

비용분담 및 성과공유를 고려한 연구조합과 기술개발 카르텔  
Research Joint Ventures and R&D Cartels:  
Both Input and Output Sharing Considered

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Abstract

Thus far, there have been a lot of analytical researches in the field of cooperative R&D and many of them asserted that 'cartelization' is a better organizing form of scarce R&D resources. In these models, cartelization is represented by a joint-profit maximizing behavior of involved firms.

But this result is somewhat contrary to the long-heritaged belief that more competition is better and, therefore, firms should not be allowed to coordinate their production or R&D decisions. This may be the reason why the suggestions of previous researches could not be readily implemented in a real world and often had a conflict with the anti-trust law.

We think that this conflict is largely due to the defects of previous RJV arrangements and if the rule of game is appropriately modified, there will be a more R&D cooperation than now.

In this paper, we follow Kamien et al.(1992)'s classification of R&D activities (R&D competition, R&D cartelization, RJV competition, and RJV cartelization) but modify their model in two respects. First, rather than a conventional Cournot or Bertrand competition model, we use the conjectural variation model to fully exploit the effect of the range of competition on the RJV performance. Second, we suppose that once a RJV is formed, input sharing by a predetermined sharing rate, as well as an output sharing by a higher spillover rate, takes place. This is because in most real world RJV's, output sharing is often accompanied by an input sharing.

From these settings, we show that if both input and output sharing are considered simultaneously, RJV competition in which firms form an RJV, but decide their respective investment level for their own's sake, that is, without considering the joint profit of involved firms, may have a better outcome. Also we can find the effect of competition on certain cooperative R&D organization and the most desirable cooperative R&D forms in an industry characterized by an intrinsic degree of competition.