THE CONCEPT OF ELECTRONIC DATA CARRIERS

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Abstract: The concept of electronic data carriers electronic data carriers are environments used for storing, transmitting, and processing data. The article covers the concept of these tools, their main functions, types (flash memory, hard drives, optical disks, cloud storage) and importance in modern information technologies. Their areas of application and development prospects are also analyzed. The article aims to demonstrate the importance of these tools.

Keywords: electronic data, storage media, storage, transmission, flash memory, hard drives, optical disks, cloud storage, information technology, functions.

Currently, scientists are actively conducting scientific discussions on the definition, content, as well as procedural procedures for identifying, verifying, evaluating, and using electronic data storage and storage devices relevant to criminal cases.

To understand the meaning of any word combination, it is necessary to analyze its lexical meaning. In the explanatory dictionary of the Uzbek language, there is no general understanding of the concept of a means of transmitting electronic information in the form of a phrase. However, through a separate analysis of words, it is possible to understand their lexical meaning.

The literal meaning of the word "electron" is an elementary particle with the smallest negative electric charge[1]. The lexical meaning of the word "information" refers to work, documents, figures, and similar materials that can serve as evidence[2]. It is noted that the word "carrier" is understood in the meanings of a means that has the property of storing, placing, or moving something within itself[3].

In our national legislation, in particular, the Republic of Uzbekistan O'zDSt 2295:2011 defines "electronic data medium," according to which it is defined as a material medium used for recording, storing, and reproducing information processed using computer equipment[4]."

In the course of the study, we witnessed that in foreign countries there are many definitions of electronic data carriers, but nevertheless, there are different points of view on this concept, sometimes contradictory and mutually exclusive opinions. This, in turn, indicates that there is a legal ambiguity regarding the concept of "electronic data carrier" as a source of evidence. Also, the absence of a legal definition of the concept of "electronic data carrier" in the Criminal Procedure Legislation creates serious problems in judicial and investigative practice, such as legal ambiguity and different interpretations, contradictions in the issue of the admissibility of evidence, ambiguity of procedural order, lack of formation of a unified practice, difficulties in conducting an examination, the risk of violation of individual rights, barriers to international cooperation, problems of assessing the reliability of digital evidence.

In the studies, we witnessed the views of some scientists that electronic data carriers are a separate type of evidence, while others believe that they correspond to the existing evidence system.

The existing legal uncertainty regarding the concept of electronic data carriers as a source of evidence hinders the formation of a unified practice in this area. Therefore, there is a need to clearly define the place and significance of electronic data carriers in the evidence system.

The legal regulation of the use of electronic data carriers is widely covered in the scientific works of V.T. Bolichev[5], A.G. Volevodz[6], N.A. Zigura[7], V.A. Kamishin[8], M.S. Sergeev[9] and other scientists. In their research, these scientists deeply analyzed the significance of electronic data carriers in criminal proceedings, the peculiarities of their use as evidence, the experience of developed countries, as well as issues related to the procedural order of collection and processing of electronic data. Their scientific conclusions and proposals can serve as an important theoretical basis for improving legislation.

Analyzing the changes made to criminal procedure legislation in recent years, scientific publications, various statements of scientists and practitioners at scientific and practical conferences, it is shown that the reflection of cases related to electronic data and their carriers in criminal procedure legislation is becoming a requirement of the times. L.N. Maslennikova notes that in the 21st century, scientific discussions in the field of criminal procedure law and practice revolve around the effectiveness and risks of applying modern digital technologies. In criminal proceedings, digital technologies serve not only for the collection and recording of evidence, but also for the transfer of all criminal proceedings to electronic form. This raises the relationship between the participants in the criminal process to a new level[10][11].

The lack of a legal definition of the concept of electronic data carrier in the Criminal Procedure Code creates problems in law enforcement practice. As a result, various opinions and discussions arise in scientific circles regarding the essence, content, and legal status of the concept of "electronic data carrier." This, in turn, creates difficulties in the process of collecting and consolidating evidence in criminal cases.

As mentioned above, the Republic of Uzbekistan O'zDSt 2295:2011 defines the term "electronic information carrier," according to which it is defined as "a material means used for recording, storing, and reproducing digital data reproduced using computer technologies" [12].

Analysis of the given definition shows that electronic data carriers should include all devices that perform the functions of recording, storing, and restoring data. In this approach, many household appliances with memory chips (refrigerators, vacuum cleaners, etc.) should also be considered as electronic data carriers. This creates confusion in the use of this term in criminal proceedings and obscures its legal essence.

