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Electronic Format of Criminal Cases as a Leading Trend in Modern Criminal Proceedings

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Abstract The development of information technologies is consistently included in all branches of law. Nowadays, the law enforcement officials are all facing the issues of implementing information technologies which becomes a leading trend. In many countries, the transition to the electronic format of criminal cases has already been implemented, in some countries this process has just begun.
The main objective of this paper is to study a set of issues related to the introduction of electronic criminal cases in the Russian criminal process, in particular the possibility of forming criminal case materials at the stage of preliminary investigation in the electronic form.
We study the question of positive and negative aspects of the transition to the leading electronic format of criminal cases on the example of similar experience of some countries (e.g. Germany, Switzerland, etc.). Moreover, we consider the issue of using blockchain technology to digitalize the preliminary investigation.
Our conclusions show that it is possible to switch to an electronic format of criminal proceedings and use the possibilities of blockchain technology for this purpose. In addition, we list the positive aspects of the use of digital technologies in pre-trial criminal proceedings.

Keywords: *electronic format, criminal case, criminal proceedings, leadership*

1 Introduction

In the era of total development of information technologies, the sphere of criminal justice is also involved in this process. The widespread introduction of electronic document management could not but affect the area of criminal proceedings.

The recently held Council of judges discussed the digitalization of justice: the introduction of online services and the use of digital technologies in General were actively discussed. It was noted that the digitalization of justice will increase the transparency of the judicial system (Rostovschikov et al. 2019; Pastukhov 2018). However, it is not only justice that needs to be digitalized. There are many issues remaining both in technical and administrative aspects that need to be sorted out.

In general, information technology can refer to crime scene detection techniques used in the event of a crime. A criminal investigation includes questions of electronic security and the use of electronic devices such as computers, mobile phones, and other electronic devices. Forensic technicians use digital forensic techniques to extract and identify evidence such as fingerprints, blood, and DNA during investigations. Crime scene investigators must be able to use information technology when accessing the Integrated Automated Fingerprint Identification System (IAFIS) and the Combined DNA Index System (CODIS) (see e.g. Gizzi et al. 2019). It also includes information reporting capabilities in the computerized system that can store, analyse, and retrieve millions of fingerprints in a short time. This is done to maximise the ability to provide timely and relevant criminal information to law enforcement agencies involved in stolen property, drug trafficking, burglary, theft, and other law enforcement-related data. To support these efforts, the investigators conduct a consulting process that shares management and policy - and makes decisions with the Office of the Chief Information Officer (OICO) and the Criminal Justice Information Management System (CIMS). How can information technology be used to bridge the gap between government agencies, the police and the criminal justice system and the citizens they serve? Can access to information increase public confidence in the criminal justice process, which has lost public confidence over the last ten years? Information technology can bring criminal justice decision-making to the fore, so that staff,

including prosecutors, judges, law enforcement officers, prosecutors, and other officials, can make better decisions, exercise more discretion and find fulfilling work. In short, we need to remember that technology should not be the engine of change, but that criminal justice must be transformed in a way that improves our ability to fight crime and secure justice in a way that is consistent with our democratic values.

The information technology programmes for criminal justice listed here represent a multitude of stages (Hannah-Moffat 2019). The criteria for selecting colleges and universities include the quality of the programme, the degree level, the number of students and lecturers and the level of training. Here we have compiled a list of the best criminal justice programs that integrate information technology into their courses of study. Many law enforcement agencies use a wide range of different systems such as databases, criminal record databases and computer systems. With AI, they can more easily connect these different systems, and by combining their own knowledge with what they have gained from investigating criminal justice, these new algorithms can improve investigations and help them make better decisions about detention, prosecution, and punishment. For example, a law enforcement agency can use artificial intelligence to assign a suspect a risk score based on his or her history and other data to decide about whether he or she should be brought to justice.

This paper focuses on the positive and negative aspects of the transition to the digital form of processing and leading criminal cases on the example of some countries and Russian Federation.

