

Title	概念実証の観点からみたアカデミアの研究成果事業化プロジェクトにおけるステークホルダー間の知識共有-産学共同研究とスタートアップ企業創出の事例研究-
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# Abstract

The purpose of this research is to clarify the method of knowledge sharing among stakeholders in order to commercialize and socially implement the research results generated in universities and public research institutions (hereafter referred to as "academia").

According to previous studies, innovation is not enough to simply propose technological inventions and new models but must also generate economic development and social change. In other words, in order for academia to contribute to innovation, it is necessary to create products and services that bring changes to society based on the research results it has created.

However, academia cannot directly contribute to innovation because it does not have the ability to create products and services. Therefore, academia can contribute to innovation by transferring the knowledge of research results to existing companies or creating startup companies, and those companies will create products and services using research results.

On the other hand, in order to share the research results of academia, which are close to the basic research stage, among stakeholders (e.g., existing companies, entrepreneurs, and venture capitalists who support startup companies), many obstructive factors must be resolved. These factors include uncertainty as to whether the research results will lead to commercialized technology, information stickiness due to the inclusion of tacit knowledge, and information asymmetry among stakeholders.

Therefore, this research used a case study approach to analyze how obstructive factors are resolved, knowledge sharing among stakeholders is achieved, and commercialization of research results is achieved. First, a framework for analyzing the cases was constructed using the Proof of Concept (PoC) as the analysis perspective. Since the commercialization of research results requires the resolution of not only technical issues but also business issues, the framework includes two PoC perspectives: a proof of technical concept (PoTC) and a proof of business concept (PoBC). Next, the framework was used to obtain insights into knowledge sharing among stakeholders by analyzing cases in which research results were commercialized through industry-academia collaborative research and creating startup companies.

To promote industry-academia collaborative research for commercialization and to achieve knowledge sharing between academia and industry, it was found that it is important to first set PoBC goals and then set PoTC goals so as to achieve those goals. It was also found that constant awareness of the PoBC during the implementation of a project helps to ensure that the project proceeds in a way that prevents differences from occurring between the objectives of the research and the direction of commercialization. Furthermore, it was found to be effective to use the methods suggested by von Hippel to resolve information stickiness and share knowledge during the implementation of the project.

In knowledge sharing between academia and venture capital in creating startup companies, the key issues are to resolve the adverse selection and uncertainty caused by information asymmetry. It was found that the information asymmetry that causes adverse selection can be eliminated by sharing asymmetric information between academia and venture capitalists through joint projects aimed at obtaining PoCs. It was also found that obtaining a PoC reduces uncertainty. Furthermore, it was found that resolving both of these two issues influences the decision of venture capitalists to invest in startups.

**Keyword** : knowledge sharing, proof of concept, startup companies, technology transfer, collaborative research