

E-Employment and Human Resource Management

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Svetlana Mitrović, M.A.

This paper deals with electronic employment. Possibilities of e-recruitment and the use of online social networking websites and business-oriented social sites in employment, are analyzed and presented. The model of e-employment, also shown in this paper, is an attempt to find new, more efficient ways in the search for, selection and recruitment of human resources using information technologies and communication networks. The model of e-employment is based on the concepts of e-business and human resource management methods. The proposed model is adapted to conditions of employment in Serbia.

1. Introduction

Human potentials are resources whose knowledge, skills, competencies and experience, along with the implementation of new technologies and permanent training, are capable of responding to market changes and enhancing the organizational performance in achieving organizational objectives.

The use of the Internet in human resources recruitment in the developed countries is dominant, with a tendency to replace traditional methods.

The job announcements and the profiles of job seekers are much more easily and promptly accessible on virtual job markets or on-line social networking websites.

For the purpose of adjusting to frequent changes, the job market requires that the unemployed as well as the employed seeking to find a better job, develop skills and competencies additional to the qualifications they already have.

Tracking the job market trends is easier with the employed who have the required competencies. Their participation in defining the business strategy, in addition to their capability of planning new business models and business processes transformations, is a precondition that the organization can survive and a contribution to its development.

3. E-employment

E-employment includes collecting and exchange of standardized electronic messages between the employer, the job seekers and the employment and social security organizations in job offering and announcing, in applying, selection, recruitment of candidates and registering the employee with the employment agencies and social security, based on the regulations for its implementation.¹

The environment in which the human resource management operates is constantly changing, the changes being evident in the character of work and employ-

ment, in education and knowledge innovation, in economic restructuring, demographic differences and the life style.

All the organizational sectors as well as the organization as a whole have to adapt to the global structural changes and the requirements of the period.²

The development of information technologies and communication networking websites has had an impact upon the organizational functioning and business operations. E-global labour market, free of any geographical constraints, enhances the human resources competitiveness and mobility.

The labour market web-sites contribute to the speed and quality of mediating in employment. It is in them that databases on vacancies and CVs of job seekers are generated. There are many other services websites offer, such as:

- Searching through job listings by key words, job categories and location;
- guidelines and suggestions in writing professional biographies, with an opportunity of free entry into the CV database;
- counselling on career planning and development;
- getting information on scheduling various kinds of education and training;
- career fairs and other useful information.

The sites announcing job offers abroad also display information on work licences, accommodation, social security etc.

The broad band Internet, the ADSL and a modern communication software allow for an increased number of computer equipment users to start their own businesses or do their business from home (eWorking).

Job seekers, users of the Internet are well acquainted with how its use may contribute that employment be more efficient.

As to the EMPLOYERS, the use of the Internet in recruiting new staff helps:

- organize distance working and collaboration with employees at geographically dispersed locations;
- announce vacancies to a large audience;
- get a larger number of candidates qualified for the job, promptly and easily;
- use adequate software to achieve quality employment.

As regards the JOB SEEKERS, the use of the Internet helps them:

- screen the e-job market with the job offers at specialized employment websites and on-line social networking websites;
- compose and promote their professional biographies;
- contact the employer directly, as promptly as possible;
- autonomously work from home, (eWorking).

The Internet provides numerous employment opportunities through varied forms and types of work, for people of different qualifications, disabled persons and persons with special needs. Several are listed below:

- jobs that are done working from home, eWorking;
- jobs in virtual organizations and teams;
- webmaster, professional web designer jobs and other jobs.³

3.1 On-line job offers

In the employment segment the Internet helps the employers announce job offers in a less expensive way, with no time or geographical limitations.

In order that the job list browsing be made easier, some websites offer automated solutions.

Jobs are announced at specialized employment websites and portals, on-line social networking websites, labour market websites, the National Employment Office website, employment agencies, employers' websites, websites of thriving national and foreign companies, the Resources Management Service, youth and students cooperatives, e-media, on-line daily and weekly press, professional journals, etc.

The practice in Serbia has so far shown that the number of e-placed job offers is increasing daily.

