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Analysis of Innovation Process in an Open Source Development

- Possibility of Open Source Software Development in Japanese Universities-

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In recent years, open source software (OSS) attracts attention with development of the Internet. This is software of form that has guaranteed public presentation of a program, and the freedom of re-distribution. The concept of an open source was advocated in 1997. Therefore, the research on OSS is still scarce.

The research on the practical use method of an OSS community is mentioned from the viewpoint of the business model on the network which the research (Kokuryo[1999]) (Negoro[1999]) on the open source community performed as precedence research of OSS (Kimura[2000]) (Raymond [1997])) performed. No these researches are OSS itself and have become what focused on the OSS community. The other hand, we observed OSS to it at the development process of the product a "software product." Moreover, we paid our attention to the trigger, which produces OSS. That we observed also in it is the case exhibited considering the research result of a university as OSS. We think that there is the possibility of utilizing OSS as the new open method of the research result in a university.

Our research purposes are clarifying the new innovation process about OSS, and investigating whether it becoming the way OSS returns a university research result to society.

We investigated the present condition and the outline of OSS first. Next, analysis of the driving force of OSS development was performed based on reference. Consequently, it was indicated that the driving force of OSS development was not an OSS community but following three. (1) Character as digital goods of OSS. (2) Existence of the network as a circulation function of OSS and the network as a communication tool. (3) Spontaneity of the group in connection with OSS.

Next, it investigated about the relation between a university and OSS. The contents of investigation are the following two. (1) Investigation about Linux distribution. (2) The case study of PostgreSQL. In investigation of (1), the mail address was extracted from the source code contained in Linux distribution. Consequently, it became clear as objective data that the persons involved in a university are mostly engaged in OSS development. The following things were clarified in the case study of (2). When the research result of a university was set to OSS, it showed clearly that it transfers not only to a company but to various groups. And each of a university, a company, and an OSS community is sharing by transferring technology and a product as a result. We discovered the new innovation process of the form where OSS develops as the result and a research result is returned to society.

The following opinions were performed for the solving point of our research to origin. It is effective as a new method of returning the knowledge in a university to society to exhibit the research result of the university in a software field as OSS. And as a policy when carrying these out, we described practical use of the character of digital goods, and the importance of maintenance of the environment where OSS grows up.