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THEORETICAL METHODS OF INFORMATION TECHNOLOGY IN THE EVALUATION OF INFORMATION RESOURCES

Sofoyeva Fotima Davlatyorovna,
"Information Security" direction of the Faculty of Information Security of TUIT named after Muhammad al-Kharizmi
Nurillayev Sherzod Rashidovich
"Information Security" direction of the Faculty of Information Security of TUIT named after Muhammad al-Kharizmi
+998 90 915 12 82
@Fotima1026gmail.com

Annotation. *This article provides information on features that reflect the semantic or pragmatic nature of information resources and have an internal, semantic nature.*

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Unlike material and energy resources, information resources can be quantified using generally accepted measurement systems (e.g., weight, length, power, etc.) or qualitative indicators using well-known methods of analysis. does not have the characters or features you want. It should be noted that in this case we are talking about features that reflect the semantic or pragmatic nature of information resources and have an internal, semantic nature.

In the analysis of information, some external or formal properties of information resources can be quantified, for example: message size, number of characters or numbers, amount of data, and so on. Electronic form, expert, teacher, consultant knowledge and more.

Due to the definition of the concept of "information" directly related to the reduction of the level of uncertainty in the "transmitter-receiver" system in the consumer, information resources can be characterized by a number of defined features or attributes. It is also evaluated by consumers themselves and therefore these evaluations are very subjective.

Each consumer, based on his knowledge and experience in working with data on a particular topic, can distinguish the characteristics of

information resources that, in his opinion, determine the semantic nature of this resource. However, they can have different uses, different levels of innovation, and other features that can affect the decision-making process in different ways to perform any consumer action.

When working with information, there may be situations where a single resource for different consumers has different defined characteristics and different levels of evaluation for each of them. Thus, for example, the information resources offered to a single consumer may turn out to be completely new, very relevant and useful material in terms of acquiring new knowledge and using it in practice. The other consumer may not be able to assess the meaning of what is available in the same material, given the level of his or her qualifications, or because of the circumstances, and may not pay due attention to the information provided.

In addition, the quality aspect of information resources can be considered both from the point of view of the specific data consumer and from the point of view of the information system or the expert who transmits this resource for future use. With this in mind, evaluation is a qualitative and quantitative study that describes the various factors and conditions of production of a particular information resource, the consumer's request, the processes of its delivery, receipt and direct use. should be done on the basis of indicators.

It should be noted that the quality of the same data varies when implementing different goals or activities (engineering, metrology, economics, sociology, etc.). Parameters (indicators) and methods of determining the quality of information in different fields of science also differ from each other.

The characteristics of the quality of information resources (information) determine the important features of a particular object, which can be at different stages of information technology: collection, storage, processing, transmission, reception and use. It is in this context that we consider the key features of quality.

The stage of data collection or selection (emergence of information) is accompanied by a very important feature of information - its representativeness, which is associated with certain rules of data collection, selection and formation, o ' accurately reflects the studied aspects and adequately reflects the characteristics of the object. Information about an

object reflects its structure, properties, internal and external relations, the real processes in which it is roughly involved, only seeks to reflect the reality realistically and completely.

Violation of representativeness in the formation of information often leads to serious errors and affects the main features of information - accuracy and reliability.

Accuracy of information - describes the degree to which this information approaches the actual state of the specified object, process, event, or surrounding reality.

Reliability (adequacy, accuracy) of information is determined by its ability to reflect real-life objects with the required accuracy.

Any information about an object or event reflects the truth with a certain degree of error. This is due to the imperfection of the methods and tools used to collect data or measure information parameters. In addition, there is always an external noise level when recording data or data carrier signals.

It should be noted that currently, even against the background of strong noise (often to the extent that it exceeds the useful signal), methods of data recovery and thus increase its reliability are being developed and actively developed.

On the other hand, the reliability of generated (primary) data may be reduced in the future by the use of improper methods and tools of storage, processing or misuse.

A very important feature in the formation of information resources is its semantic content, which reflects the amount of information that a particular message contains, or the amount of knowledge it contains relative to the total volume of the message. In this case, the specified ratio can be from 0 (the message has no meaning and it is completely redundant) to 1 (all of these messages are meaningful and plus zero).

In the general case, it is very difficult to objectively evaluate the features mentioned, because they belong to the field that covers the features of semantic order and are determined by the features of cognition as a process of reflection and repetition of reality in man. Such quality indicators can be expressed in an ordered row or on a rating scale (for example: high, medium,

low or excellent, good, fair, bad).

