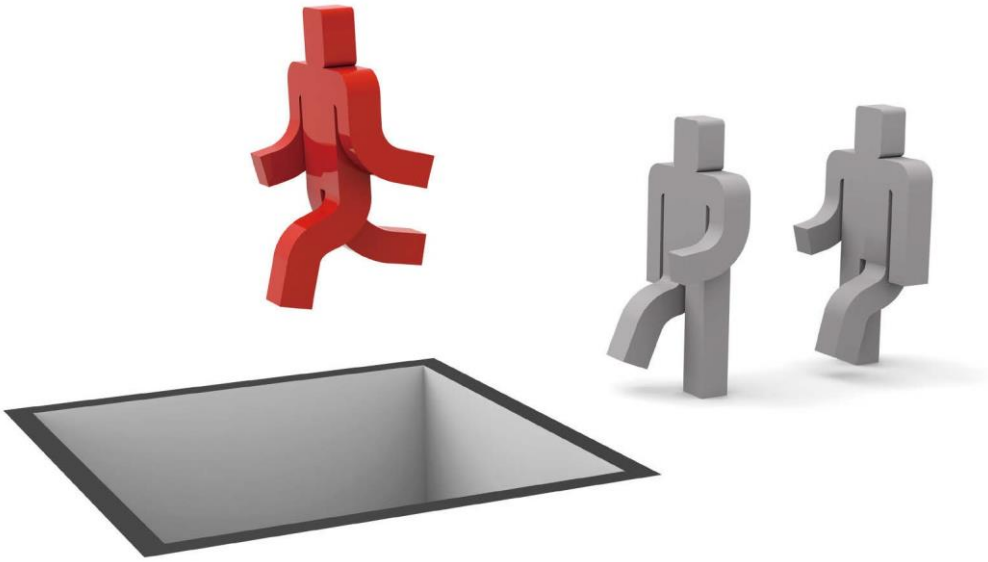
Guide on Intellectual Property

Evaluation and Support for Venture Capitalists

Common IP Pitfalls and Countermeasures



Japan Patent Office
Ministry of Economy, Trade and Industry
Fiscal Year 2018

INTRODUCTION

In order to accelerate the growth of startups, it is essential to coordinate initiatives in intellectual property (IP) with the business environment and strategy. Especially for deep tech startups which commercialize innovative technologies, the IP strategy will greatly affect the success or failure of business growth.

However, since startups have limited funds and human resources on their own, their efforts may be limited, or they may not be aware of the importance of IP in the first place. Although IP specialists including patent attorneys and lawyers can support the startup's IP strategy, it is often too late when a startup consults these specialists.

Investors, on the other hand, often have a deep connection with startups from their beginning and thus, are most likely the key players that can give the appropriate advice to strengthen a startup's IP strategy. In addition to providing advice, investors are also in a good position to financially support the cost of implementing such IP strategies. This guide was made to "enable stronger support from investors for the IP strategies of startups".

This guide for investors gives a comprehensive summary of the pitfalls startups may encounter in relation to IP evaluation and support, and possible countermeasures to these pitfalls. We believe that it would especially benefit investors considering IP evaluation and support.

Three main features of this guide are as follows:

1. It is the first IP guide written for investors;
2. It collates real-life cases of pitfalls encountered during investments;
3. Case studies include both domestic and foreign cases.

We sincerely hope that this guide will enhance your appreciation of evaluation and support of intellectual property.

March 2019
Japan Patent Office

CONTENT

EXECUTIVE SUMMARY

■ Chapter 1 Significance of intellectual property support by investors

With increased investments in deep tech startups and broader efforts for open innovation by operating companies, evaluation and support for IP are becoming crucial for venture capitalists in order to improve the startup's corporate value and to proceed toward exit. As a result of investors' support, we are seeing successful cases.

■ Chapter 2 IP strategy support by investors

A major consideration for IP strategy is not only to broaden the scope of protection, but also to constantly consider the elements of IP at various points in the overall management strategy. Investors have overarching views of management strategies and can therefore play an important role in developing IP strategies. The proper incorporation of IP elements in formulating business plans is crucial in order to avoid IP pitfalls.

■ Chapter 3 IP milestones and pitfalls at each funding stage

The important points in a startup's IP strategy change depending on the funding stage. Thus, it is advisable to set milestones for intellectual property according to each funding stage.

● Pitfalls during Angel Funding ~ Seed Funding

There are pitfalls just before and after the establishment of a university spinout that could have major impacts on its future growth. Such pitfalls include pre-filing disclosures of core technology at academic meetings which makes the invention unpatentable, and problems in the licensing agreement with universities. Therefore, it is important to incorporate an IP strategy into the business plan to avoid such pitfalls during these funding stages.

● Pitfalls during Series A ~ Series C Funding

After series A funding, there can be more pitfalls such as mismatches between the business model and scope of IP, and the IP strategies of partner companies or competitors which may block the scaling-up of business and exit. We therefore need to ensure effective IP governance.

● Pitfalls of CVCs

Evaluation of IP by CVC becomes distorted in existing fields due to closed innovation, while in new fields the evaluation can become difficult. Care is also needed not to focus too much on exiting collaboration business including the CVC's company.

■ Chapter 4 Framework for IP evaluation and support

It is important to structure in-house IP evaluation processes and to build a framework that can provide support after investments have been made. It is also useful to share know-how within the company instead of leaving it to a specific IP person. Building networks and collaborating with IP specialists such as lawyers and patent attorneys is also important.

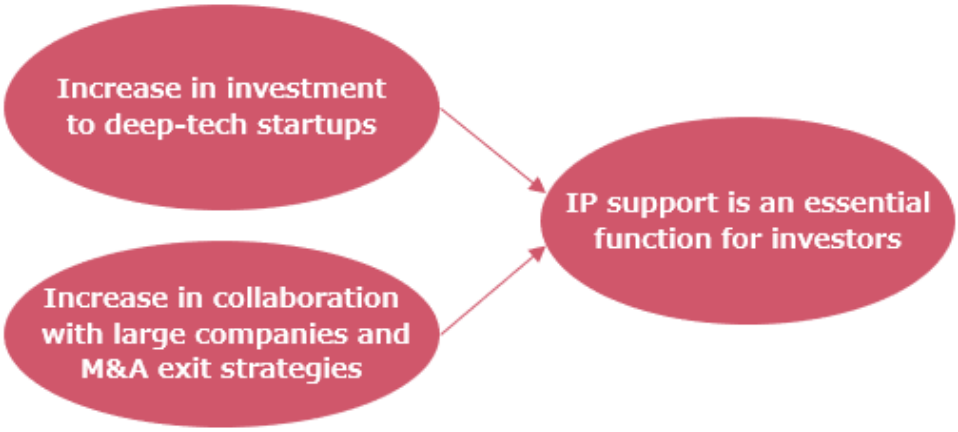
Chapter 1 Significance of IP support by investors

The increasing need for IP support from investors

Venture capitalists (hereinafter "investors") support the growth of deep tech startups possessing innovative technologies, and their importance is increasing year by year. The competitive advantage of these startups is their technology and new business models built upon them. In order to ensure the rapid expansion and continuity of these businesses, it is necessary to protect "intellectual property (IP)" as a whole. This not only includes IP rights such as patents, but also know-how and IP protected through contracts. We also need to positively utilize such IP as a means to strengthen our business.

The increasing complexity of industrial structures and technologies in recent years has encouraged broader open innovation efforts by operating companies. For startups, this increases chances for tie-ups and M&A exit strategies with operating companies, which is becoming more important as a way to quickly apply technology to society. From this perspective, flaws in the IP strategy of the startup may affect the success or failure of the alliance / acquisition or may be the reason for discounts in M&A transactions.

On the other hand, the proper evaluation and active support by investors in IP will not only protect the competitive advantage of these startups, but also increase business growth and exit options, and increase corporate values. For investors, this will lead to further investment and various exit options which will ultimately maximize returns.



