and hiring process, including job postings and job applications. It organizes information about job seekers and makes it searchable. As its name implies, an ATS tracks candidates through the hiring process. It helps with interview scheduling, issues notifications, and alerts, and sends automated emails to candidates and employees, such as recruiters and hiring managers.“ „But these systems are far more than organizers. An ATS is also used to cull applicants and recommend the top candidates. It may conduct a preliminary analysis of the applicants to find the best fits for a job. It may also look for keywords or use AI-type algorithms that run a deeper analysis of the job applicant. The goal is to speed HR's review of job applications and resumes.“ (St-Jean, 2022).

Based on the presented definitions, it can be concluded that ATS is a software that allows electronic to collect, analysis, and sorting of resumes of applicants for a vacant position, which leads to streamlining the process and providing opportunities for analysis and monitoring of data for making informed decisions related to the recruitment and selection process.

Basic elements of ATS

Typically, the main elements of an ATS are: a job description, which provides information about the job title, desired skills, and work experience; online advertising of the vacant position; automatic submission of resumes; resume parsing; identifying the most qualified candidates; scheduling interviews; notifications to applicants; letter - a job offer that is sent to the most suitable candidate. The process-related reports are among the main elements that the ATS provides.

A good example of an ATS is BambooHR. BambooHR is an HR software that includes an applicant tracking system. The software is extremely user-friendly. Vacancy information and everything related to the recruitment and selection process are visible to all employees responsible for the process.

Against the information about the name of the vacant position (the open position Job opening), the number of candidates who have submitted documents can easily be seen. When selecting the vacant position, information about the job description is visible, as well as about the candidate(s) who have submitted documents for it. For each candidate, the CV and cover letter can be viewed. Structured questions that are asked during a job interview for the specific position can also be found here. More information that can be found here is the information about desired from the candidate remuneration, the date from which the candidate can start work, phone number, email address, and source (where the candidate applied from). In this part of the software, there is information called "Talent pools". By selecting "Talent Pools" one can see if the candidate is present in this database and what their level of competencies and experience is compared to the desired, as well as in what field they are talented. This part of the software also has notes that can be left by anyone involved in the process. For example, the recruiter may leave notes if they have sent a letter to the candidate for a telephone interview. For each candidate, the entire history of communication with him, notes about him, who, and when entered into "Talent pools" (if he or she is there) can be seen. For each applicant, there is information about the last conversation with them and their status (for example, a new applicant or revised documents). The convenience here is that windows can be seen in full screen for: candidate information, job title, candidate status, candidate rating (how close or far from the desired level of competencies is), what was the last email that was sent from the company. Additional information can be obtained by selecting each of the windows.

ATS, as well as the BambooHR software that contains ATS, provides rich reports. These selection process reports include data related to: selection rate; the sources from which the most candidates applied; sources from which candidates who are closest to ideal candidates applied (candidate star rating); turnover of new hires within a year; reasons for turnover up to 1 year; the length of time the position has been vacant; the number of hours that were required for the entire selection process from the opening of the position to the acceptance of the offer by the candidate; the evaluation of the work performance of the new hires; the satisfaction of the direct supervisor of the newly appointed employee; offer acceptance rate (OAR) and related reasons for offer acceptance and reasons for offer rejection; yield ratio and others related to the selection process.

The analysis of data obtained from the selection ratio (in the numerator is the number of employees, in the denominator is the number of applicants) shows that the more candidates organization has, the more opportunities the organization has to find talent. According to

Monica Mizzi, a good score is closest to zero. (Mizzi, 2022). I believe that the effort to attract more candidates should be consistent with specifying "suitable" candidates. Only then will the organization be able to find talent. Otherwise, if the organization seeks to attract more candidates, regardless of whether they meet the specified requirements for the vacancy, there is a risk of extending the selection time.

