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Effects of Merger and Alliance on Industrial Innovation

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The purpose of this paper is to show how do the merger or alliance of firms influence the innovation, and what type of merger or alliance is effective.

In 1998, two world biggest automobile makers' merger, Daimler and Chrysler, was announced sensationally. On the other hand in Japan, Kawasaki Steel and NKK agreed for consolidation and made "JFE Group". Now, firms need the expansion of their scale, because research and development has become more important. And it is pointed out that not only one company but also two or more company should jointly promote the innovation, and that each company should research and develop more actively. And, there is no doubt that the innovation is important for the economic development of nation.

But the question now arises: is the merger or alliance of firms really effective for the innovation? In what kind of mechanism do the merger or alliance influence the innovation? What type of merger or alliance should firms consider? It is necessary to clarify these points.

To begin with, we review the conventional literature on innovation and discuss the promotion factors of innovation. Next, we discuss merger and alliance as business behavior. Then, we defined the term "merger and alliance" as "internalization methods of transaction of resource".

Japanese chemical industry is selected for our quantitative analysis, because Japanese chemical industry is research and development intensive industry, and recently the large-scale

merger took place. As quantitative analysis, the regression model was presumed based on the hypothesis that the merger influences the innovation via appropriability and technological opportunity. Our result indicated that there is a delay between merger and innovation (: appropriability and technological opportunity). The delay about appropriability is 2 years; about technological opportunity is 7-10 years.

As qualitative analysis, we conducted the case study analyses on two mergers in Japanese chemical industry: Mitsubishi Chemical Corporation and Mitsui Chemicals, Inc. The result of these case analysis show that the institutional or geographical integration of R&D organization makes it effective for innovation under "firm size oriented merger" condition.

Then, we analyzed the case on the networking device makers, especially Cisco systems Inc., this maker is famous for "product development by acquisitions". Our result showed the characteristics of developing and acute competitive industry. In this industry, R&D oriented merger is effective, because it is easy to estimate the effect of the merger beforehand. But it is difficult on the other hand because the time, which can be spent integration work, is shorter than the product development lead-time. Therefore quick integration and reorganize of R&D system is very important.

In this paper, appropriability and technological opportunity as promotion factors of innovations is taken up and the mechanism that the merger and alliance influence the innovation through these two factors was clarified. And the importance that increasing technological opportunity by integrating the research and development activities was confirmed.