2. Literature review

In the recent years, the number of works related to proposals for the use of the information revolution in the field of justice generally and the criminal process significantly increased. Not only scientists, but also practitioners joined the discussion. In the published works, there are various proposals that differ radically in essence, but are similar in their intention to introduce elements of information technology into the process. Currently, there are various approaches to solving this issue in the scientific literature. The range of proposals for the introduction of information technologies in the criminal process includes a number of proposals: from proposals at the level of changing the entire paradigm of the criminal process and radically revising its fundamental institutions to the simple introduction of electronic document management.

An article by Vlasova (2018) who deals with the "investigative model of proof" and justifies transition to an adversarial form of criminal proceedings with the possibility of involving citizens in the process of collecting and presenting evidence. In her opinion: "*the introduction of digital technologies should be accompanied by a reform of the preliminary investigation... with the subsequent reform of the domestic criminal procedural evidentiary law*" (Vlasova 2018). Kolesnik (2018) who mainly supports the approach of Vlasova, suggests not to stop at this and develop it further.

According to another respectable scientist, Zuev (2019) we have come quite close to such a phenomenon as "electronic criminal case". He believes that the current level of development of information technologies should give an impetus to the transition of criminal proceedings from paper to electronic media. This approach is aso supported by other authors such as Zuev and Nikitin (2017), or Kachalova and Tsvetkov (2015)). In our opinion, this point of view on the use of digital opportunities in criminal proceedings is currently the most feasible to implement in practice.

3. Methods of assessment

This research was carried out using the dialectical method of cognition. The following special and private research methods were also used in the process: the method of analysis and synthesis, the method of formal logic, the method of processing and actual study of material, the method of interpretation of law.

The comparative legal method was used to study trends in the practice of using digital technologies in criminal cases abroad. The methods of theoretical research are combined with the empirical method and the method of legal modelling.

4. Implementing electronic criminal cases in criminal proceedings

In general, the possibility of practical implementation of this approach is evidenced by foreign experience in the introduction of information technologies in criminal proceedings. The most common example is the positive experience of the Republic of Kazakhstan (Belyaeva et al. 2018), Project: electronic criminal case (2010)), Switzerland (Donatsch et al. 2010; Trefilov 2019), or, for example, Germany (Zazulin 2018).

In the Republic of Kazakhstan, the e-UD system is being developed, which is integrated with several information systems: ERDR, SIO PSO, and others. the Implementation of this system involves three stages (Committee on legal statistics 2017). At the first stage, this system involves the introduction of the following elements: SMS summons, electronic complaint, filing applications without an enhanced electronic signature, templates of basic procedural documents, obtaining access to dispensary records (drug and psychiatric), combining

the base of the "Unified register of pre-trial investigations" and the automated system "arbitration" (similar to the Russian gas "Justice") (in terms of obtaining sanctions). The second stage involves the introduction of all templates of procedural documents, sending an electronic criminal case to the "Arbitration" system from the "Unified register of pre-trial investigations", connecting to expert institutions, and introducing information exchange between the "Unified register of pre-trial investigations" system and the SIO PSO (information exchange system of law enforcement and special agencies). The third phase involves enabling the audio and video recording of investigative actions and their integration into the database, the implementation process of information exchange between the system of "Arbitration" and "Unified register of pre-judicial investigations" audio and video files, obtained in the course of investigative actions. Thus, we can talk about creating a single information network that includes instant exchange of information between various government agencies and other participants in the criminal process.

In Germany, the transition to an electronic system of criminal proceedings was carried out quite a long time ago. It is based on the "De-MAIL"system. It is based on encrypted and authenticated exchange of electronic messages between government agencies, as well as between government agencies and other participants in criminal proceedings. That is, it is an authenticated email for communication in criminal proceedings between citizens and state authorities (Zazulin 2018)).

By the way, when implementing this system, it was additionally noted that this system not only makes it easier for a citizen to communicate with state authorities, but also conceals the danger of getting used to state supervision.

The wave of introduction of digital technologies in the criminal process has not spared Switzerland. However, we are talking exclusively about electronic document management. The Swiss criminal procedure code provides for the possibility for participants in criminal proceedings to inform the investigation body of their email address and to consent to receiving documents by email. Sent documents must be certified with an electronic signature. However, the main procedural acts (sentence, indictment, detention order) must be provided in hard copy (Trefilov 2019)). This system is also based solely on replacing paper documents with electronic documents and exchanging documents between participants in criminal proceedings. And the term "electronic criminal case" is not used at all.