Data analysis related to the sources from which most candidates have applied, as well as data analysis of the sources from which the candidates are closest to the ideal candidates (applicant star rating), provide an opportunity to make informed decisions related to the most appropriate places (social networks, mediation sites between employers and job seekers) where the company should be actively present. These can be LinkedIn, Indeed, Job Tiger, and others).

The turnover data available to BambooHR can be found in the reports. The data are for: total and differentiated turnover; the length of time that the employee worked for the organization; the type of termination of employment (at the employee's will and not at his will); the reasons for termination of the employment relationship; the age of the leavers; gender; structural unit; a position they held. These data are also relevant to the analysis. For example, if data shows that recruits who have been included in talent pools are leaving within 1 year of being hired, an analysis of the recruitment and selection process should be done. As well as have to check if the psychological contract has been fulfilled should be done.

Data related to the time the position has been vacant are also present in the ATS reports. Analysis of this data shows the attractiveness of both the organization and the vacant position. The results from the analysis will serve to make informed decisions related. For example, if the results show that the reputation of the organization is bad it could be necessary to be undertaken activities for increasing the good reputation of the organization.

Another type of data contained in the ATS reports is related to the number of hours that were required for the entire selection process from opening the position to the acceptance of the offer by the candidate. The analysis of this data shows how many total hours the process took, from advertising the vacancy to hiring an employee. Analysis of these data also shows how much time each employee responsible for the selection process has spent. The analysis of these data can be done for different vacancies and for different participants in the process. Based on the results, decisions can be made to optimize the recruitment process.

The analysis of the data related to the evaluation of the performance appraisal of the newcomer shows the usefulness of the methods of personnel selection. Of course, here there is also a need for additional analysis related to the management competencies of the immediate

supervisor, as well as to the working relationships in the team. Sometimes, the personnel selection methods are successful, but the newcomer cannot show his professional qualities, due to insufficient professional competence of the immediate supervisor and/or a toxic work environment.

The analysis of data related to the satisfaction of the immediate supervisor with the work performance of the newly appointed employee is also an indicator of the usefulness of the methods used for personnel selection. The results of the analysis may lead to the rejection of some methods, the improvement of others, and/or the introduction of new ones.

Other data are related to offers accepted ratings (OAR). This is an indicator that is calculated in percentages. The numerator is the number of offers accepted and the denominator is the number of offers made (even verbally made). Usually, this indicator is related to offers made to external candidates. The analysis of this data is related to the analysis of the reasons for accepting an offer, as well as the reasons for rejecting an offer. The analysis of this data will serve to make decisions to change the content of the offers made. For example, if the results of the analysis show that offers are rejected due to inadequate remuneration and/or bonuses and others, then actions related to the analysis of the market levels of labor remuneration (nationally and internationally, depending on the position) follow, as and of bonus systems. A score of 90% is considered a good offer acceptance rate. „An acceptance rate above 90% indicates that there is a good fit between a company’s requirements and candidates’ expectations“. (Mizzi, 2022).

Other data related to the indicator Yield ratios. According to SHRM “Yield ratios are metrics used in recruiting which measure what percentage of applicants moves from one stage to another in the hiring process. They are used to measure the success of various recruiting methods and strategies.” (SHRM). This indicator is calculated as a percentage. The numerator is the number of candidates who have successfully passed stage 'n' of the selection process and the denominator is the number of all candidates who have reached stage 'n' of the recruitment and selection process.

The analysis of this data can use to make informed decisions related to the development of new methods of personnel selection, as well as to consolidate successful methods of personnel selection and/or reject unsuccessful ones. This indicator could be used in cases where organizations choose "...the approach of sequential screening through obstacles, the group of candidates gradually decreases after the application of the relevant evaluation method." (Atanasova, 2015, p. 87)

The analysis that has been made also confirms the conclusion of Katya Antonova and Pavlina Ivanova regarding the technologies used in human resources management "They help HR specialists make smarter decisions, do more work with less effort and shift their focus from routine tasks to take a more strategic role in the business with the help of innovation, enabling them to focus on higher added value in their work. That is why technologies and artificial intelligence are becoming key elements of HRM practices." (Antonova and Ivanova, 2021, p. 67)

RESULTS AND CONCLUSIONS

Based on the analysis, several conclusions can be drawn regarding the advantages of ATS over "manual" recruiting, the benefits of using ATS, and the consequences of using them.