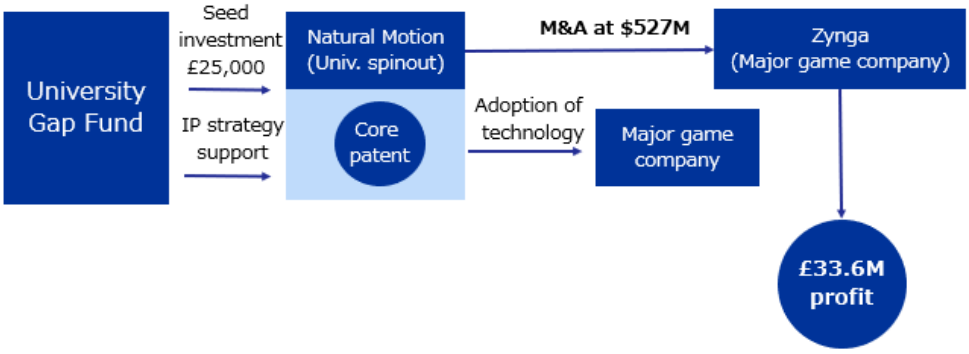
Case study of IP evaluation and support by venture capitalists

We are starting to see cases where investors focusing on the startup's IP and offering hands-on support for IP strategies earn huge profits both in Japan and in foreign countries.

Case Study Gap fund provided IP support and gained huge returns

Natural Motion is a Deep tech startup spun out in 2001 by Torsten Real, a student who was researching neuroscience at Oxford University. The company developed a technology in which 3D people and animals in a game interact with each other and move naturally. Initially, Oxford University's gap fund made a seed investment of £25,000 (approx. 4.3 million yen) and supported the formulation of business plans and establishment of the company.

Patents were important because the company adopted a business model that utilized their patents through licensing to game production companies. Oxford University therefore advised Torsten to obtain patents which would cover his core technology. The core patent was subsequently granted, and the technology was adopted by a major game company.



In 2014, Natural Motion was acquired by Zynga (a US social gaming company), a major game company, for $527 million (approx. 55 billion yen). As a result of this acquisition, Oxford University gained £33.6 million (approx. 5.8 billion yen) in proceeds from the sale of its shares.

(Source) Oxford University "Oxford digital spinout completes $500m sale"(12th Feb, 2014)
Oxford University "Financial Statements 2014/15"
Financial Times "Gaming group Natural Motion began in Oxford's zoology department"(31st Jan, 2014)

Case Study IP lawyer within VC supported IP strategy leading to M&A

A US VC employs an IP lawyer as a managing director. One deal involved the VC investing $40 million (approx. 4.5 billion yen) in a startup. After the investment, the in-house IP lawyer advised the startup to promptly apply for an international patent and the startup was able to secure patent rights in the US and Europe within two years of filing the PCT application. Furthermore, after being explained that the startup's products were protected by patents, an operating company acquired the startup for $200 million (approx. 22.5 billion yen). As a result, the VC gained a huge profit from the acquisition.

(US Venture Capital)

Chapter 2 IP strategy support by investors

Patent rights are not the only "intellectual property" that investors evaluate and support

First of all, patent rights are not the only "intellectual property" to be considered. Names of companies and products are protected by trademarks and designs are protected by design rights. Furthermore, know-how, data, trade secrets such as customer information, and copyrights are also important intellectual property.

It is important to determine the intellectual property that a startup should protect, and how to protect and use it, depending on the type of competitive advantages that supports the business of the startup.

Basic considerations of IP strategy

The major points in considering an IP strategy are described below. It should be noted that the examples given here are merely examples of IP strategies and these may change depending on the business field and the funding stag of the startup, as well as the economic conditions at that point in time.

IP strategy is not just about **"how to secure a broad patent right"** when a new invention is born. The main consideration of IP strategy is to **always consider the elements of IP in various aspects of the overall management strategy**.

In deep tech startups, new inventions are often the starting point for business ideas. In order to start a business based on a new invention, you need to first consider business strategies. In the process, you create a business model for the company to follow. At the same time, the core values of the company are clarified, and you consider strategies such as the so-called "open and close strategy" in order to maintain your competitive advantage while developing your market.

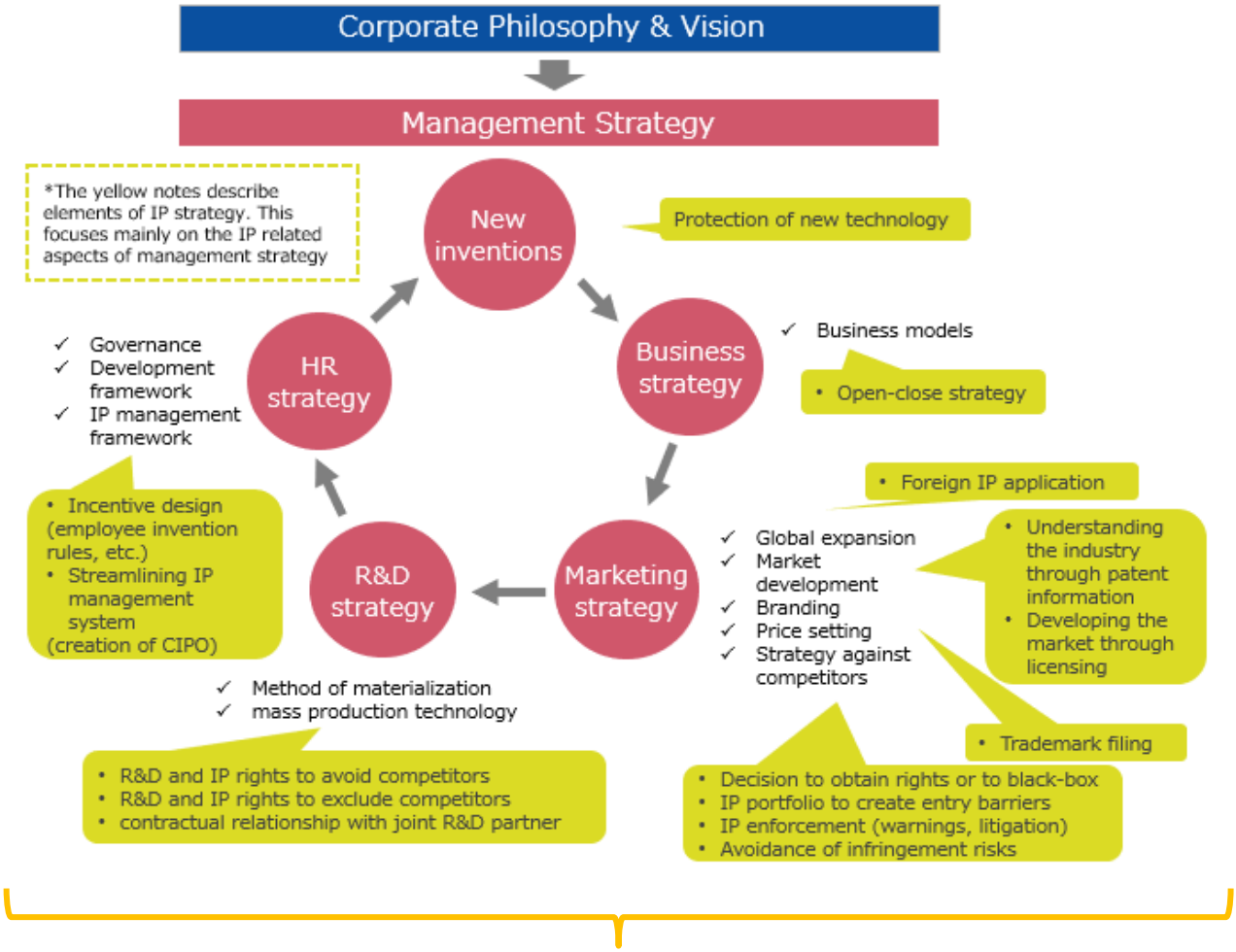
Furthermore, once the target market is determined in your market strategy, your competitors become clear. Then, we can start considering which country to secure the IP rights. Next, in order to prevent the entry of competitors while expanding our markets, you begin to build an IP portfolio including a combination of patent technology and technology that is protected as know-how, and further putting some technology in the public domain or standards. If you use patent information to conduct a technology trend survey, you can understand market trends, the situation of competitors, and the position of the company in the market. At the same time, based on your branding strategy, it is important to establish the brand of your company by acquiring trademarks while considering the target business, marketplace, usage situation, etc.