The study of foreign approaches allows us to conclude that almost everywhere the system of electronic criminal cases of a clerical nature is widespread. In other words, the entire system is basically reduced to switching from paper to digital media and introducing a secure exchange of these documents between participants in criminal proceedings.

5. Blockchain technology in a unified information system for legal proceedings

Currently, the level of development of information technologies allows you to implement document management based on blockchain technology (Pechnikov and Shinkaruk 2019; Cuccuru 2017; or Zharova and Elin 2017). If earlier one of the main disadvantages of the introduction of electronic document management was the possibility of making changes to electronic documents, interception of messages and documents transmitted over electrical networks, then in the light of new technologies, this aspect is completely excluded. Modern technology allows you to implement almost any functionality related to the protection of confidential data. The Blockchain technology serves as a mechanism for verifying all transactions in the network. The main difference between this technology is its architecture, which provides the possibility of decentralized transactions that do not require trust (see e.g. Swan 2018).

The typical features of transactions in blockchain technology are coordination, accounting, and irrevocability. In other words, the blockchain can serve as a reliable repository of records, such as registers of documents and events, personal data, and assets. Each asset within this technology becomes a smart contract (smart asset) (Cuccuru 2017) and is encoded with a unique identifier that can be used to track and monitor this asset. That is, after creating a document, whether it is a Protocol or a resolution, it will be assigned a unique code that will identify it but will not allow you to restore the original file. The resulting code is included in the blockchain transaction with the addition of a timestamp for this transaction. If this unique code remains unchanged, it will indicate that the file has not been changed.

Currently, this technology is used in various fields, including the creation of property rights registers, registration of transactions, registration of vehicles, criminal records, court records, etc. up to the recording of activation codes for weapons and military equipment.

6. Electronic formats of the criminal case and procedural deadlines

Currently, the level of development of information technologies allows you to implement document management based on blockchain technology. If earlier one of the main disadvantages of the introduction of electronic document management was the possibility of making changes to electronic documents, in the light of new technologies, this

aspect is completely excluded. Modern technology allows you to implement almost any functionality related to the protection of confidential data.

In practice, the author is often faced with issues of falsification of criminal case materials, failure to notify participants of criminal proceedings about the procedural decisions taken, and artificial delay of procedural deadlines. These shortcomings of the investigation, which significantly affect the timely implementation of rights, could be eliminated when switching to the electronic format of criminal proceedings.

As an example, we can cite one of the criminal cases in which the author defended the accused. During the preliminary investigation, it was possible to prove that the drugs were planted to the accused and the seizure was carried out already during the "repeated" detention." The Deputy Prosecutor of the Samara region gave instructions to cancel the preventive measure in the form of detention. The investigator chose a measure of restraint in the form of a subscription not to leave. After that, for three and a half months, the investigator did not perform any actions, and the criminal case was not terminated. If you change your place of residence on the advice of the defence counsel, the accused sent a message to the investigator by submitting an application to the investigator through the office of the UFSKN and receiving a copy of this application with a mark on the incoming number. What was our surprise when we learned that the criminal case was suspended because the accused had absconded from the investigation? That is, in order not to terminate the criminal case on a rehabilitative basis, the investigator, contrary to the requirements of the law, suspended the criminal case on a fictitious basis. Considering that when sending copies of procedural documents through the office, their contents are not specified, the postal ID code cannot unambiguously serve as confirmation that this document was sent to the interested person. Thus, you can either send nothing at all, or send any other document, including the agenda. Often, the investigator does not consider it necessary to send copies of procedural documents to the participants of the criminal case. When implementing the "Preliminary investigation" software package, the investigator will be forced to make a procedural decision in a timely manner (in accordance with the procedural deadlines) and place it in the materials of the electronic criminal case. On the same day, the accused, and his defence lawyer, using a special electronic key, can read this document in full and, accordingly, if necessary, decide to appeal this decision of the investigator.