In our opinion, the above-mentioned concept is interpreted in a broad sense, and the use of this concept in criminal procedure legislation may lead to many errors in the application of law in the future.

Also, according to the "Explanatory Dictionary of Information and Telecommunication Technologies," an electronic data carrier is "a substance with certain physical properties that can be used for recording and storing information"[13]. In this definition, we can see that

electronic data is intended only for recording and storing. However, it should be noted that such tools also perform the function of electronic data transmission.

For a deeper understanding of the essence of the concept under consideration, it is necessary to turn to technical sciences, especially cybernetics. G.E. Senkevich, having studied in detail the process of recording digital data on various media perceived by computer devices, notes that today types of data recording on magnetic, optical, and electronic media are widespread. The following physical processes are used:

- magnetization of ferromagnetics in a magnetic field;
- creation of a spiral track from the center to the edge of the disk using a laser beam;
- voltage application to the memory microchip control valve, etc. [14].

In turn, N.A. Ivanov argues that the concept of "electronic data carrier" does not cover all technical means capable of creating digital data, and the use of this concept is inappropriate[15].

Supporting the hypothesis of N.A. Ivanov, we consider it expedient to include magnetic and optical devices in the list of electronic information carriers.

Also, in the definitions given by the authors, we can see that it covers only the range of electronic data carriers that are convenient for carrying by people. However, we can see that the authors did not take into account the convenient and widely used electronic data storage and storage servers, cloud data storage services on social networks, as well as the development of these types of data storage and storage tools in the future.

Yu.N. Sokolov, addressing the concept of "electronic data carrier," emphasizes that it is a means intended for technical and technological reuse, with the function of recording, storing, transmitting, and reproducing electronic data using existing technical means, and protecting access to data in these means. This definition seems to illuminate modern electronic data carriers, but the specific nature of the author's phrase "existing technical means" is not explained. This leads to some uncertainty in the full understanding of the concept.

According to V.N. Grigoriev and O.A. Maksimov, "electronic data carriers" are a separate group of material evidence not created within the framework of a criminal case, requiring electronic computing devices for perception, containing information relevant to the criminal case[16]. However, this definition also has certain shortcomings. Firstly, a memory card containing electronic data created within the framework of a criminal case (for example, photographs of the scene) is also a means of electronic data storage. Secondly, there is information that can be perceived by electronic computing devices, but is not stored on electronic media. For example, even if the results of checking the composition of a substance in a gas chromatograph are not stored on an electronic carrier, an electronic device is necessary to view it.

I.S. Fedotov and P.G. Smagin noted that electronic data carriers can consist of devices (hard drives, flash drives, compact discs, etc.), however, currently there are modern versions of these electronic data carriers, and such devices may include mobile communication devices, tablets, mp3 players, as well as "smart" refrigerators, computer parts of vehicles, etc. [17].

In our opinion, the above definition is somewhat more complete. Because currently, mobile communication devices (smartphones) are widely used in all aspects of people's lives. This creates the possibility of using electronic information relevant to the case in criminal cases using these electronic data carriers.

I.V.Kaznachey also notes that an electronic data carrier is "a technical device designed for writing, storing, reproducing, and using data using computers (means) "[18]." This definition is similar to the definition given in O'zDSt 2295:2011 and, as noted, has some shortcomings.

Furthermore, Yu.V. Gavrilin defines an "electronic data carrier" as a systematically developed tool for permanent or temporary storage of data in a form suitable for use in computer technology, as well as for its transmission through information and telecommunication networks and processing in information systems [19]. In this definition, we see that the author has a broader understanding of the range of electronic data carriers through the concept of temporary and permanent storage of electronic data.

One of the main features that unites all the above definitions is that they are intended for storing and transporting electronic data. This was given special attention by Yu.V. Gavrilin, Yu.N. Sokolov, and is also reflected in the definition given in O'zDSt 2295:2011. V. N. Grigoriev and O. A. Maksimov emphasized another feature, namely that data on electronic data carriers is created using computer technology and can be perceived through these devices.

Having analyzed the above definitions of electronic data carriers, we propose our own author's definition. "Electronic data carrier" - from the point of view of criminal procedural activity, a tangible or virtual object perceived by computer technologies, intended for recording, storing, transmitting, and processing digital data.

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