In addition, your research strategy will be determined according to your marketing strategy. Depending on the relationship with competitors, your company may have to change the direction of its research to avoid conflict with technology competitors possess. It is also necessary to develop technology to strengthen entry barriers. Furthermore, when conducting joint research and development with operating companies, etc., it is necessary to consider how to best handle IP in

contracts and other legal frameworks.

Lastly, it is important to strengthen IP governance in terms of human resource strategy for driving the business. While enhancing R&D, startups need to strengthen IP governance. Initiatives include building an in-house IP management framework, setting up a Chief IP Officer (CIPO) position in order to identify issues related to IP as management issues, and creating incentives and employee invention regulations to deal with human resource mobility.

If new technologies and inventions are created as a result of research and development, IP protection should be sought where necessary. All the elements included in the string of processes constitute the “IP strategy”.



Considering the elements of IP in each aspect of the overall management strategy

Investors develop perspectives on IP strategy

What does it mean for an investor to evaluate and support the IP of a startup? You may think, "Isn't it OK to just leave IP matters to the CEO or CTO or an external IP expert?"

However, as mentioned above, the "IP strategy" is an integral part of the "management strategy". Thus, it is necessary to consider the target for the management strategy and in turn consider the type of IP strategy that is necessary to support it. Without this linkage, protecting a startup's business would be difficult, even if you obtained the necessary rights.

When startups consider IP strategies by themselves, they tend to consider only the IP rights and contracts from the belief that their "technology" is superior. Deep tech startups in particular often do have superior technologies, and therefore, there is a tendency to think that protecting these technologies is the only thing that needs to be done. Furthermore, an IP expert good at obtaining patents for an invention may not necessarily see things from the perspective of "management strategy".

On the other hand, investors can consider the overall management strategy from the perspective of current and future "markets" and "alliance partners" in order to maximize the corporate value of the startup. Thus, investors can play an important role in developing and balancing IP strategies.

In particular, similar to capital policy, it is often difficult to recover from an IP pitfall once you fall into one, and in this regard, the key to success is the investor who can support a startup from its early stages. In addition, investors can provide financial support for the IP expenses relating to the startup's IP research, patent applications, contracts, etc. The role played by investors in understanding the significance of IP and providing the necessary evaluation and support are therefore very important.

Incorporate IP strategy into business plans

If the IP strategy is not properly considered, there are chances you will encounter various IP pitfalls. These pitfalls may include issues like "disclosing important research results before patent filing", "signing an IP-unfavorable contract with a partner", "being sued for infringing the IP rights of another company", "being forced to change the name of a service after much PR effort had been made", etc.

Therefore, it is important to incorporate the various IP elements discussed above as appropriate when drafting a "business plan". It is also important to estimate the necessary IP-related budget that can be used for concrete actions.

Chapter 2
Investor Support

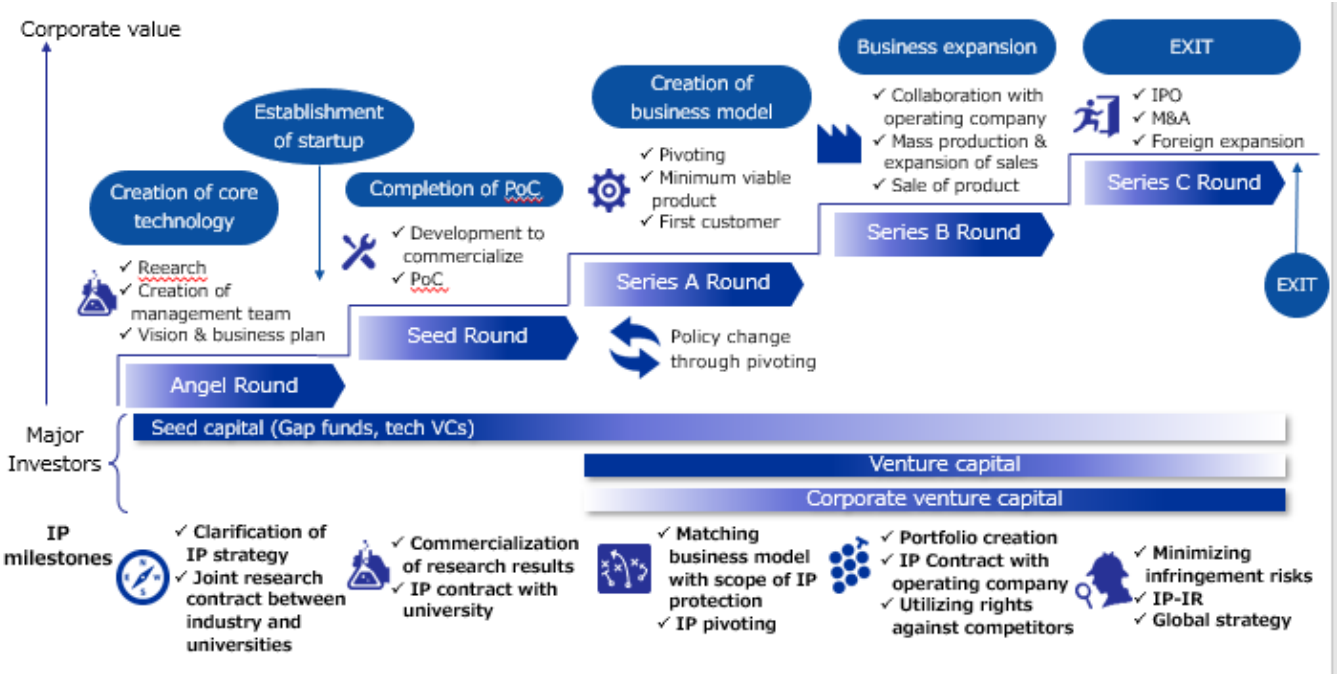
Chapter 3 IP milestones and pitfalls at each funding stage

IP milestones vary by funding stage

Considerations of IP strategy of startups change depending on the funding stage.

Investors should set milestones for intellectual property along with other milestones for investment.

Let us first take a look at the diagram below which depicts the various funding stages stated in this guide.



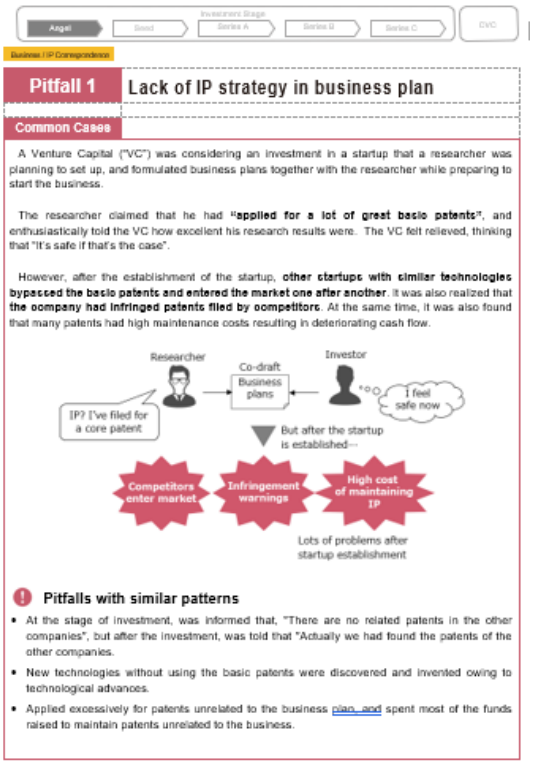
For example, milestones can be considered as follows:

Stage	Milestone	IP milestone
Angel stage	• Prepare strategies to creating underlying and core technologies and build a system for their development.	• Clarify the direction of R&D and intellectual property utilization in order to commercialize research achievements. • Secure freedom of usage of results in joint research contracts negotiations with universities and companies.
Seed stage	• Complete PoC (Proof of Concept). Narrow down possible markets and products to which the underlying and core technologies can be applied / transferred.	• Increase commercial potential for research results through development. • Acquire rights or conceal basic technology of research results from the viewpoint of commercialization. • Secure freedom of usage of research results in licensing contracts negotiations with universities.
Series A	• Carry out pivot analysis of underlying and core technologies that have passed PoC (Proof of Concept). Build and enhance business models for commercialization and mass production.	• Align the business model with the scope of IP rights and know-how. • Acquire additional technology and IP quickly in response to the pivot analysis. • Build a management system that continuously induces ideas and inventions from the CTO and employees.
Series B	• Stably implement growth strategies towards commercialization and mass production. Develop exit strategies such as alliances with operating companies or towards IPO.	• Secure technology and IP (manufacturing technology, UX, design, etc.) necessary for commercialization as a portfolio. • Secure freedom of usage of results in partnership contract negotiations with operating companies. • Leverage IP to deal with competition.
Series C	• Further strengthen business structure in preparation for exit (strengthening management functions, streamlining operations, etc.). Formulate further growth strategies after exit.	• Reduce the risk of infringement of other company's rights in preparation for exit. • Explain technology and IP to stakeholders in an easy-to-understand manner in preparation for exit. • Rebuild global IP and standardization strategies for overseas expansion.

