

Abstract of Doctoral Thesis

Intellectual property mix and intellectual property strategy in software industry -Analysis and suggestions from lawsuits in the gaming industry-

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The scope of intellectual property (IP) rights related to software industry is expanding. Also risk of IP- lawsuits is increasing, starting from "Fishing-game-case" in 2009.

Despite this situation, consciousness of IP in software industry isn't higher than manufacturing industry, and the problem is that IP-strategy of software industry should isn't clear.

In this paper, I first analyze current state of IP-rights related to software industry and clarify IP-mix. Then, analyze opportunity to change IP-strategy from the point of lawsuit risk. Based on these, the purpose is to propose IP-strategy that software industry should from perspective of lawsuits.

For IP-mix, it is important in IP-strategy how to reflect software patents and screen design patents that need to be applied for and registered, copyrights that are protected without method, and trade secrets under Unfair Competition Prevention Law.

Regarding opportunity to change IP-strategy, we first analyzed disclosure about IP-strategy and number of patent applications of listed companies, and found that number of applications has increased sharply since 2013 especially in gaming industry. Based on this, I hypothesized that lawsuits were an important opportunity to change IP-strategy, and defendants were more aware of risks than plaintiffs and losers were more than winners. Analysis of the applications of four companies in actual lawsuits, including statistical testing (F-test and T-test), revealed they were consistent with the hypothesis. Also, characteristics of software industry from the perspective of lawsuits and problems of risk management focused on lawsuit risk are clarified, and it is speculated many companies are still in immature stage of IP-strategies.

From the above, company-wide positioning in management strategy, IP-mix based on risks, and IP-strategic options reflecting non-IP information are important for IP-strategy of software industry. I also propose a six-stage maturity model for IP-strategies, and companies should review IP-strategies timely, and gradually mature them.