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# Development Style of Open Source and Economies of Connection

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Recently, Open Source Software (OSS) becomes indispensable resource in the information service industry. Moreover, OSS development also consists of the contribution and participation by information service enterprises. While the development of OSS style has spread, participation of information service enterprises toward OSS has also increased. In our research, we will consider the relation between OSS use and its effect in terms of economic theory.

As is noted in Coase (1937), when enterprises trade through a market, it is necessary to collect the information about goods, search a partner, etc. In other word, uncertainty which arises from trade through a market will cost enterprises. This is known as “Transaction Cost”. We think that computerization decreases their transaction cost. As a result, computerization will cause enterprise’s business strategy from closed style toward open one. The change of business strategy, economies of scale is the strategy of pursuing economy of scale. This strategy will have closed and independent management style. On the other hand, as is noted in Miyazawa (1988), “Economies of Connection” is the viewpoint that many companies cooperate and consider the synergistic effect of technology or know-how as important. The computerization, such as the Internet, serves as this background. In “Bazaar Model”, a develop participant is not limited but a development process is exhibited generally. The developer can be connected by the Internet worldwide. Computerization such as the Internet enables source code to spread worldwide. Therefore these “Bazaar Model” will suggest "the economies of connection".

Under open strategy, technology and know-how will combine with each other beyond boundary of each enterprise. Chesbrough (2003) has been considered this open strategy as “Open Innovation” in terms of R&D activity. OSS is developed in community which is an organization outside an enterprise. Since OSS is released free, it is a kind of public goods. Under “Open Innovation”, it is important for an enterprise to combine own development project with OSS in order to create new value and to enhance its competitiveness. “Open Innovation”, needless to say it is equivalent to the “Bazaar Model”. We think that the business model which uses OSS is based on “Open Innovation”. This process enables enterprise to decrease its development cost by replacing own resources and OSS, or “connecting” both.

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