CONTENTS OF PITFALL EXAMPLES

How to read through the pitfall examples

Left page ~ Pitfalls ~


Investment Stage
Angel
Seed
Series A
Series B
Series C
CVC
Business / IP Correspondence

Pitfall 1 Lack of IP strategy in business plan

Common Cases

A Venture Capital ("VC") was considering an investment in a startup that a researcher was planning to set up, and formulated business plans together with the researcher while preparing to start the business.

The researcher claimed that he had **"applied for a lot of great basic patents"**, and enthusiastically told the VC how excellent his research results were. The VC felt relieved, thinking that "It's safe if that's the case".

However, after the establishment of the startup, **other startups with similar technologies bypassed the basic patents and entered the market one after another**. It was also realized that **the company had infringed patents filed by competitors**. At the same time, it was also found that many patents had high maintenance costs resulting in deteriorating cash flow.

Pitfalls with similar patterns

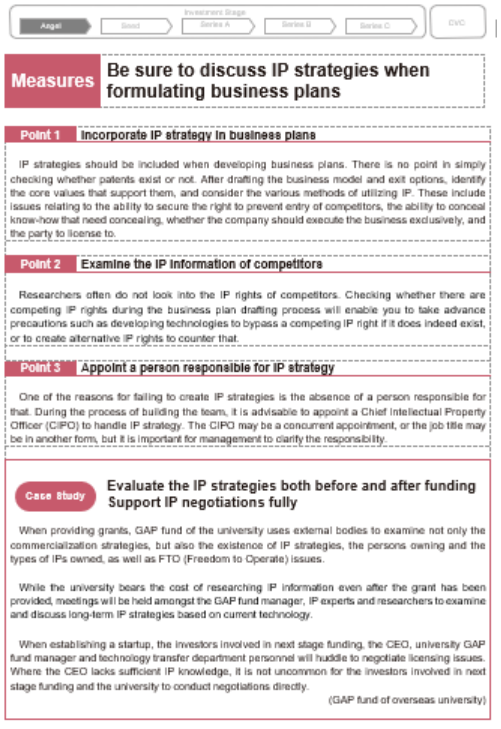
- At the stage of investment, was informed that, "There are no related patents in the other companies", but after the investment, was told that "Actually we had found the patents of the other companies.
- New technologies without using the basic patents were discovered and invented owing to technological advances.
- Applied excessively for patents unrelated to the business plan, and spent most of the funds raised to maintain patents unrelated to the business.

Indication of the funding stage where the pitfall is prone to occur. CVC is summarized at the end.

Descriptions of actual pitfalls. Illustrated in diagram for easy understanding.

Many similar types of pitfalls do exist. Any type that looks familiar?

Right page ~ Countermeasures ~


Investment Stage
Angel
Seed
Series A
Series B
Series C
CVC

Measures Be sure to discuss IP strategies when formulating business plans

Point 1 Incorporate IP strategy in business plans

IP strategies should be included when developing business plans. There is no point in simply checking whether patents exist or not. After drafting the business model and exit options, identify the core values that support them, and consider the various methods of utilizing IP. These include issues relating to the ability to secure the right to prevent entry of competitors, the ability to conceal know-how that need concealing, whether the company should execute the business exclusively, and the party to license to.

Point 2 Examine the IP information of competitors

Researchers often do not look into the IP rights of competitors. Checking whether there are competing IP rights during the business plan drafting process will enable you to take advance precautions such as developing technologies to bypass a competing IP right if it does indeed exist, or to create alternative IP rights to counter that.

Point 3 Appoint a person responsible for IP strategy

One of the reasons for failing to create IP strategies is the absence of a person responsible for that. During the process of building the team, it is advisable to appoint a Chief Intellectual Property Officer (CIPO) to handle IP strategy. The CIPO may be a concurrent appointment, or the job title may be in another form, but it is important for management to clarify the responsibility.

Case Study Evaluate the IP strategies both before and after funding
Support IP negotiations fully

When providing grants, GAP fund of the university uses external bodies to examine not only the commercialization strategies, but also the existence of IP strategies, the persons owning and the types of IPs owned, as well as FTO (Freedom to Operate) issues.

While the university bears the cost of researching IP information even after the grant has been provided, meetings will be held amongst the GAP fund manager, IP experts and researchers to examine and discuss long-term IP strategies based on current technology.

When establishing a startup, the investors involved in next stage funding, the CEO, university GAP fund manager and technology transfer department personnel will huddle to negotiate licensing issues. Where the CEO lacks sufficient IP knowledge, it is not uncommon for the investors involved in next stage funding and the university to conduct negotiations directly.

(GAP fund of overseas university)

Summary of the preventive measures before and recovery measures after encountering pitfalls.

Case studies related to the points discussed, including foreign cases.

Business / IP Correspondence

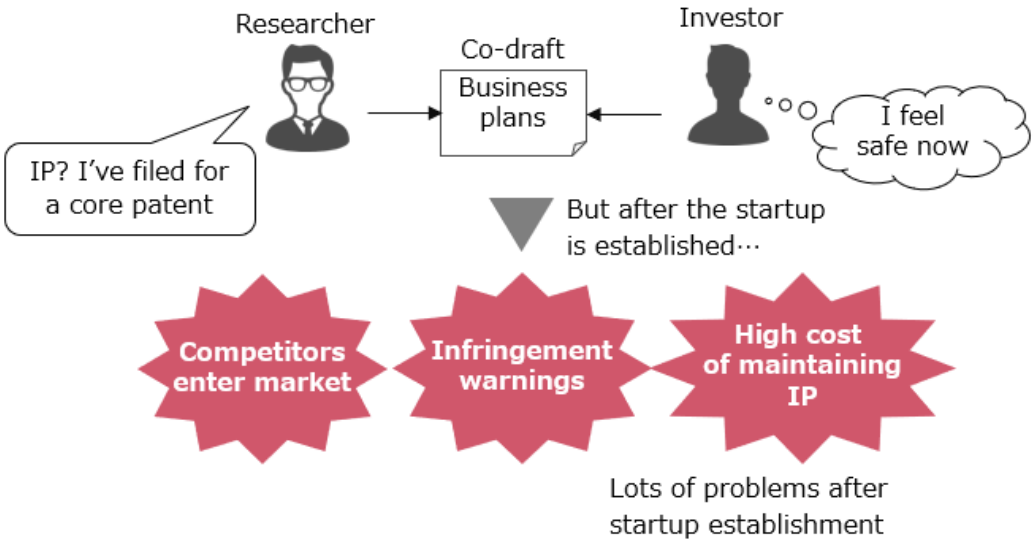
Pitfall 1 Lack of IP strategy in business plan

Common Cases

A Venture Capital ("VC") was considering an investment in a startup that a researcher was planning to set up, and formulated business plans together with the researcher while preparing to start the business.

The researcher claimed that he had **"applied for a lot of great core patents"**, and enthusiastically told the VC how excellent his research results were. The VC felt relieved, thinking that "It's safe if that's the case".

However, after the establishment of the startup, **other startups with similar technologies bypassed the core patents and entered the market one after another**. It was found that **the company had infringed patents filed by competitors**. At the same time, it was also found that many patents had high maintenance costs resulting in deteriorating cash flow.



