6. STATE, REGULATION AND JUDICIARY IN THE DIGITAL SOCIETY

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THE ROLE OF DIGITALIZATION IN ESTABLISHING AN EMPLOYMENT RELATIONSHIP

Abstract: Digitization has significantly changed the way of establishing an employment relationship, affecting, first of all, employment, that is, the employment phase - from advertising vacancies, conducting interviews, conducting interviews with interested persons, conducting certain tests, later keeping records of earnings, etc. In modern legal systems, electronic signatures are increasingly used to conclude employment contracts and other employment-related documents. Digitization contributes to efficiency, reduction of administrative costs and greater availability of the labor market, but at the same time requires adequate legal regulation to protect the rights of candidates and employees. However, in the Republic of Serbia, where the basis for establishing an employment relationship is the conclusion of an employment contract, labor law regulations consider employment concluded when the employment contract is in written form, signed by the employee and the employer, and when the employee starts work. Therefore, although digitalization and the use of electronic signatures are widely accepted in many areas of business, in our positive law there is still

no possibility of electronically concluding employment contracts, and therefore not establishing an employment relationship. Therefore, there is a certain legal nonsense, because many legal actions can be done remotely, with an electronic signature, through a certified power of attorney (e.g. concluding a marriage, renouncing an inheritance, electronically signing contracts for the sale of goods of high value, etc.), while an employment relationship can only be established by personally signing an employment contract in written form. The author of this paper analyzes all the advantages, but also possible disadvantages of the digitization process when establishing an employment relationship.

Keywords: *digitization, establishment of an employment relationship, selection of employees, electronic signature*

INTRODUCTION

Digitization represents one of the most significant processes of transformation of modern society. The development of information and communication technologies has led to changes in the way of doing business, communication and work organization. The consequences of digital transformation are particularly visible in the labor market, where traditional recruitment procedures are being replaced by electronic procedures that enable faster and more efficient communication between employers and candidates.

Digitization affects all stages of establishing an employment relationship - from advertising vacancies, electronic submission of applications and implementation of selection procedures, to the conclusion of employment contracts and reporting of employees to the competent authorities. A particularly important issue is the possibility of electronic conclusion of employment contracts, which in many European countries has become an integral part of modern labor relations.

The aim of this work is to analyze the impact of digitization on establishing an employment relationship, with special reference to the legal position of electronic employment contracts in the Republic of Serbia and selected European countries.

The author starts from the basic hypothesis: *"Digitization represents an inevitable process of modernization of all aspects in society, including labor law. The Republic of Serbia has made significant progress in the*

digitization of public administration and employee registration, but the issue of electronic employment contracts is still not regulated clearly enough, and therefore opens up new questions and challenges regarding the protection of personal data, cyber security, misuse of electronic identity, algorithmic discrimination, transparency of the candidate selection process, etc."

As an addition to the above hypothesis, it is necessary to make a distinction between two aspects of the digitalization process itself. Namely "digitization", which in the literature refers to the technical process of converting analog data into digital format, thereby creating the basis for further application of technology and a specific, in this case, legal process, is what this papaer refers to. On the other hand, the term "digitalization" denotes a deeper change, in the sense of a transformation of the way of doing business or management that includes the integration of digital tools (Lozić, J., 2023, p. 213).

Establishment of employment relationship

Establishing an employment relationship is a key institution of labor law that establishes a legal bond between an employee and an employer. It is achieved by concluding an employment contract and the employee starting work, whereby both parties acquire certain rights and obligations (Labor Law, 2005). Correct regulations of the procedure for establishing an employment relationship contribute to legal certainty, employee protection and efficient functioning of the labor market. Digitization has significantly changed the way of establishing an employment relationship, affecting all stages of the employment process - from advertising vacancies to concluding employment contracts and keeping employee records. The application of information and communication technologies enabled faster, more efficient and economical recruitment procedures, while at the same time expanding the opportunities for connecting employers and candidates.

In the phase of recruitment and selection of employees, digitization is reflected in the use of internet portals for employment, social networks and electronic databases of candidates. Employers can post ads on specialized platforms, while candidates submit resumes, cover letters and other documentation electronically. This shortens the time needed to find suitable candidates and reduces the costs of the recruitment process.