3.2 E-professional biography

A faster and easier way to find a new job is to have a good professional biography.

The professional biography can become an e-biography on condition it is:

- published on the Internet – Web version (HTML), ASCII format version, version for electronic processing;
- sent by e-mail;
- sent written on paper, scanned and stored into the computer system.

The employment websites and on-line social networking websites often offer suggestions on how to write an e-professional biography.

It is important that the applicants for the vacancies send the data from their professional biography in the format required by the employer.

Nowadays companies largely rely on electronic professional biographies, e-CV in Europe, and e-Resumes in the U.S.A.

In the developed countries, the presentation of prospective candidates can be performed by video CV (vCV) or by an on-line video Resume (on-line vResume).

3.2 On-line social networking websites in e-employment

The Internet ensures the individuals the freedom to express themselves through writing, through image or sound; the freedom to be informed, to communicate and collaborate with others.

The social networking websites allow for social interactions among people and their networking. They are a novelty on the Internet.

The network users enjoy the opportunity to introduce themselves, often their profile, social connections and other additional services. These services are mostly free of charge. The on-line networking websites are now used by hundreds of millions of people.

The use of the social networking websites services within a company or among companies is a potential greatly affecting the business world and business operations. These networks grow into an important means of connecting and communication between those in search for jobs and the employers in need of new employees. Within social networking websites the interests and/or activities are shared. The majority of them provide varied ways of user interactions, such as e-mail messages or chat services. In order that you use the network, it is important that your Internet connection be as fast as possible, and sometimes that you have devices such as web cameras or headphones at disposal.

The best known social networking websites are *facebook*, *myspace*, *twitter*, *fixter*, *LinkedIn*. Each has its specific features.

Facebook is a global social networking website. It was established in 2004. The website is free, and its users are companies that advertize their products or individuals promoting their profiles.

According to the latest data, the network is used by 350 million active users, 35 million updating their status daily, whereas 65 million access the network by way of their mobile phones. The network includes 700,000 active companies. Facebook is presently considered to have no real competition.

Registered network users can obtain more information on virtual workplaces on the following links:

- <http://www.eworkplace-mn.com>,
- <http://twitter.com/eWorkPlaceMN>,
- <http://www.linkedin.com/in/eworkplacemn>.

LinkedIn is a business-oriented social networking website. It is the world's largest and most powerful professional network.

LinkedIn makes it possible for its users to:

- manage publicly available information;
- search for business partners and clients;
- create projects and collaborate in their execution;
- gather information and share databases in problem solving;
- search for the best talents for the organization;
- gain new knowledge;
- distribute job announcements, etc.

Only the 18 years old and older can register on the network. The registered users, business associates, graduate students and experts are allowed to maintain a list of contacts realized, to search for people and knowledge in order that they could accomplish their professional goals, with the possibility of controlling their personal profile on the network. The professionals join the network and the experts of similar interests, affiliations, experience and objectives. The network enables them to expand the list with persons not registered on it.

The LinkedIn offers professional services in recruitment, in job announcement and in their search by the key word, by the country or by the post code. The advanced search allows for finding jobs according to a number of defined criteria, e-g., the number of jobs, starting from the last one, together with the list of employers.

The network enables the job seekers to create their profiles, or introduce themselves to the employers, through mutually shared networking websites. The profile should be presented in such a way that it summarizes the previous professional and educational achievements of the network users. The network also allows for the references obtained from the previous employers, clients, colleagues. These references may often help people get or perform jobs.

The networking website makes it possible for the organizations to improve their brand and expand their influence.

Since December 2009, LinkedIn has obtained more than 55 million registered users worldwide, representing 170 "industries" in more than 200 countries and territories.

4. Implementation of the E-employment concept

An important precondition for the implementation of new technologies in management are the human resources and human resource management. Facing the challenges of technology development and market requires that the managers be qualified to promptly adjust the work processes and the organizational functioning to the changed conditions of business.⁴

A long experience in the human resource management, and in the research into the employment issues at home and abroad, motivated the author of this paper to adapt the activities and the entire process of employment with an active implementation of information technologies and communication networking websites to the individuals in search for jobs.