Pitfalls with similar patterns

- At the stage of investment, the investor was informed that there are no related patents in of competitors, but after the investment, the investor was told that the startup had actually identified patents from other companies.
- Due to technological advancements, new technologies were discovered or invented that could bypass the core patent technology.
- The startup excessively applied for patents unrelated to the business plan and spent most of the funds raised to maintain patents unrelated to its business.

Measures Be sure to discuss IP strategies when formulating business plans

Point 1 Incorporate IP strategy in business plans

IP strategies should be included when developing business plans. There is no point in simply checking whether patents exist or not. After drafting the business model and exit options, identify the core values that support them, and consider the various methods of utilizing IP. These include issues relating to the ability to secure the right to prevent entry of competitors, the ability to conceal know-how that need concealing, whether the company should execute the business exclusively, and the party to license to.

Point 2 Examine the IP information of competitors

Researchers often do not look into the IP rights of competitors. Checking whether there are competing IP rights during the business plan drafting process will enable you to take advance precautions such as developing technologies to bypass a competing IP right if it does indeed exist, or to create IP rights to counter any allegations of infringement.

Point 3 Appoint a person responsible for IP strategy

One of the reasons for failing to create IP strategies is the absence of a person responsible. During the process of team building, startups should appoint a Chief Intellectual Property Officer (CIPO) to handle IP strategy. The CIPO may be a concurrent appointment, or the job title may be in another form, but it is important for management to clarify the responsibility.

Case Study Investors should evaluate the IP strategies both before and after funding, and also fully support IP negotiations

When providing grants, this university gap fund uses external bodies to examine not only the commercialization strategies, but also the existence of IP strategies, the persons owning IP and the types of IP owned, as well as FTO (Freedom to Operate) issues.

While the university bears the cost of researching IP information even after the grant has been provided, meetings will be held among the gap fund manager, IP experts and researchers to examine and discuss long-term IP strategies based on the state of the art.

When establishing a startup, the investors involved in next stage funding, the CEO, university gap fund manager and technology transfer department personnel will act as a team to negotiate licensing issues. Where the CEO lacks sufficient IP knowledge, it is not uncommon for the investors involved in next stage funding and the university to conduct negotiations directly.

(Gap fund of overseas university)

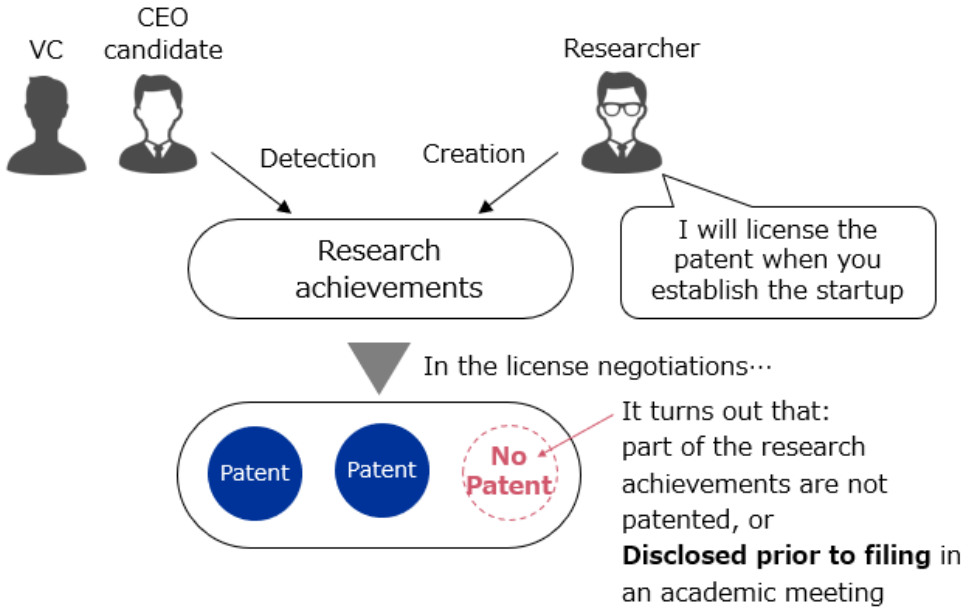
University | Business / IP Correspondence

Pitfall 2 Pre-filing disclosures of core technology

Common Cases

Focusing on a university researcher's patent for a research achievement, a VC went to meet with the researcher along with a CEO candidate. They decided to work together with the researcher to establish a company and agreed to appoint the researcher as a technical advisor when the company was established, and also consulted with the university about the patent license.

After the company was established, a patent license was granted from the university, but it was found that some important research results were not patented. The researcher said, **"the research results have already been announced at academic conferences"**. The investor and CEO were bewildered when the researcher added that **"research results regarding to further applications will be announced at the academic conference next week"**.



Pitfalls with similar patterns

- VC sets up a company with CEO candidate thinking "this university's technology seems to be interesting", but the researcher is not interested in startups and continues to publish research papers one after another.
- Researcher applied to the university IP Department before an academic conference, saying "I would like to apply for a patent", but the patent application was turned down because he was told that the value of the invention was low. Only one week was left before the academic conference.
- There was an alliance offer from a large corporation after the company was established. The engineer gladly gave product demonstrations and samples of innovative materials even before filing for patents.

Measures Consider the timing of patent application and thesis presentation regarding the research results used for venture startup

Point 1 Be careful of publicizing through conferences / thesis presentation, demonstration, sample provision and pitch presentation

If research achievements are made public through academic conferences, thesis presentations, demonstrations, sample provision, pitch presentations, etc., then the invention or design will lose novelty, which is a requirement for patent and design protection. In particular, where the CEO and the researcher are not the same person, the CEO may not know the researcher's academic conference / thesis presentation schedule. The research may therefore be publicized through these events. It is therefore important to clarify which part of the research results is to be used in the business, and to carefully consider the timings of IP rights filing and academic conferences / thesis presentations. At the same time, attention is to be paid to prevent trade secret leakage when providing samples to third parties (refer to Point 3 in Pitfall 8).

Point 2 Generalize your presentation when you must make a presentation at an academic conference so that you can apply for a patent later

If a decision is made for you to make a presentation at an academic conference even before filing for a patent, it is necessary to pay close attention to the content of the presentation. For example, avoid disclosing the specific elemental requirements of the invention as much as possible, and use a general description. It is also useful to ask an IP expert to review the presentation script.

Point 3 Think of alternative filing methods if research is already made public

If the invention has been already made public by the applicant before patent filing, the research can still be patented if the filing is done within one year of the publication by applying for an exception of novelty loss (Article 30 of the Patent Act). Alternatively, consider whether you can still start a business using another research result, or whether you can file a patent for that.

Case Study Agree with researcher on timing of patent application and thesis submission when investing

A researcher decided to start a business based on technology derived at the university, and our fund decided to invest. At that juncture, an agreement was reached between the fund and the researcher, stating that “the researcher will never write a thesis until having filed for a basic patent". In addition, the researcher was asked to submit papers only to top international academic journals only after applying for a basic patent. The researcher was flooded with inquiries from overseas investors after publishing in the most prestigious journal in the field. Subsequently, we were able to raise a total of several hundred million yen from US VCs.

(Domestic university gap fund)

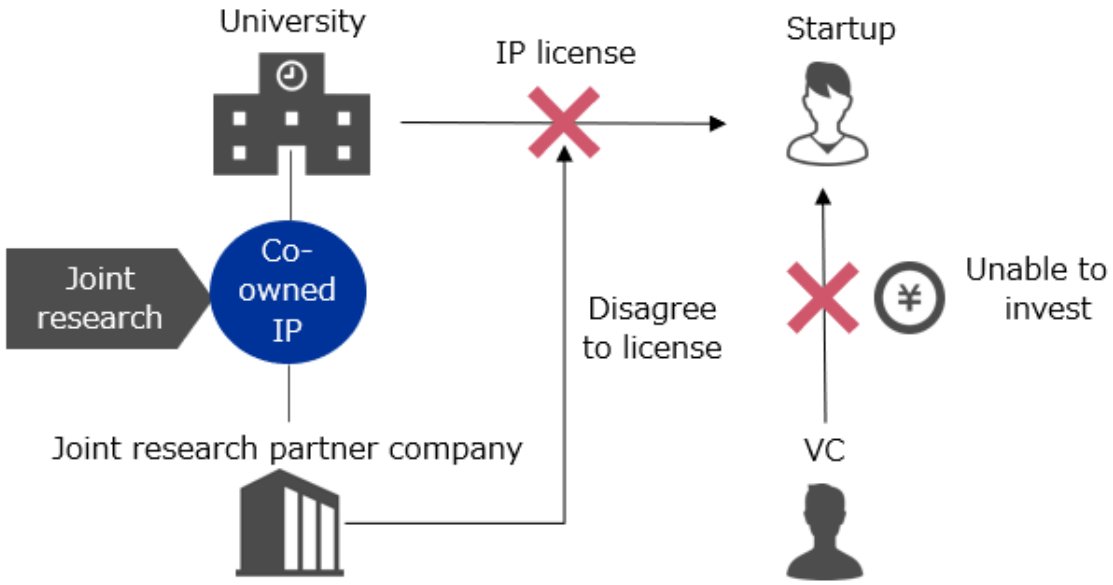
Pitfall 3 Limitations on IP licensing in a joint research contract

Common Cases

A VC was interested in the research results of a university and together with the researcher, began preparing for the establishment of a startup.

