

A General Definition of Information

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Abstract

This paper is focused on the introduction of a new definition of information in a general and broad extent, which can be applied in the fields of humanities, social sciences, and natural science.

Major literatures of the searching for a general definition of information in many fields are reviewed in this paper. The methodology and methods used are also re-visited and discussed. The authors argue that all the concepts as well as definitions of information developed in the past are confined in one field on the basis of usage level, neither can be applied to other fields nor can be merged with others to give a general definition. The only exception is Shannon's communication model. But, this model also has its limitation, such as information must be expressed in "coded" form. Also, it does not shown the semantic and effectiveness considerations under the readership context.

Instead of sticking with the communication model as most of the previous work do, the authors introduce a new approach by utilizing the phenomenon of information creation as a model to formulate a general definition of human-made information. The information creation process is an independent process free from all applications. It deals only with the expression system, such as a nature language, a scientific language or an artistic language the creator selected. And the information creation process has no concerns of the content to be expressed, too. Therefore, this definition of information is general in nature. It can be applied in any fields of humanities, esthetics, social sciences, and natural science.

Besides human-made information, this paper also discusses the information obtained by the process of observation on the nature or on the social phenomenon. In-depth studies of the properties of the information at the creation end as well as the reader end are also presented in this paper. Thus, the general definition of information can be viewed from these two ends: from the creator/communicator end, information is the form created with expressing "what is known" on the medium used; from the receiver/reader/audience end, information is a form.

According to the definition human-made information, four categories of properties of Information can be derived. There are: ❶ inherited from "what is known", ❷ introduced by digital media, ❸ extended by the harness of instruments, related techniques and associated information infrastructures, and ❹ introduced by applying the selected express system. Also, the general definition can be de-generated into the concepts/definitions of information most of the previous works did. Examples are also presented in this paper.

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