Temporal indicators describe different temporal aspects of information: the moments of its occurrence, the introduction of certain information resources, including through communication channels, the timing of data collection and submission (calendar, tax, financial year), end of relevant year, etc.).

In general, this characteristic determines the relationship between the content of information about the object and its current state of the object.

Information has aging properties because it is affected by time, so information resources have a certain "life" period.

At the stage of storage of information resources, the characteristics as a storage unit should reflect its individual characteristics and dependence on the place and time of storage.

The source determines the origin of information resources and identifies a specific person (specialist, expert), organization, set of documents (information center, database, library, archive, fund, etc.), a single publication in print or electronic format (book, magazine article), encyclopedia, official and scientific reports, technological documents, etc.), as well as a measuring sensor, etc.

Thematic affiliation reflects the relevance of information resources to a particular field of knowledge, which allows you to systematize resources according to the classification characteristics of storage facilities.

The content determines the thematic essence of the presented knowledge (topic, idea, theory, methodology) in a particular field of science.

Scope defines, limits, describes, or identifies content. In a sense, coverage can be seen as part of a content parameter. It narrows as if and sets a certain framework for the content. When content is unlimited, access is a limiting factor.

Coverage is usually characterized by the size, completeness, and adequacy of information resources.

Size is the total amount of information available to the user on a problem.

Completeness is the ratio between the data available on a problem and the data available to the user (i.e., the portion of it that can be retrieved). The more knowledge a resource has on a particular issue, the more effective it will be for consumers with different levels of training to use this resource.

The method of fixing information determines the type of media, as well as the methods of writing and receiving (reading) information on it. Types of information carriers largely determine the characteristics of information resources, such as time resistance, availability, processing capability, speed of distribution, and consequently the efficiency of its use.

The same information about a particular problem can be written in different media and in different ways. In this case, it may be difficult or completely impossible to read and comprehend the information correctly. Therefore, the restrictions imposed on the list of information carriers have a significant impact on the solution of all issues of access to information resources and the definition of information policy in the field of their creation.

Information becomes a resource only if it can be transmitted between user processes distributed in time and space. Otherwise, it can only be used to solve a limited range of problems, and the efficiency of its use is reduced. With the detection of information on a particular carrier used for this, its movement begins in any communication system (communication, interaction between people). Therefore, the choice of information carrier and the method of data storage in it is very important for all subsequent stages of information technology.

Language is the most important feature that defines the possibilities of creating documentary information resources and limits access to them.

Translating information resources from one language to another significantly slows down the exchange of information between users, leads to additional distortions in the structure of information resources due to the specific nature of the language, and requires additional labor and financial resources to exchange information. For example, in general, European countries lose 40-50% of the information coming from other countries due to the language barrier.

T The availability of information characterizes the consumer's ability to access, receive, and then use it, including the ability to receive information at

a particular time. At the same time, access to the sources containing the required information is indicated and the form of its presentation is determined, which significantly affects the perception of this information and the acquisition of stored knowledge necessary for the consumer.

This characteristic may also reflect certain restrictions imposed by information resource owners on obtaining information under their control when accepted by many different consumers (for example, allowed access for a limited number of users or free access without restrictions).

The presence of factors limiting the use of information or the lack of necessary methods and means of obtaining and interpreting it may not allow to obtain the information in whole or in part, which leads to a decrease in the completeness and reliability of the available data.

Infrared radiation transmission - in the reception stages, its quality can change for the worse depending on the characteristics of the communication channel and transmission conditions (data may be distorted due to accidental or systemic interference, limited bandwidth, lack of required network). This implies the requirement to establish features that reflect all aspects of the interaction of information resources in the process of transmission to the recipient through communication channels.

At the stage of direct use of information resources as an information product of consumption (the ultimate goal of information technology) it must be characterized by features that determine its ability to meet specific social or personal needs in practice. Consequently, the characteristics of quality in this case reflect its relationship to the recipient and user of the information and are largely pragmatic in nature.

In summary, the efficiency of information use is determined by key consumer quality indicators such as usefulness, relevance, relevance, timeliness, relevance, and price.

In this case, the above characteristics may not reflect the purely natural properties of information resources, but are manifested only as a result of subjective-practical interaction of the object and the subject. Thus, the considered features of the quality of information resources have only a pragmatic meaning and differ from its other features of syntactic and semantic nature.

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