While trying to obtain an intellectual property license from the university, it was found that the patent in mind was jointly held with a partner company in the joint research and did not belong exclusively to the university. In other words, it was **necessary to obtain the consent of the other joint proprietor for the license**.

Together with the university, the researcher and the VC negotiated with the other proprietor. However, there was no incentive for the other company to agree to the license. The company was thinking that “even though we will not be commercializing the results of the research, we wish to be careful to avoid unlikely competition”. For that reason, the researcher and the VC **could not obtain the license, and as a result, the startup establishment failed**.



Pitfalls with similar patterns

- A post-doctorate degree holder of a laboratory was thinking of starting a business, but the professor of that laboratory has no interest in establishing a startup. However, the professor was interested in acquiring joint research funding, and concludes a joint research contract that is advantageous to the partner company.

Measures Consider the possibility of a spinout before deciding on joint research, and reflect it in the IP clause of the joint research contract

Point 1 Consider the possibility of a spinout through joint research

It is commonly seen that the terms of the joint research contract with an existing company becomes a bottleneck when establishing a startup based on its results. Special care should be taken regarding the handling of rights to research achievements when conducting joint research with multiple companies. Rather than to conduct the joint research in a casual manner, it is important to determine whether a startup is expected to be established before negotiating the contract with the company.

Point 2 Pay attention to the licensing terms in the university joint research agreement format

A university may use its standard joint research contract format when carrying out joint research with a company. If there is a possibility for a startup to be established, the university should re-check the clauses within the format to see if there are any restrictions on the licensing of research results to the startup.

Point 3 License the intellectual property necessary for establishing a startup independently from the joint research

If you are already conducting joint research with the objective of establishing a startup, and if there are restrictions on the licensing of shared patents, the company and the university should negotiate in a win-win manner, and it may be effective for the university to apply for the required patent independently (separately from the joint research).

Case Study Apply independently for technology that is separately derived other than from joint research

A VC was interested in the research conducted by a university researcher. The research was conducted jointly with a company. The joint research contract used the standard contract format of the university, and if the patents are jointly filed, there was a possibility that consent cannot be obtained from the sharing party.

Therefore, the VC discussed with the researcher and told him that when establishing a startup, he was to develop a new technology that would be separately derived other than from joint research and for the university to independently file an application that would not restrict the license.

(Domestic venture capital)

University | Business / IP Correspondence

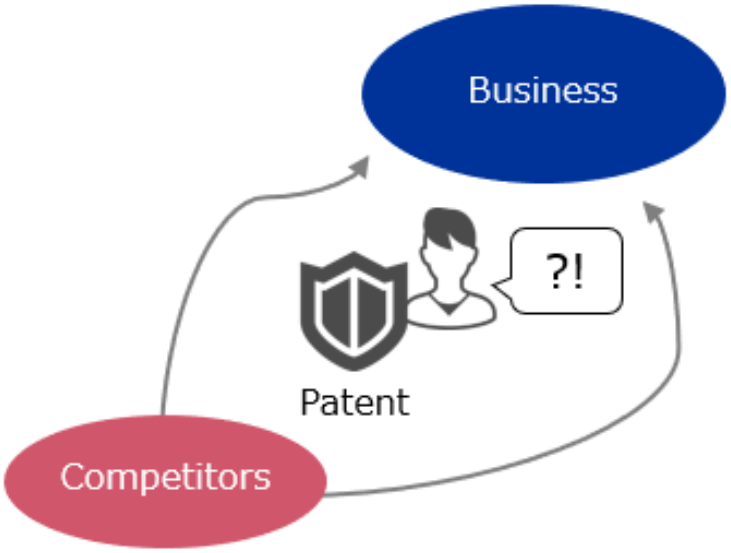
Pitfall 4 Lack of business perspective in setting the scope of a basic patent

Common Cases

A VC was thinking of investing in a university spinout. According to the CEO, "**It's okay because I have obtained a basic patent for research results at the university**". Based on that claim, the VC made a seed investment without scrutinizing the contents of the basic patent.

However, at a later date, an expert looked at the contents of the rights of the basic patent, and it was found that the scope of the rights was so narrow that only the certain embodiment actually implemented by the startup could be protected.

In such a circumstance, other parties can use other alternatives to enter the market, thereby making the patent useless…



Pitfalls with similar patterns

- A university spinout explained that "there is a basic patent for the university", but actually, it did not cover the target market countries, and only had domestic IP rights.

Measures Secure IP rights covering the business scope, usage and target market countries of the university spinout

Point 1 University "basic patents" are not equivalent to basic patents that venture businesses use to conduct business

Patent applications by universities are not necessarily aimed at commercialization by university spinouts. Even if a university says that “it has a basic patent”, it may still not be adequate for a startup to conduct business based on that.

Point 2 Does the “basic patent” cover the scope of business / application of technology, target market country, and duration of the patent?

It is important to verify the following issues when checking a patent applied by a university, that is, whether it anticipates the future business scope of a possible spinout or that of competitors, whether it is patented in the country where the spinout might be established, and whether the patent has sufficient duration till expiry, etc. In the case of a technology that can have various applications such as raw materials and AI, it is also good to confirm whether the scope of rights includes such major applications.

Point 3 Set additional acquisition of IP as a milestone from the viewpoint of commercialization

Set the additional filing of patents after investment as a milestone if the existing IP right has no competitive advantage, for example the IP is unable to prevent the entry of competitors.

Case Study VC supporting IP applications even before the establishment of a university-initiated venture

A VC supports the researchers from the research project stage, even before the establishment of a university spinout. If there is a university researcher who has the technology, the VC considers how to apply for a patent from the commercial viewpoint and asks the researcher to collect data necessary for the filing. Subsequently, the VC supports filing for the patent, formulates the business plan and starts recruitment of staff.

(Domestic venture capital)

Case Study Make additional patent application a milestone for university-initiated ventures

While investing in university spinouts, patent rights filed by the university may not have sufficient competitive advantage for business use. Therefore, if the VC checks the patents and a deficiency is found, the VC sets up post-investment milestones to obtain additional patent and trademark rights and ensures strict compliance by the startups. Such requirements have been observed to lead to next-stage investments.

