275. Research on Audience's Information Behavior of Science Communication

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Abstract. Audience is one of the very important field of Science Communication. As society and technology evolving, the traditional audience of theory is not enough to explain the variety of new behaviors and phenomena. The main research content of the paper is try to use information behavior theory to explain these issues and provide a new method in research on science communication. This article from the perspective of general information behavior theory discuss that the audience's three aspects are information demands, information behavior process and effect factors of information behavior. First of all, audience's information demands are respectively explained the motives of internal factors and external factors; secondly, it is analyzed that the process of information behavior in Science Communication is formed; finally, it is the analysis of these effect factors of audience's information behavior. This paper conducts audience's information behavior in a simple analysis and induction and provides a new perspective for the Science Communication theory.

Keywords: Science Communication; Audience; Information Behavior

Introduction

Whether to investigate the dissemination of results or study the impact of media on the audience, human behavior is always a center of communication problems. Man as "audience" can only receive information in a passive communication process, it is an old point of view on the early study of communication. As early as 1959, scientists Katz's " Uses and Gratifications " theory put forward to refute this. 1980 years, Japanese scholars with a strong "information age" consciousness began to re-examine "audience" in communication and understood the audience from "passive recipients" to "active user." So people start using a new concept to describe the behavior of using and accepting mass communication and that is "information behavior" concept. In the information age with changing and developing of propagation media, the behavior that mass communication theory can not explain and do not include often in people's daily lives, especially since the process of information to form a variety of new communication behaviors, communication theory is the more powerless. Information behavior theory provide a new help to theoretically interpret these problems for us.

According Wilson generally described on patterns of information behavior in 1981(1), based on the traditional information behavior study, combined with the communication and sociological theory, we discuss audience's information behavior of Science Communication in several aspects such as information needs, the process of information behavior and effect factors to explore and enrich the relevant "audience" of the theory.

Audience's Characteristic and Classification

The emergence and expansion of Internet in mid-90s of 20th century, humanity has entered the information age, information technology as an effective means and important ways of social life, all of the scientific and technological achievements have prompted a leap in science communication work, which makes "audience" does not longer be passive recipients of information, but mainly to search for needed information. Science communication is also increasingly from the Public Understanding of Science into the Science Communication. We believe that the audience of science communication are people who are initiative and social, and members of society who expectations and needs of the knowledge about nature and social practice has understood and accepted through effective medium.

Science Communication audience generally classified according to their form factors such as gender, age, education, industry, nature, nature of income and occupational classification. These methods are mainly based on demographic characteristics of the classification, to facilitate the classification of the audience. However, the audience should be broad, including not only individuals but also including the groups, including not only the reality of the audience should also include the potential audience. This paper argues that audience of science communication are classified by the audience's attitude so that we know more about the psychological characteristics of the audience.

First, passive audience. The types of people in the audience at this stage accounts for a significant portion. Most

of the features of this group is accustomed to go with the flow, ability to adapt to survive, holding adaptable attitude, not have their own opinion, is the so-called "silent majority." However, the media pay more attention to the group reports, are especially concerned about media changes in national policy on science and the spread of social change from the direction of a look into the depths in order to make themselves more to adapt to society.

Second, active audience. The characteristics of this type is due to the will of the crowd more firm, the ability to accept new things, and a considerable part of a knowledge culture, so they hold more positive about the future attitude of most of them actively participate in science and the establishment of a new social order. And similarly, such people are also concerned about media reports, especially like to accept a lot of information is different with a conclusive report is not blind obedience and replace them with their own thinking.

Third, aggressive audience. The number of such people is very small part, but full of thought and action. This group do not mentioned in age, but have the most characteristic features of knowledge of the group. This group of people have strong ability to accept the world's advanced ideas and culture. Science Communication media is the object impacted and used, and forums which express their views to promote society for them.

Research On Audience's Information Behavior

Essence of information needs

Information behavior began in the audience aware of their own information needs, and audience will produce behavior because they have information needs. Information behavior research and information needs are inseparable. In general, the audience's information needs is the audience needs some information to meet their needs. The information needs for three types of science communication of audience is divided into domestic demand and external demand. The domestic demand of information needs of the audience is its fundamental role in information behavior and determines the audience's information behavior of the object of conduct, process and development. The external demand influence information behavior in two ways, one is to arouse the audience's internal information needs and thus generate information behavior; the second is to initiate audience to generate new information needs and conduct information behavior .

Process of information behavior

Information behavior is the audience's action and history to response and meet their information needs.