The paper describes the proposed model of e-employment and the activities undertaken in the model.

The e-employment model is conducted through the following activities:

- the employer states the need for human resources;
- the source for recruiting human resources is defined;
- e-announcement of vacancies follows;
- e-applications from the potential job candidates are collected;
- on-line selection of potential candidates is conducted;
- selection of candidates follows;
- the newly-employed starts to work;
- e-insurance application for the employee is filed.

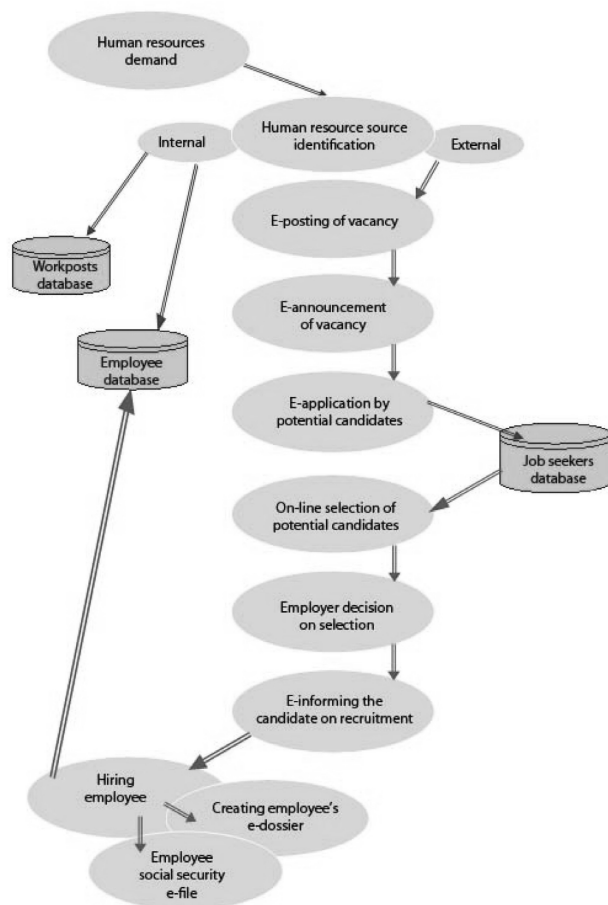


Figure 1. The chart of the e-employment model⁵.

4.1 E-employment model activities

The employment process is preceded by the estimation of the needs for the human resources in the organization or certain organizational units, for given periods of time.

An individual can get employed when certain economic conditions and needs in an organization are identified. The conditions defined for a job are given objectively and are in accordance with the work process requirements in the organization.

Identifying the need for human resources may be preconditioned by: the change in the organizational activity, the implementation of new technology, the development of new products and services, the increase in the organizational competencies by a better positioning on the market, the employee leaving the organization of his own free will, the case of death of the employee, or for other reasons.

The vacancy can be filled up temporarily or permanently, depending on the type and the duration of the given activities.

In forming the proposal for the fill up, it is necessary that the following questions be answered:

- Which are the competencies (qualifications and capabilities) that the candidate must have to be perform certain jobs?
- Which is the way of filling up the vacancy?

The sources from which the human resources are recruited. The organization can recruit the human resources from the pool of unemployed people or the employed (within or outside the organization) who are in search for a better job.

The employer first tries to fill up the vacancy by analysing the competencies of the people already employed in the organization. He states whether there are any employees within the organization that are qualified and able to perform the given jobs, or whether there are any employees who can be motivated, guided or further developed and thus retained in the organization for a longer period of time.

The advantages of repositioning employees are the following: the employee's satisfaction for being able to foster the development of his own career; the satisfaction of the employer that he managed to recruit a worker in a shorter time and at lower costs.

When the employer, however, comes to a conclusion that he cannot find a competent employee in the organization, he decides to recruit candidates and selects an appropriate economical method of recruiting human resources from *external sources*.

E-posting of vacancies is performed by the employer, on the National Employment Office Website. On the basis of e-post on the vacancy, the data on the workpost are identified as well as the required qualifications and abilities, and other conditions of the workpost, and entered into the vacant workpost records.