However, as a preliminary question to the establishment of an employment relationship, the necessity of defining the employment

relationship itself appears, where the legal theory is not harmonized, and differences appear depending on the legal systems in which they were created - capitalism, socialism, communism (Brajić, 2001, p.123). Nevertheless, there are certain indicators that are considered common both in domestic and comparative labor law theory and practice, so that a certain relationship could be considered an employment relationship. Thus, according to Kulić & Škorić (2020), "the general term of employment means an individual and collective employment relationship, as a voluntary and legally regulated relationship between an employer and an employee, i.e. an association of employers and trade unions or between other appropriate entities, which acquire or take over, i.e. regulate, exercise or protect individual and collective rights, obligations, responsibilities and interests from work and on the basis of work. Based on such a definition, a conclusion can be drawn about its essential features, i.e. elements" (p. 75). The same authors further determine the essential elements of an individual employment relationship, namely voluntariness, the employment relationship being based on an employment contract or on the basis of some other legal act, bilaterality, the inclusion and integration of the employee in the work process at the employer and the acquisition, i.e. the assumption of certain rights, obligations and responsibilities (Kulić & Škorić, 2020, p.76).

Other authors, make a distinction between the indicators of the employment relationship and the essential elements of the employment relationship, where there are significantly more of the former (Jašarević, 2013, p. 242). It is similar in comparative practice, where among the essential elements of the employment relationship, the greatest importance is attached to subordination, which is considered a key criterion for determining whether a person is in an employment relationship. Subordination represents subordination for the employee in relation to the employer. It implies that the employer directly or indirectly controls the way, time, conditions and other aspects of work performance in various ways, as well as that the employee is economically dependent on the employer - which is why he is ready to obey his work regime. (Kovačević, 2013, p. 11). Without intending to analyze the differences that exist in the labor law theory regarding the definition of the employment relationship, perhaps it would be most expedient to state the definition of the employment relationship as determined by the International Labor Organization, namely: Employment, according to the ILO, is work performed for pay or profit, including all forms of paid work and certain temporary absences from work. Also, a person in employment as someone

of working age who, during a short reference period (typically one week), is engaged in any activity to produce goods or provide services for pay or profit. This includes remuneration in cash or in kind, such as wages, salaries, or profits from self-employment, whether actually received or payable to the worker or their household member. (ILO, 2026)

In the Republic of Serbia, the establishment of an employment relationship is regulated by the Labor Law from 2005, art. 24-29, which first prescribe the conditions for establishing an employment relationship, without defining it. However, in the sequel (Art. 30) there are provisions concerning the employment contract, as the legal basis for establishing an employment relationship, and the form and conditions of conclusion. And precisely from those provisions that define the employment contract, the conclusion follows that the digital establishment of the employment relationship should be harmonized with the new opportunities that exist on the labor market, as well as with the needs of both employees and employers, which have changed to a significant extent since the basic text of the Labor Law was adopted in 2005 (Gligorić & Škorić, 2021).

In order for an employment relationship to be possible, certain conditions must be met. The conditions for establishing an employment relationship can be numerous and very different. Some are of a general nature, because they relate to all workplaces and all job candidates, that is, to all employees, and some are special, because they relate only to individual workplaces and the employees who work in them. Considering that, they are divided into general and special conditions for establishing an employment relationship (Kulić & Škorić, 2020, p. 95). According to the current Labor Law, they are: "Employment can be established with a person who is at least 15 years old and meets other conditions for working in certain jobs, established by law, that is, by the rulebook on the organization and systematization of jobs" (Article 24 of the Labor Law, 2005). As for special conditions, they include professional education, special medical ability, work experience and other personal characteristics (Brković, Urdarević & Antić, 2016, p. 17).

Digitization when establishing an employment relationship

If we connect everything that has been said before about establishing an employment relationship with digitization and how it has modified the labor market, then we have to look back a few steps.

Digitization implies the application of digital technologies in order to improve business processes and provide services. In the field of work, it

includes electronic management of human resources, digital communication between the employer and employees, electronic management of personnel records and the use of electronic documents. Modern human resource management systems enable the automation of a large number of administrative procedures. Thanks to this, business costs are reduced, decision-making is accelerated and labor market availability is increased. The COVID-19 pandemic further accelerated digitization processes and demonstrated the importance of electronic procedures for the smooth functioning of labor relations.

Namely, the process of establishing an employment relationship begins with the adoption of the employer's decision on the need to fill a specific position. For several decades now, this decision has been published, apart from internally and externally (by highlighting the decision on the employer's premises, for example), in the digital world - the employer's website, the official website of the National Employment Service (National Employment Service, 2026), on various Internet portals of the Employment Agency, youth and student cooperatives (Moj Novi Sad, 2026, Poslovi Infostud, 2026), and professional social networks, such as LinkedIn (LinkedIn, 2026)

Therefore, it can be concluded that the very beginning of establishing an employment relationship, in the form of announcing the employer's need to fill a specific position, is in modern conditions almost completely digitized and available in digital form, combined with some older methods of searching for employees (posting job ads on the employer's premises, filling positions by recommendation, etc.)

