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# Analysis of the relation of researchers in the WWW

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In order for people to live in society, you have to bring other relations with people. Various relations of such society are expressed as a social network. If it divides into a social network greatly, there are two kinds. The restraint of one is strong and a blood relative, relation by the area, and a systematic relation are equivalent to this. The restraint of another is weak and an information edge is equivalent to this.

In recent years, the network of WWW is increasing by leaps and bounds with the spread of information and communication technology. This enabled it to exchange a huge quantity of information by carrying out Internet agency. The page of unique WWW in the world attained 1 billion pages as of January, 2000. And the scale is expanded further. Such change has resulted in a big change also to the relation to the relation with people. By using the network of WWW, it became possible to build the direct relation about individual interest and concern. In other words, it means that the relation as the edge based on such common interest and concern, i.e., an information edge, is increasing by leaps and bounds. A spread of the present information edge has a meaning with important things, when it is a global scale and we have a relation by the information edge in the network of WWW.

For example, it is thought that the researcher of a university has the strong relation as systematic relation. However, in the network which has the big possibility in the relation as an information edge called WWW, relation of an information edge is considered that it can see more mostly than relation of an systematic relation.

In this research, it verified by forming the hypothesis that the researcher of a university also has the strong relation as an information edge on the network of WWW.

In order to verify a hypothesis, the reserve was investigated first. Since the network of WWW could not be investigated blindly, it carried out in order to grasp the overall feature in the relation between researchers as spare investigation. First, eight domestic universities where the researcher belongs are chosen at random. Then, it investigated whether the site of a faculty, a subject of study, and a laboratory would exist. And investigation about the link of a

site outside the university was conducted. The result of preliminary investigation showed the following. There are few sites about the site of a cultural system. And it cannot judge in which of individual relation and relation of an information edge at a link place. On the other hand, a science site has many sites. Moreover, this site has many links to the same research field. In response to the result of preliminary investigation, data collection was performed about the science university. Data collection pays its attention to the viewpoint of a research field. Based on reference data, data is collected about eight research fields on the network of WWW, it collected about a university, a faculty, a subject of study, a laboratory, a postal code number, URL, and the data of a link. The data of a postal code number is required in order to create the map which used JAVA. At this time, the data of the simplified personal history of a researcher was also collected together. Collected data needs to analyze the feature of the link of each field. Therefore, the number of the links which are going outside, and the number of the links containing from outside were measured about each site. From the obtained measurement result, analysis of whether the network of WWW is the relation as an information edge was performed.

The result of analysis showed the following things.

- In fields other than research of a design, the number of links which is going outside became 50 percent or more only to the site of the university which are four higher ranks. That is, the source of supply is concentrated on the limited site.
- In fields other than research of a design, relation of an information edge was able to see partially.
- However, many sites are considered based on the relation as systematic relation.

It is hard to say that the result that supports a hypothesis strongly was obtained from this object range and analysis method in research. However, relation of an information edge is shown although it is partial. Therefore, now let's treat more research fields and collect the numbers of sites more broadly. Much relation as an information edge may appear as a result.