A similar situation occurs in cases where the investigator makes procedural decisions at the stage of initiating a criminal case, at the stage of preliminary investigation, and when the case is referred to the court. Cases of the investigator's unwillingness to receive requests from the defence lawyer have become more frequent, which, if there is an electronic criminal case, it would be possible to implement by placing the request in the" window " of the appeal from the participants in the criminal case. Such technologies make it possible, regardless of distance, weather conditions, or other reasons, to send a procedural request to its destination in a timely manner and record the date and time of the procedural action. In practice, we constantly have to deal with the fact that the investigator does not receive documents in time through the office, does not respond to requests and appeals in time, does not introduce the participants of the process to the adopted procedural decisions. The introduction of an electronic criminal case will exclude the possibility for the investigator to violate the procedural deadlines.

7. Electronic formats of the criminal case and legality

In the process of investigating a criminal case, situations often arise when the investigator must make a procedural decision. This decision must be legal, justified, and motivated. However, in practice, very often there are situations when the investigator makes an illegal decision, and in the harsh Russian reality, the courts refuse to recognize such decisions as illegal. The current system gives the investigator more discretionary powers, which in practice leads to abuse and in some cases creates the ground for corruption. Even though the law clearly establishes the grounds and procedure for making procedural decisions, practitioners do not always strictly comply with the requirements of the law.

Thence, in a criminal case against L. and P. of intentional illegal business activities without a license, where such license is required, coupled with the generation of income in especially large size, i.e. of committing a crime under paragraph "b" of part 2 of article 171 of the criminal code (19). This crime refers to crimes in the sphere of economic activity. Thus, the Commission of this crime does not provide for the presence of a victim in all cases. In this criminal case, no harm was caused to anyone, so no one was recognized as a victim during the preliminary investigation. Given this fact, it can be stated with certainty that no civil claims were filed in this criminal case. However, in May 2018, the district court of the city of Samara issued a decision, according to which the investigator's request for the seizure of property was granted. This decision was imposed in the form of a ban on the disposal of property. The arrest was imposed on seven objects: three apartments, three land plots and a utility room. The accused found out about this when she decided to make a deal to buy and sell one of the apartments that she had been trying to sell for two years. The decision on imposition of arrest on property in this situation was completely illegal. Under the provisions of article 115 of the Criminal procedure code, the arrest of property may be imposed "to ensure the execution of the sentence in the civil claim, recovery of penalty, other property collections or possible confiscation of property specified in article 104.1 of the Criminal code of the Russian Federation". Thus, the law accurately lists the grounds on which the investigator can make the specified procedural

decision. As we have already noted above, there were no victims in the criminal case, therefore, this decision cannot be made in order to ensure the execution of the sentence in part of the civil claim. To ensure the possible confiscation of the property specified in article 104.1 of the Criminal code of the Russian Federation, this decision also cannot be accepted, since article 171 of the Criminal code is not in the list of articles for which a conviction may result in the confiscation of property. There remains a third reason-to ensure the execution of the sentence in terms of collecting a fine and other property penalties. For this crime, the penalty is a fine in the amount of one hundred thousand to five hundred thousand rubles, or in the amount of the salary or other income of the convicted person for a period of one to three years. Thus, if the purpose of the seizure of property is to ensure the execution of the sentence, the court should have examined the value of the property to be seized and seized the property, the value of which is adequate to the amount of the fine, i.e. does not exceed 500,000 rubles. However, the court did not investigate this issue. The court seized 7 real estate objects, three of which are apartments, the cost of which is ten times higher than the amount of a possible fine. Moreover, the investigator did not even find out about the presence or absence of accounts in banks and other credit organizations. To ensure the execution of the sentence, it was enough to seize L.'s Bank account.

According to the legal position stated in the Resolution of the constitutional Court of the Russian Federation of 31.01.2011 N 1-P (20), it follows that "in the proceedings of a civil claim in a criminal case, including the adoption of interim measures in the form of seizure of property, - by virtue of the requirements of the Constitution of the Russian Federation for the inviolability of property and freedom of economic activity, as well as the differentiation of types of judicial jurisdiction and the provision of human and civil rights and freedoms with justice - there should be no obstacles to the correct and timely administration of justice in criminal cases, nor should the right of ownership of the person whose property is seized be unduly restricted." However, despite the complete illegality of this procedural decision, the court of appeal refused to satisfy the complaint and left the decision of the court of first instance unchanged.