E-announcement of a vacancy is provided by the National Employment Office or the employment agency. The employer may also announce the vacancy on his own website, on the specialized employment websites, on on-line social networks, etc.

The purpose of e-announcement of job offers is to inform a wider audience in a faster and less expensive way. In order to attract as many job seekers as possible, the announcement designers generally use the AIDA model (acronyme from the English words: Attention, Interest, Desire, Action).

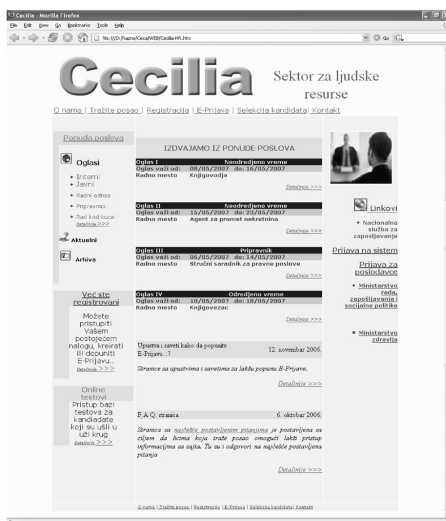


Figure 2. The employer's e-offer of jobs website

E-applications from potential candidates. The potential candidates apply for the vacancy if they find the job offered and the conditions of work satisfactory, or if they need a job urgently.

To gather the data on the job seekers, a Questionnaire on the candidate is created in the form of *e-application for the job* – an electronic professional biography, the computer program for the potential job candidates on-line application.

The e-form can be filled by the potential candidates who answer the announcement, but also those interested in working in that organization.

The human resource managers use the on-line social networks and professional-social websites to access databases on the job seekers. On finding the appropriate candidate, they introduce them to the jobs offered and the conditions required for the job. The candidates interested enough to apply are given instructions how to fill in the e-application for the job.

The E-application for the job gives an opportunity to every citizen to present their competencies in a systematic, chronological and flexible manner. It consists of obligatory and optional questions and includes the following categories of presentation:

- **Personal data:** name, surname, age, gender, home address, telephone number, e-mail address, etc;
- **Work experience:** the employment history, the name and industry the employer is engaged in, the workpost title, core activities and responsibilities;
- **Education and professional improvement:** the education-improvement period, the name of educational institution, field of expertise, occupation, title, average mark/achievement, state examination, etc;

- **Skills, proficiency/knowledge and competencies:** knowledge of foreign languages, data on additional knowledge and qualifications the individual has, with an emphasis upon the social, organizational, computer, technical, artistic and other skills, knowledge and competencies;
- **Additional information:** references etc.;
- **Enclosures:** transferring electronic data (personal documentation, references)⁶

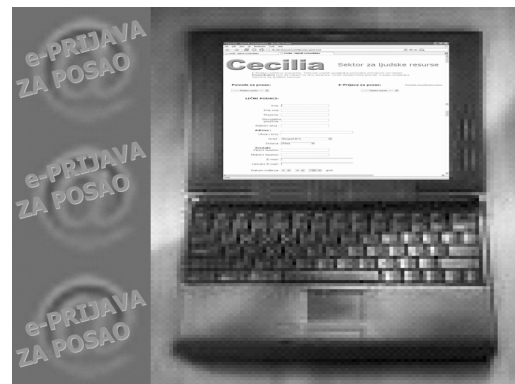


Figure 3. On-line job application website

In accordance with the business ethics code, the information on the candidates may be used solely for the purpose of their employment.⁷

In comparison to the CV or resumes submission, sending in individual applications and biographies, the advantage of the e-application is that it allows for an easier, faster gathering, sorting out and processing of data, avoiding dealings with the unnecessary information, a more efficient selection of potential candidates, flexibility, the possibility that new data can be added or additional attachments sent in electronic form (personal documents, references, certificates, and the like).