The advantages of ATS over the "manual" implementation of the process of attracting and selecting candidates for a vacant position.

The main advantages of ATS over the "manual" implementation of the process of attracting and selecting candidates for a vacant position are related to: the process of attracting and selecting personnel is done online and in a team; cooperation with candidates as well as communication between team members is facilitated; the open position, as well as all activities related to it, are visible to everyone who is responsible for the process; each participant in the selection process can see his tasks, as well as corrections of the tasks when it is necessary; opportunities are provided to send messages to candidates and/or persons responsible for the selection process without leaving the software used for the selection process; all the necessary information for the selection process is concentrated in one place, which allows quick and easy orientation in the process; reports are generated that contain data and provide an opportunity for analysis that will be used to make informed decisions; the advertising of the vacancy is published once and automatically appears on the various social networks; candidates are automatically screened; for each position, there are structured questions that are visible to all participants in the process.

The main benefits of implementing ATS are:

- ✓ Human efforts related to checking the documents of the applicants are reduced;
- ✓ Reduce the risks of discrimination against candidates for a vacant position;
- ✓ Although ATS is not specifically designed for people with special needs, it provides an opportunity for disadvantaged recruiters to work remotely, which is proof of Radka

Nacheva's claim, „Due to the rapid development of modern technology, people with special needs have possibilities for equal access to their working environment“ (Nacheva, 2021, p. 76).

- ✓ Reduction of manual processes;
- ✓ Time for technical activity is reduced to free up more time for analysis;
- ✓ It is easier for applicants to fill out documents because some ATSs use chatbots that help applicants and indicate if applicants have omitted to write required information;
- ✓ Encourage passive candidates to submit documents (when Candidate Relationship Management (CRM) Systems are also used);
- ✓ Using an ATS provides the ability to post and manage job vacancies on internal and external career sites and multiple job sites, such as Indeed and Monster, and on social media sites such as LinkedIn and Twitter;
- ✓ ATS can set up automatic responses that are related to a reminder of an upcoming interview date (the reminder is for both interviewers and job applicants); send candidates announcements for new vacant positions; send an automatic reply to the failed candidates;
- ✓ ATS provides rich reports concentrated in one place that enables data analysis and informed decision-making. At the same time, depending on the ATS used, the data collected in the reports can be enriched depending on the interests of those using the ATS.

Of course, ATS has other benefits, but the main conclusion that can be drawn is that the benefits of using ATS will manifest themselves and be greater the more competent the creators of ATS are in areas related to: the process of recruitment, selection, data analysis, and programming. In addition, a basic requirement for the recruitment and selection process to be objective, when using ATS, it is necessary for the creators of ATS to be socially responsible.

Consequences of using ATS

Based on the analysis, we can conclude that the consequences of using ATS will affect both job applicants and recruiters.

Job applicants will most likely change their approach to preparing their resumes. Certainly, they will pay more attention than ever to specific words in their resumes, given the fact that ATS uses artificial intelligence to screen resumes. Moreover, they will look for opportunities to pre-test their resumes on platforms (such as are already available) that contain ATS to ensure that their resumes will not be rejected.

For recruiters, the consequences of using an ATS are that their manual work is reduced, technical work is reduced, and attention is directed more toward analyzing data for predictive analytics.

Expectations are that in the future, the process of improving ATS will continue, working towards simplifying the process of recruitment and selection of personnel, respectively, simplifying the work of specialists in recruitment and selection of personnel, and focusing their efforts on data analysis and making informed decisions. And here the conclusion for ATS is the same as for remote work. The ATS is here to stay.

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