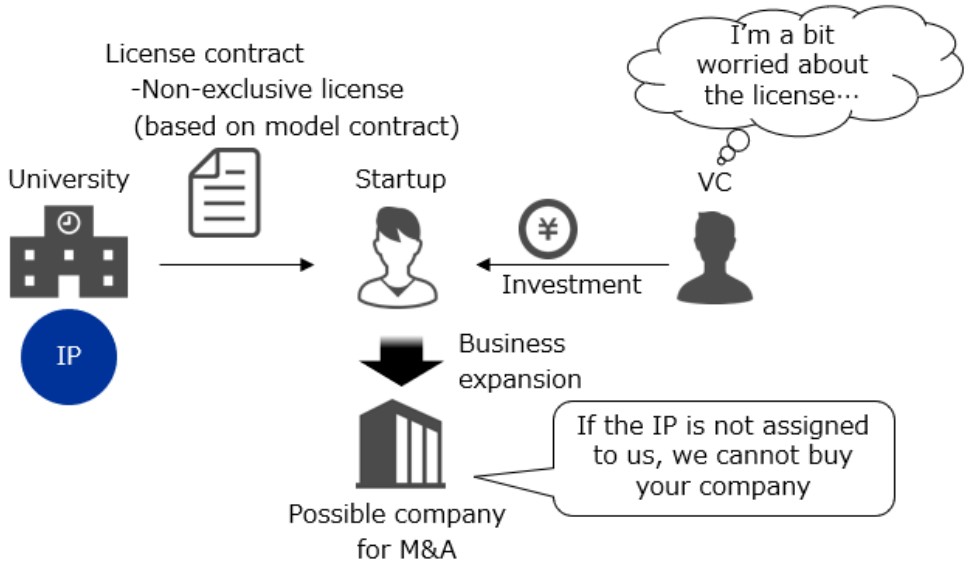
(Domestic venture capital)

Pitfall 5 Issues in the license agreement which hamper startup growth and exit

Common Cases

A VC was considering investing in a startup that utilizes patents held by the university. During the IP negotiations with the technology transfer department of the university, the university informed the startup that “contract clause will follow the standard format of the university”. **The startup received a non-exclusive license** and though anxious, the VC proceeded with the investment.

Business proceeded smoothly after that and the company began considering M&A with an operating company as an exit strategy. During the IP due diligence conducted by the operating company, the company notified the startup that “transfer of IP from the university is essential for M&A”. However, the university refused to respond to the negotiations, and finally, the VC had to rethink the exit strategy.



Pitfalls with similar patterns

- License fees (initial payments, running royalties) were concluded at high rates, resulting in lower cash flow after business inception and subsequent growth being suppressed.
- Multiples IP licenses from the university were required, resulting in a pool of royalties which impeded business inception.
- Contract terms (fees, period, etc.) of the license agreement were “discussed separately”, leaving ambiguity, thereby hindering subsequent financing.
- While in the negotiations of a merger with an operating company, the operating company skipped the startup to directly purchase only the IP from the university, as the IP was not transferred from the university to the startup. The M&A failed as a result.
- IP created using public research grants was not sellable to overseas companies due to grant rules.

Measures Provide support for negotiations, funding and capital policy for license agreements with universities

Point 1 University contracts have a big impact on subsequent valuations and exit

The terms of the contract with the university may have a detrimental effect on valuations and exit options in subsequent rounds of investment. In particular, M&A may not proceed if the patent rights cannot be transferred or the license fees are too high. It is therefore important to take preemptive measures early so that there is no constraint on mid- to long-term growth.

Point 2 Agree on the concept of negotiated items of the IP contract

There are occasions where it is difficult to determine all the details of an IP contract with a university when starting a business. In such cases, it may be possible to facilitate negotiations after business startup by agreeing on the methods for deciding the fees and rationale for the formula for calculations.

Point 3 Include the cost required for the IP contract with the university in the investment amount

Universities expect a high compensation in order to secure returns from IP such as licenses. Investors therefore need to estimate the costs to pay to the university and reflect these in their investment amount and valuation.

Point 4 Use stock options for payments to the universities

In Japan, it is also possible to offer stock options to universities as consideration for licenses. It is a good idea to negotiate with stock options instead if the license fees demanded by the universities are too high. In addition, the issuance of stock options should be considered from the perspective of overall capital policy, taking into account future funding requirements.

Case Study Incorporate the costs of IP license agreements with universities into the investment amount

A Japanese university VC launched a startup in the field of synthetic biology with a capital of several million yen together with biotech researchers. The VC worked with the startup to formulate a detailed business model and IP strategy for each field, and these factors helped the startup to succeed in receiving a huge investment of hundreds of millions of yen from a US VC. The investment amount included in advance the costs of acquisition of IP with top US lawyers and the cost of IP license agreements from US universities.

（Domestic university venture capital）

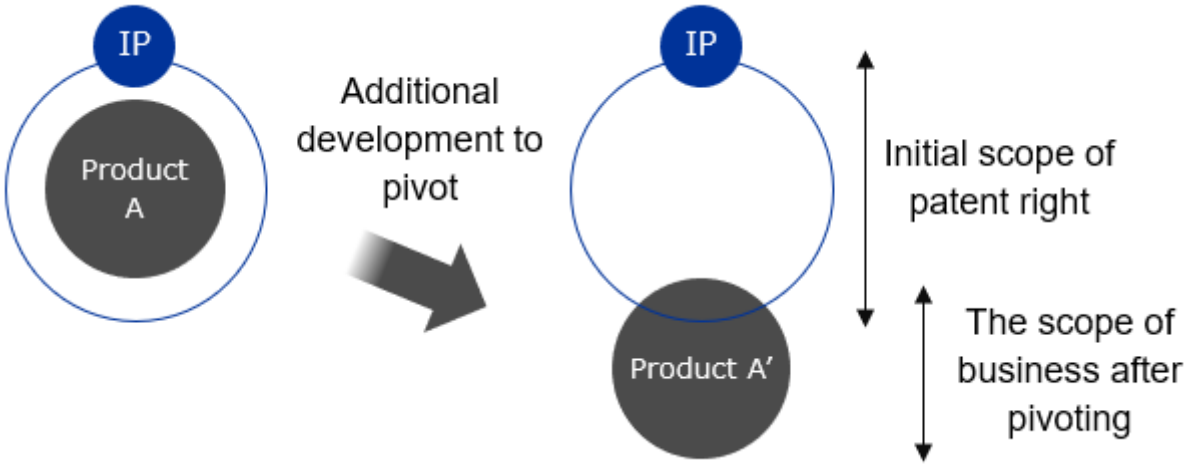
Pitfall 6

Mismatch between scope of IP and business model

Common Cases

A university spinout with core technology implemented a PoC (Proof of Concept) study with an operating company introduced by an investor. While conducting the PoC study, the spinout discovered new market needs and found them to be the most likely markets. As a result, they shifted their targets to different markets.

Since **these markets were not originally envisioned, the spinout had to carry out additional development, but forgot to secure the relevant IP rights. Subsequently, it became clear that another operating company had applied for a patent for those markets, and the spinout was forced to revise its business strategy**.



Pitfalls with similar patterns

- The final scope of rights may not be suitable for the business if we leave all post-application procedures to the IP experts.

Measures Draft and implement IP strategies that cover the business scope

Point 1 Firstly, align the IP to the business model and exit strategy

IP strategies required (such as patenting, concealment, making public, etc., and in obtaining patent rights, the scope, etc.) differ depending on the business model, market, and exit strategies. It is therefore very important to consider IP strategies from the early stages, bearing these points in mind.

Point 2 Check if there is still alignment with the IP if pivot events occur

At the early seed stage, technology and market pivots occur. It is necessary to check the IP rights whenever a pivot occurs, and to reconcile them if the scope of the rights is out of alignment. Furthermore, if possible, consider the possibility of pivots and reserve the widest possible scope for the patent right from the beginning, or use priority rights or divisional applications to keep the patent application pending so that you can respond to pivots.

Point 3 Set IP acquisition as a milestone

Investors can also consider IP protection including responses to pivot events as investment milestones. It is important to review whether the rights to be procured are in accordance with the stage of startup growth.

Case Study Examine and review IP strategies at regular meetings of management, investors, and patent attorneys

At Mobile Internet Capital, the following three parties; startup management, patent attorneys, and investors examine and review IP strategies every three months.

Instead of leaving IP strategies to the management and patent attorneys only, investors can provide advice and broaden the perspectives of IP strategies through inputs from an investor perspective, such as those relating to “future technology”, “future business”, or “future alliance partner / competitor”.

In addition, in parallel with rapid changes in technology and business in recent years, we are seeing many cases of pivot events happening. In such cases, there is a risk that the IPs could be left the same as before the pivot. Periodic reviews of IP strategies enable timely and speedy responses to be made, such as amending pending patent applications, considering additional applications and applying for peripheral patents in response to pivots.