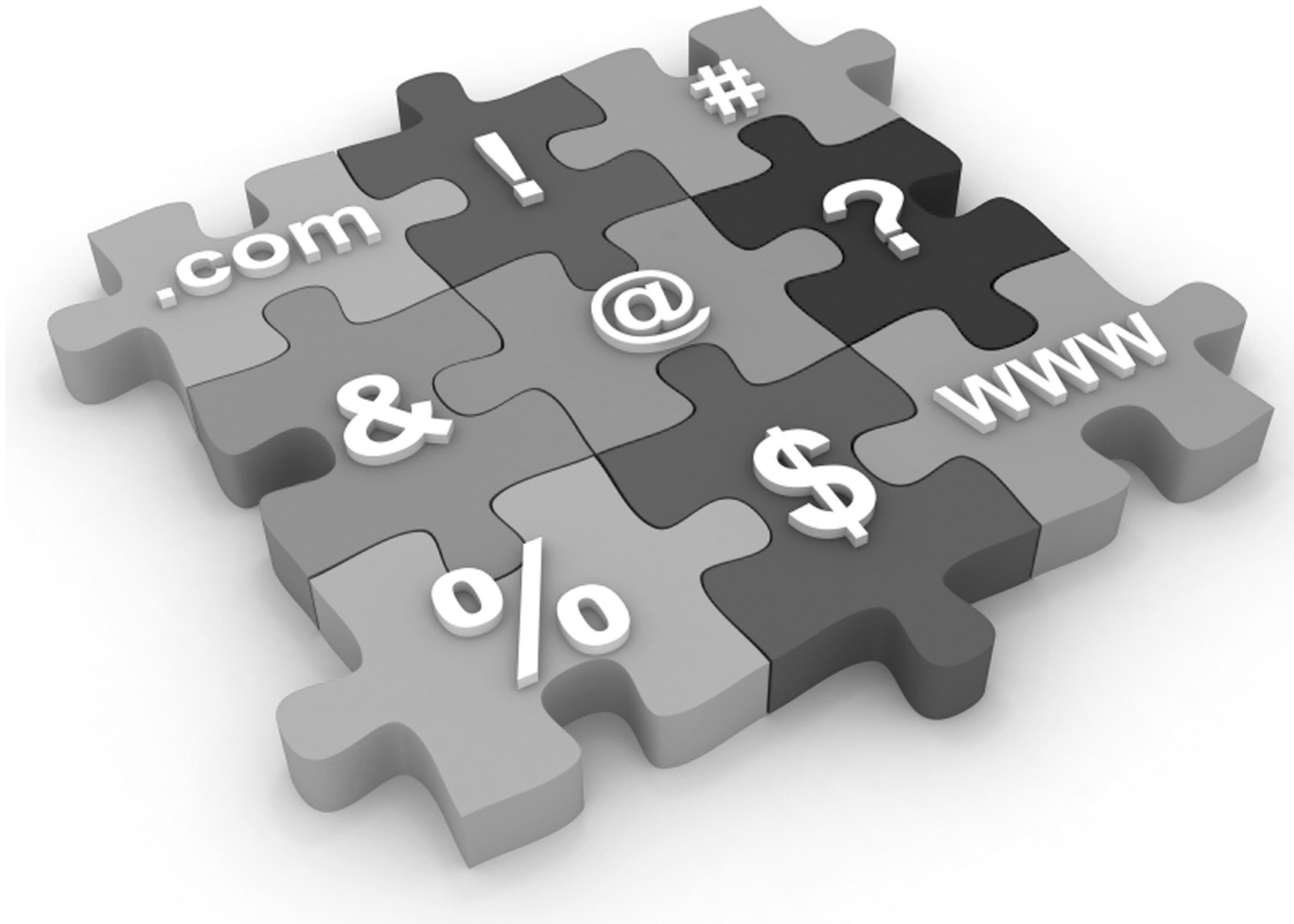
The online communication with the applicants is conducted by e-mail, VoIP, Skype program or cell-phone.

All the applicants are informed on the positions of their applications in each of the e-employment phases.

The online selection of candidates. The selection becomes ever more important, due to the increased offer, the competent candidates on the labour market and the costs of the selection methods.

The employer undertakes the selection among the candidates in order that he should make the objective choice among the candidates in the conditions of promoting equal opportunities.