"Information behavior" theory is interdisciplinary science formed in communication science and information science, which not only covers various elements of the analysis of the media, but also explains more systematically issues of the relationship between media and people. From the traditional information point of view, the domestic definition of audience's information behavior is that "mainly refers to human use their wisdom to start a variety of information activities which is a series of process of human information inquiries, collection, processing, production, use, dissemination and so on. "(2). Japanese scholars Mikami Shunji believe that information behavior is an action of personal in the social system to use the media or directly to the collection, transmission, storage information, and processing of information. Further more he also proposed the basic model of information behavior . (3)

In science communication audience's information behavior is mainly the process of produced and accepted scientific information. This article explore information behavior process based on the knowledge which is a typical representative of scientific information. The main way to accept knowledge is reading scientific literature, it is also a process of scientific information received (4). In our view, the four steps which is "reflect - select - Integration - internalized" is not only the interpretation of the process of accepting the scientific literature information, but also suit to explain the process of general acceptance of scientific knowledge. Scientific knowledge is the results of human reason and a kind of information whit processing and refining, also can guide people's practices. So knowledge acceptance generally emphasis on "understanding" and "internalized" these two steps. It should be noted that the "select" is not a separate step, but throughout the entire process of acceptance of scientific knowledge. Accepted scientific information can be summarized into three steps: reflecting - understanding - internalization. Reflecting is the perception and initial understanding of scientific information; understanding is to interpret scientific information and to grasp the essence of the thinking process; internalization is the process confirmed the original scientific information and the full acceptance after practice testing.

Effect factors of information behavior

From the perspective of information studies, many scholars have discussed the factors affecting information behavior: William J. Paisley summed up the eight-factor point of view focused on environmental factors (5); Abdelmajid Bouazza summary view of the three factors (6) focus on aspects of personal characteristics; C.L. Mick and George N.

Lindsey (7) focus on two aspects of personal qualities and interpersonal; Wilson's three-point (8) factors is in line with the actual situation including personal characteristics, interpersonal and environmental factors.

Social science theory said that "all human social behavior is under the influence of the social environment and through learning of model behavior to form, improve or change." (9) The critical factor of human behavior that person factors and environmental factors play a role not in isolation, but the result of the interaction between people and context. (Figure 1). (10)

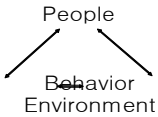

Figure 1. interactive relation

Behavior, human factors, environmental factors connected with each other and mutually decided to form a triangular interaction. From this point of view to analyze the factors which influence the audience's information behavior to discuss three aspects including human factors, external environmental factors and the interaction between the both.

(1) The audience factors including physiological factors and psychological factors.

a, physiological factors, generally including height, gender, exercise capacity, health status, age, disease, mainly referring to people in the development and changes on the physiological functions. As the human cognitive ability, with the individual growth and progressive development, so that different age groups, often have different information behaviors.

b, psychological factors. In general, human behavior is impacted by cognitive, emotional, and emotion of three psychological processes. In these three areas, play a leading role in cognition, and mood and emotion, will, play a role in regulating the control. Therefore, the information of the acceptance of human behavior will affect the psychological factors are divided into two categories: cognitive patterns and mental state.

(2) Science Communication of the environmental factors. Different social role of a person have different information needs and impact different ways and content of information behavior. People not only have different social roles, but also have different social status, which determines the same information on the different attitudes and behavior acceptable.

The social environment factors, including three aspects: first, scientific information, which includes scientific information resource and scientific information characterization. A lot of rich information resources will consume audience energy of identification, selection and filtering and tend to audience to form mental fatigue, so it will reduce the effectiveness of science communication; and information resources are too scarce to make the audience produce disappointment and reduce the enthusiasm; reasonable representation of scientific information (such as information structure is reasonable and whether the information simple and eye-catching presentation) will affect the efficiency of using information. Second, the science communication activities. On the one hand, science communication activities as an information intermediary, provided the information source for the audience's information behavior to promote the occurrence and development of information behavior; the other hand, the information content may be repeated processing in the process of science communication, it is different from the original source of the content, so the receiver of information have some impact. Third, technologies and tools in science communication. The use of information technology and tools to make the information behavior of the audience has undergone tremendous changes. For example, the rapid spread of the Internet today, people may not be through traditional ways and means of access to scientific information, but consciously search through the Internet to find the information they need.

(3) Interaction between the factors. We discuss the impact factors of audience's information behavior of its own and external environmental factors. In fact, the two factors do not work in isolation, but intertwined, so this interaction also affects the audience's information behavior. For example, the mass media and audience interaction, on the one hand the mass media guide and control the audience's information behavior, on the other hand the audience have a choice to accept the mass media impact of mass media.

Conclusion

In this paper, we carry out audience research of science communication in "information behavior" perspective, and utilize comprehensively psychology, communication, sociology and other disciplines theory in order to discuss the characteristics and classification of the audience and information behavior of the needs, processes and factors and other issues. This is the first attempt from an interdisciplinary perspective to explore the audience's information behavior in science communication, on the basis of previous research, and focus on a number of levels from the theory of exploration

and analysis. Audience's information behavior of Science Communication is based on traditional information behavior research, so the basic theory of traditional information behavior still apply in science communication. However, with environment change, science and technology development, human's information behavior is undergoing change, so the audience's information behavior of science communication has yet to be explored.

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