This example well-illustrates the modern law enforcement system in Russia. The law exists. But, as one famous saying goes: "*the Severity of Russian laws is compensated by the non-necessity of their execution*." The introduction of information technologies in criminal proceedings could minimize the risks of such situations. If, when talking about the introduction of an electronic criminal case, we are talking not only about replacing paper documents with electronic ones, but about creating a full-fledged software product, we can provide the following features of such a system. You can enter the following conditions into the algorithm of this software: determining whether there are conditions for making a particular procedural decision. The program contains a complete set of documents used in criminal proceedings. However, depending on the qualification of the act, as well as the presence or absence of certain conditions, it may open a document for filling in, or not open it. That is, if the above-mentioned criminal case was investigated in the framework of such software, the computer system, comparing the available information, finding that there were no grounds for making a decision to seize property, would simply not allow the investigator to fill out this document-the decision to initiate a petition for seizure of property before the court. It just would not open. And if at least one of the grounds appeared, this document would be available for filling in. Therefore, it would be possible with a set of conditions: a) download a scan of the Declaration of recognition to the victims; b) the protocol of interrogation of the person as a witness; c) filling of the decision about recognition of the person injured; g) a protocol clarification person of the rights of the victim; d) the protocol of interrogation of the person as a victim; e) upload a scan of a civil lawsuit. When filling out these documents, the form "decision to initiate an application for seizure of property before the court" must be available for filling in. Moreover, the software will prevent the investigator from abusing their rights. In particular, when entering the values of the amounts of damage caused to the victim in a special field, filling in the "value of the property to be seized" fields may be limited to the amount specified in the "amount of damage" field. This will not allow the investigator to seize all the property that will be found. If each document has a unique identification number and is registered in the registry as a smart contract, it will not be possible to falsify this document in the future.

8. Discussion of results

We believe that the above leads to the conclusion that it is necessary to adopt the positive experience of introducing electronic criminal cases in Russian criminal proceedings. Today, the level of development of information technologies allows us to implement this option in practice. In the future, we consider it necessary to develop and implement the "Preliminary investigation" software package based on blockchain technology.

Clear positive aspects of the introduction of software for electronic criminal cases will be: reducing the time of preliminary investigation, strengthening departmental and judicial control over compliance with procedural deadlines, the possibility of timely provision of procedural documents to the investigator, Prosecutor, lawyer, and court; increasing guarantees of verification of procedural documents, protection from substitution of procedural documents and making corrections to them; reducing the time frame for combining and separating criminal cases, transferring cases under investigation and jurisdiction, as well as restoring lost criminal cases; and most importantly, this should lead to a reduction in corruption issues.

9. Conclusions

All in all, at present, one can talk about the possibilities of using this technology to create a single information network in which the "Preliminary investigation" software package and the "Trial" software package could be integrated. In this EIS, one can also integrate the "Justice", "arbitration", forensic records, databases of various government agencies, and attach the "Forensic examination" IP. At the same time, the software package can implement not only the office component, but also the legal one. Any process is, in fact, an algorithm. And it will not be difficult to introduce the provisions of procedural legislation into the software product. As we noted earlier, this software product can be used to set the exact sequence of actions required by law in specific cases, depending on specific conditions.

In particular, as part of the investigation of a criminal case that belongs to the category of minor gravity, the program will not allow the investigator to fill out a resolution on initiating a petition before the court for permission to conduct monitoring and recording telephone conversations, and will not allow the investigator to fill out a resolution on initiating a petition before the court for the election of a preventive measure in the form of detention. If there are no interrogation protocols in the software package, it will not allow the investigator to fill in the protocol of the confrontation between these participants in the criminal process. It will not allow the investigator to complete any procedural document at all beyond the procedural time limits. We believe that this approach will become the leading and optimal for Russian criminal proceedings.

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