After the announcement of the need to fill a specific position, there follows the application of the candidate and their communication with the employer (HR service), which most often takes place electronically - applications through the employer's specialized platforms or sending CVs via e-mail, and for this phase it can be stated that it has become fully digitized. The next step is certainly very important, especially for the employer, but also for the future employee, and it concerns the selection of candidates, which can also be said to be possible entirely in digital form. Of particular importance is the ability to conduct remote interviews via video-conferencing platforms, which gained particular importance after the COVID-19 pandemic. This method of communication enables the inclusion of candidates from different geographical areas and increases the accessibility of the labor market. Digital platforms also make it possible to conduct aptitude tests, psychological assessments and interviews via video-conferencing systems. Artificial intelligence is increasingly used for

the preliminary analysis of candidate biographies, where only those candidates who are assessed as having enough potential for the next round of selection, testing, psychological evaluations, etc. are included in the selection process. In the course of the entire candidate selection process, electronic, i.e. digital, communication between the employer and the candidates is included today, namely by e-mail, through communication applications and specialized HR platforms. In this way, the process of establishing an employment relationship and employment is significantly accelerated, but administrative costs are also significantly reduced, time is saved, the candidate may travel to the employer's headquarters, before the selection procedure is completed, etc.

If we understand the establishment of an employment relationship in a narrower sense, i.e. that it represents the signing of an employment contract and the employment of an employee, then it can be concluded that digitization also affects the process of establishing an employment relationship itself. In modern legal systems, electronic signatures are increasingly used to conclude employment contracts and other documents related to employment. Electronic documents enable simpler storage, searching and exchange of data between the employer, employee and competent authorities. In addition to the advantages, digitization also opens up certain legal issues. Of particular importance are the protection of candidate and employee personal data, the transparency of algorithmic decision-making during candidate selection, as well as the prevention of discrimination that may arise as a result of automated recruitment processes. Therefore, it is necessary to harmonize digital procedures with labor regulations, protection of personal data and the prohibition of discrimination. There is the known fact, based on statistics and scientific research in Serbia, that the field of work and employment is, unfortunately, one of the fields where discrimination is present. The trend from the latest annual reports is that it is either the first in terms of share or the second, right after the Field of Proceedings before Public Authorities, with the highest percentage being in 2023, with a certain drop in 2024. (Škorić, 2026, p. 28)

In the Republic of Serbia, the digitization of the employment process is supported by the development of electronic administration and electronic services of state bodies (Euprava, 2026). The electronic registration of employees for compulsory social insurance through the Central Register of Compulsory Social Insurance (CROSO) and the use of a qualified electronic signature represent significant steps towards the complete digitization of labor relations. However, the aforementioned complete

digitization in employment relationships, that is, when establishing an employment relationship, has not yet been implemented, although it can be concluded that there are prerequisites for its realization. In other areas, especially those related to the business operations of business entities, digitalization has been almost fully implemented, with certain conditions prescribed by special laws - registration of business entities, (Škorić, 2020), e-invoice system through the Central Register of Invoices, etc. (CRF)

Employment contract and digitization

From a theoretical point of view, in order for the employment contract to be concluded digitally, and the employment relationship based on it, as a personal, labor-law relationship between the employer and the employee, it is necessary to fulfill a number of mandatory conditions concerning the type of digital signature itself, the protection of personal data of employees, and the conditions related to the storage of such a document. Namely, the Employment Contract, in addition to being a bilateral legal act, is also normative, i.e. creative, given that it regulates, or can regulate, certain rights, obligations and responsibilities from the employment relationship. One of the specifics of the employment contract is that it cannot establish lesser rights and less favorable working conditions than the rights and conditions established by law, collective agreement or labor regulations (Kulić & Škorić, 2020), but it is certainly possible to contract and foresee broader rights than those guaranteed by law - the principle of favorability for employees.

According to the Labor Law of the Republic of Serbia, the employment contract is defined as follows:

"The employment contract is concluded by the employee and the employer. The employment contract is considered concluded when it is signed by the employee and the employer. The employment contract is concluded in at least three copies, one of which must be given to the employee, and two copies are kept by the employer. The employment contract is concluded on behalf and on behalf of the employer by the competent authority at the employer, i.e. a person established by law or a general act of the employer or a person authorized by them.

The employment contract can be concluded for an indefinite or a fixed period of time. An employment contract in which the time to which it is concluded is not determined is considered an employment contract for an indefinite period.