The human resource managers still hold a key role in the selection process. Their role may be either direct or indirect. They may advise the line managers in that they



suggest the most efficient selection methods, train the line managers in selecting, most often in conducting interviews. The consultants and specialists may also be engaged in the selection process.

The criteria according to which the candidates are shortlisted must be clearly stated, in order that credible decisions in the selection process should be made.

The selection criteria are generally presented in the form of specification, i.e., the description of the individual that is an ideal candidate.

Lewis (1985) stresses three selection criteria:

- Organizational criteria;
- Department or functional criteria; and
- Individual workpost criteria.⁸

The most often quoted selection criteria are the following: education, type and level of qualification, work experience, character traits, skills and specific knowledge.

On the basis of the data in the online job application provided by the candidates and the set criteria, an *e-list*

of *potential candidates* is generated. The shortlisted potential candidates on the e-list are given instructions for the online selection.

The selection is discontinued for the potential candidates that fail to obtain required results in one of the ensuing phases of selection and the reasons are stated for such a decision.

In order that the online selection of potential candidates be performed correctly, it is important that both the employer and the potential candidates have appropriate modern communication devices.

In case the employer has no possibility to conduct the online selection process, he can order this activity, as a service, to be conducted by the employment offices or by organizations specialized in the professional selection of candidates at the request of the employer.

Most frequently, the employers use tests to determine whether the candidate meets the requirements stated in the announcement. It is important that the tests be conducted and interpreted by competent experts.

The tests used in the employment process are classed as: intelligence tests, proficiency tests, aptitude tests, special competency tests, training ability tests, achievement tests, personality tests, etc.⁹

The tests the employers use most are the following:

Online proficiency tests – the candidates with work experience are often submitted to proficiency tests to see whether their knowledge meets the requirements of the workpost.

The selection process may be facilitated and made faster if the candidates have certificates on the proficiency tests, such as the *ECDL* (European Computer Driving Licence) – an international certificate of the knowledge of computer programs, the *EBCL* (European Business Competence Licence) – an internationally recognized certificate in the area of business skills and management and the *TOEIC*® - the Test of English for International Communication – the knowledge of English for the business purposes, for those whose mother tongue is not English.

The online aptitude tests measure the individual's potential for development in both a general and specific senses. These can be classed into two categories: the tests that measure general mental capabilities or general intelligence and those that measure specific abilities and potentials.

The online personality tests – the application of personality tests in the selection of candidates triggered a dispute on how important the personality itself is for the

success in a job or organization and the resistance to someone's personality being measured at all. The personality tests are most often used for managerial, professional jobs and jobs that require university education.

In 2001, the APA's Board of Scientific Affairs and the Board of Professional Affairs established a measurement unit to inform psychologists on the situation in the Internet testing.

The *advantages* of the Internet implementation in testing are the following: it is less expensive and more economical, there is no need for printing or duplicating materials, questions can be easily changed, results are obtained faster and a much easier way.

There are, however, certain *problems* concerning the Internet-conducted testing, such as ensuring the safety and professional interpretation of results, the prevention of copyright abuse, copyright retention.¹⁰

The *online interview*. On the completion of testing, the on-line interview is conducted. It is used in order that the potential candidates should obtain more comprehensive information on available jobs and the conditions for getting these jobs, while the employers can get the information that may be useful in deciding on the candidate selection.

In addition to voice and live image, the employer and the job seekers can communicate via the web camera, *video-conference* or *Skype-program*.

The employer creates and sends the candidates a DVD-video with instructions as to how to conduct the interview, stating the terms (day and time) the interview is due.

The *online interview* can be conducted at several levels. The first interview is usually conducted by the human resource manager, the second is carried out by the selection committee, if established, and the last is conducted by the employer himself. The questions depend on the level of the interviews as well as on the type of job.

Certain websites bring suggestions for interview conducting. Some websites, such as LinkedIn, bring video-interview simulations.

The candidate for the job is proposed upon the completion of the on-line selection among the potential job candidates. The team that conducted the selection process submits the list of shortlisted candidates with explanations, in an electronic form.