The employment contract is concluded before the employee starts work, in written form. If the employer does not conclude an employment contract with the employee in accordance with paragraph 1 of this article, it is considered that the employee has established an employment relationship for an indefinite period of time on the day of starting work" (Articles 30-33 of the RS Labor Law, 2005). What can be concluded from the legal definition of the Employment Contract is that it does not prohibit or decisively determine that it cannot be concluded electronically, but it is also not foreseen that it can be concluded in this way. If we add to this the provision concerning the form and the mandatory number of copies (written and at least three copies), then it can be concluded that an employment contract concluded in digital form will not produce legal effects, i.e. there is a risk for the contracting parties that their contract may be challenged by the labor inspection or before the competent court. Certainly, practice should provide an adequate basis for this attitude. It is also possible to imagine a situation where the employment contract is signed in digital form, and later printed and exists formally, archived in written form. This would further open up the question of whether such a contract was created when it was digitally signed or when it was printed, because in such situations a certain period may pass from the digital to the paper employment contract. As the employment relationship is considered concluded when the candidate is registered through the Central Register of Mandatory Social Insurance CROSO, with a digital version of the Contract, which does not have to be signed, then the date of establishment of the employment relationship is certainly a digital process, regardless of the fact that the Employment Contract itself is, according to the Law, a written, formal act.

Regardless of the different interpretations of employment contracts, what is certainly a prerequisite for a decisive digital form of every contract and document is the legal regulation of electronic documents and electronic signatures. The legal basis for electronic business in Serbia is the Law on Electronic Documents, Electronic Identification and Trust Services in Electronic Business (2017).

An electronic document is a set of data in electronic form that may contain text, images or other information. A qualified electronic signature has the same legal effect as a handwritten signature, except in cases where a special law does not prescribe otherwise (Law on electronic document, electronic identification and trusted services in electronic business, 2017).

At the level of the European Union, electronic documents and electronic signatures are regulated by Regulation (EU) no. 910/2014

(eIDAS), which established a unique system of electronic identification and trusted electronic services.

As already mentioned, the Labor Law of the Republic of Serbia prescribes that the employment contract be concluded in written form before the employee starts work, and the alliance contains explicit provisions on the possibility of concluding the employment contract in electronic form. Despite the fact that a qualified electronic signature has the legal force of a handwritten signature, in practice and theory there are different interpretations as to whether an employment contract can be concluded exclusively electronically. This situation creates a certain degree of legal uncertainty, especially in remote work, international employment and the engagement of employees who are not physically present at the employer's headquarters.

In the Republic of Croatia, for example, the Labor Law (2014) similarly prescribes that the employment contract be concluded in writing. However, it is further stated, in Article 8, that the conclusion, validity, termination or other issue related to the employment contract, collective agreement or agreement concluded between the works council and the employer, which is not regulated by this or another law, shall be applied in accordance with the nature of that contract, the general regulations of the law of obligations. When referring to Article 292 of the Law on Obligations (2005), it comes to the point that it prescribes that, if a document needs to be drawn up for the conclusion of a contract, the contract is concluded when the document is signed by the parties to the contract, and the written requirement is fulfilled if the parties exchange letters or reach an agreement using another means that enables the content and identity of the person giving the statement to be determined with certainty. In the next article of the same law, it is prescribed that the contract is concluded electronically when the parties have agreed on the essential elements, whereby the use of electronic signatures when concluding the contract is regulated by special regulations (Ministry of Labor, Pension System, Family and Social Policy, Republic of Croatia, 2023).

If the comparative legal analysis is correct, for example, Germany has long insisted on the traditional written form of labor law documents. However, in recent years, reforms have been implemented that enable the wider use of electronic documents in work relationships.

However, there are still restrictions regarding the electronic form for certain labor law acts (Federal Ministry of Labor and Social Affairs of Germany, 2023)

The International Labor Organization has been dealing with digitization in work and in relation to work for a long time, but the emphasis of reports on this topic is on the digital work of employees, work from home or work outside the employer's premises, and not so much on the digitalization of legal acts on which the employment relationship is based (Charles, Xia & Coutt, 2022). It can be concluded from this that the legal regulation of the manner, form of signature, protection and preservation of contracts are left to the member states, which regulate these issues through national legislation.

CONCLUSION

Based on the work hypothesis set forward, as well as of the conducted analysis, it can be concluded that the claim from the beginning is fully confirmed and that the digitization process represents an inevitable process of modernization of all aspects in society, including labor law. Also, the analysis of the valid legal regulations of the Republic of Serbia confirmed that Serbia has made significant progress in the digitization of public administration and employee registration, etc., but that the issue of the electronic employment contract, as the basis for establishing an employment relationship, is still insufficiently clearly regulated, and therefore opens up new questions and challenges. However, if all the advantages of the legal regulation of the electronic signature of the employment contract are set against the known risks, and comparative analysis and experiences of other countries, where the electronic signature of the employment contract is expressly allowed, are used, perhaps the advantages would be far ahead of any doubts and risks.

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