The candidate selection statement. Prior to issuing the statement on the selection of the candidate, the employer may decide to conduct an interview, which is very im-

portant having in mind his responsibility in the selection of candidates.

In selecting the candidate, the candidate's interest in doing certain jobs as well as the interests of the organization should be taken into consideration.

E-notification on the candidate selection. It is important that all the applicants be sent a feedback information on the results of the competition. The candidates that applied are notified by e-mail, with the exception of those candidates that are presented to the employer. They are informed on the final decision via the cell-phone, the Internet phone (VoIP) or Skype.

The data on the potential candidates that are not accepted, but have shown good results in the selection process, as well as on those that are not short-listed, may remain stored in the database of job seekers, to be contacted later if need be, and on condition they agreed to that.

The candidate is admitted to employment. On receiving the candidate selection statement, the e-Work contract draft is prepared. The e-Work contract is e-mailed to the candidate. Simultaneously, the candidate is informed on the date and place of signing the contract. On closing the work contract, the human resource manager informs the candidate on the time he is expected to come to the firm and the person that will admit him to employment.

By being **admitted to employment**, the candidate actually starts to work. On the candidate's beginning to work, the human resource manager creates an e-Dossier for the newly-employed, opens an e-mail for him, ensures that he has an access to documentation, files, applications and e-mail.¹¹

Employee e-filing. In order that the employee exercise his labour relations rights, the human resource manager fills in the forms (e-file of taking up or discontinuing employment, health insurance e-file, social security e-file) and sends them to respective organizations, the National Employment Office (NSZ), the Pension and Disable persons Insurance Fund (PIO) and the registry office of health-care insurance.

These organizations register the rights of the new employee and transfer the qualified documents to the employer, who in turn stores them into the employee's e-Dossier.

4.2 The advantages of the model of e-employment implementation in the human resource management

The proposed model of e-employment is a new organizational model that makes use of the information and communication technologies in the employment segment. It connects the employment subjects in a dynam-

ic way. The advantages of the e-employment model are numerous:

- The e-employment process is automated, the entire documentation is centralized, in electronic form;
- The paper forms and documents are replaced by HTML documents;
- E-announcement of vacancies is cheaper;
- E-application of potential candidates;
- E-filing of potential candidates and job seeking persons;
- Analysis of a large number of e-applications for jobs;
- Faster and easier identification of the most eligible potential candidates for selection purposes;
- Identifying and recruiting the most eligible experts;
- E-notification of potential candidates on their status;
- Implementation of the Internet service in the on-line selection among potential candidates;
- On-line communication between the employer and the potential candidates, persons seeking the job, the National Employment Office and the employee insurance companies;
- Improving communication and cooperation among the employment subjects on the job market;
- The employment subjects are in a position to network and use the necessary databases and the documents needed for the purpose of an effective conducting of the process;
- Flexibility of the model, its adjustment and development to suit the users' needs;
- Efficient and higher quality employment.¹²

5. Conclusion

The globalization of the job market and the implementation of new technologies in business do have a paramount impact upon the human, labour and creativity potential treatment, as well as upon the character of management.

The e-employment model is a new concept of employment and work engagement. The model implements modern scientific and professional knowledge in the field of human resource management, information and communication technologies, standards applied in the developed countries and the national regulations in the employment segment.

The implementation of the e-employment model means changes in the organization of work, the technology and methodology applied by the employer, the employment office and the employee insurance companies. It can be performed through the implementation of modern information and communication technologies, application

and exchange of standardized documents in electronic form, the use of electronic signature and through the use of cryptograph protection mechanisms.

E-employment fosters the efficiency, the effectiveness and the innovativeness of the employment process. The results obtained show that the implementation of e-employment provides an insight into all the phases of the employment process, improves the quality of the process and reduces the costs to a considerable extent.

The implementation of the proposed model of e-employment is to ensure to the employment promoters a higher quality, faster, less expensive and safer process, minimizing the effort and errors.

One on-line category related to the employment opportunity and career development counsel is expected to expand fastest in the future. In the future, the e-employment will be inevitable, from the companies, to the virtual workposts, to the work from home.

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