(Mobile Internet Capital)

Governance

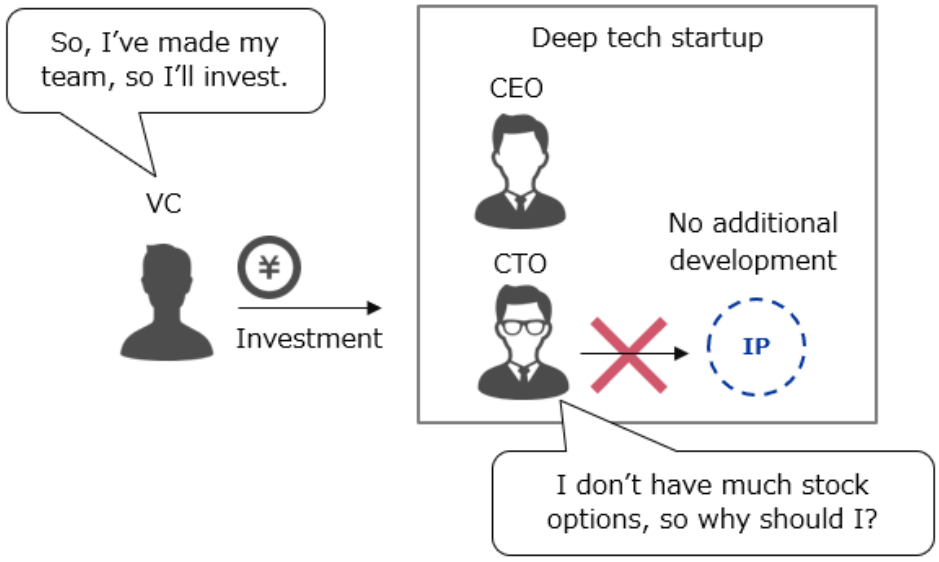
Pitfall 7 Low incentive of CTO

Common Cases

With a focus on a university technology, a VC proceeded to hire a CEO from its own network, and then established a startup and invested in it. The researcher who developed the original technology was still with the university but joined the management team concurrently as the CTO.

Initially, the CTO made many inventions as he was interested in development work. However, **along the way, he began to concentrate on research for thesis publication, and as a result, no further development work was carried out**. He also stated that **"I am applying for additional basic patents with the university, but I will not license these to the company"** .

Eventually, the CTO left the company, and development work within the startup came to a standstill. A rumor was going around that one reason for his retirement was “his dissatisfaction with the stock options allocated”.



Pitfalls with similar patterns

- Researcher with core technology retires from the startup and starts a competing company. Subsequently, the startup receives a warning of intellectual property infringement from that competitor.
- A startup conducted joint research with a researcher at a university in the US and awarded him stock options. But he was dissatisfied, complaining that "the stock options allocated are lower than the standard in the United States", and refused further cooperation.

Measures Design incentives to stimulate continuous intellectual property creation

Point 1 Maintain an environment that allows the CTO to continuously create IP

For deep tech startups, it is essential to create an environment in which IP can be continuously created, including additional development. It is necessary to design incentives including the preparation of employee invention regulations and allocation of stock options.

Point 2 Prevent conflicts by clarifying the attribution of IPs in the employee invention regulations

Since the inflow and outflow of members in the management team are frequent during the start-up period, problems may occur if employee invention regulations and information management regulations are not established. If it is not made clear that employee inventions belong to the startup and not the inventor, nothing will remain with the company when the technical staff leaves the company with the invention.

Point 3 Assign stock options according to the capital policy

Issuing stock options as an incentive for the CTO and technical staff is also useful. It is important to carefully evaluate the level of each staff's contribution when allocating stock options, and do not over-issue to the extent that future financing is affected. In this context, you need to consider long-term capital policies.

Case Study Carefully consider CTO stock options for Deep tech startups

Stock option design should not be a simple equal division of shares by the number of founders, but allocation should consider the relative contribution of each founder. Technology plays a large role in the competitive advantage of Deep tech startups in particular. The value of the CTO responsible for its creation to be in the startup is therefore relatively high. Shares should be allocated such that the CTO can be motivated to firmly allocate resources to create IP. Therefore, estimate the additional IPs needed towards eventual exit of the startup and design the stock option allocation carefully such that the CTO can be stimulated to continuously create the required IPs.

(Domestic venture capital)

Business / IP Correspondence | OpCo

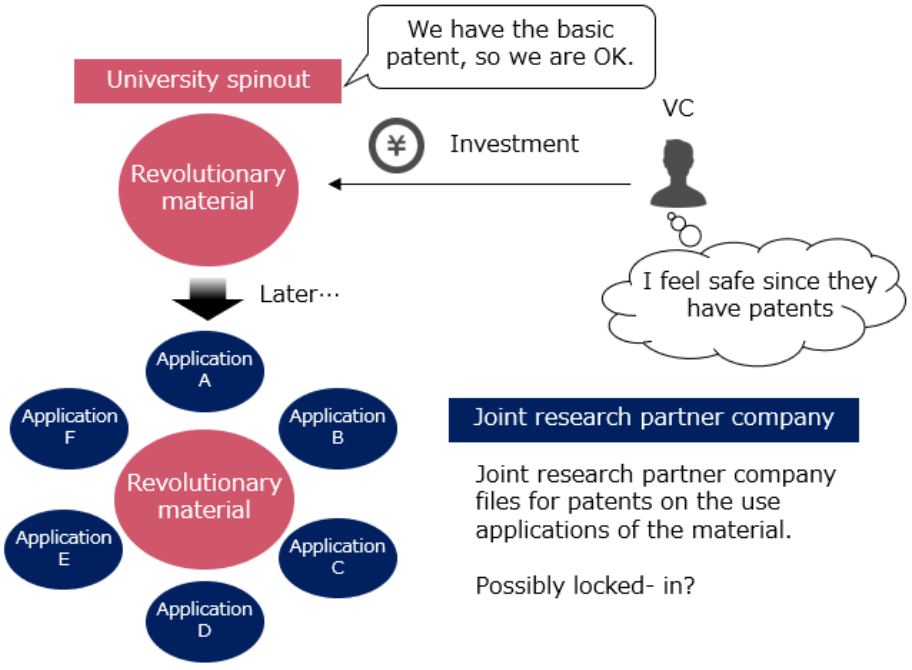
Pitfall 8 Competitor's patents blocking the use of company's basic patent

Common Cases

A VC was thinking of investing in a university spinout established by a researcher who had developed an innovative material.

According to the researcher, "**Things are all right as we have registered basic patents for research results at the university. Joint research with the company is progressing smoothly**". The VC believed these words and proceeded with seed investment.

However, later, the researcher contacted the VC, saying that "it seems that the joint research company had independently filed patents regarding the application of the material". The patents covered potentially large markets, and the startup fears it will be locked in by this company.



Pitfalls with similar patterns

- A startup had an alliance with an operating company which obtained peripheral patents. However, the relationship with the operating company deteriorated subsequently, and as a result, business expansion could not proceed.
- Information was leaked by a technical staff seconded from another company. The other company proceeded to file for peripheral patents.
- An idea disclosed to an operating company was subsequently filed for a patent by that company.

Measures Build an IP portfolio necessary for business growth

Point 1 Understand the need for a portfolio

In most cases, one IP (patent right or black box technology) is not enough to expand the business. Peripheral IP for materials may include, for example, manufacturing methods, applications, mass production technologies, etc. In addition, if it is an IT-based technology, it is possible to prevent the entry of other parties by identifying alternative means that can achieve the same effect and filing related patents even if these are not adopted by the company. It is important to consider a portfolio from the viewpoint of a latecomer to make sure IP sufficiently blocks market entry.

Point 2 Evaluate not only basic IP but also peripheral IP, and support recruitment of inventors where necessary

Peripheral IP may require technology that is different from the core technology. At such times, it may be useful not only to recruit inventors in the field of core technology, but also technical staff with the skills to develop the necessary peripheral technology. A typical example is when a startup needs to develop mass production technology in the fields of manufacturing and biotechnology.

Point 3 Pay attention to information management and joint application when conducting business alliance

It is necessary to pay attention to the control of information when partnering with operating companies. In order to prevent situations where information disclosed at a presentation, etc. is patented by the other party, or a joint research partner willfully files for peripheral IP, startups need to be careful to avoid speaking about confidential information and to apply for the patent first. It is also important to scrutinize contract contents such as NDAs and joint research agreements, etc. It is desirable to have a lawyer or other expert confirm the contents of contracts.

<Reference> Four points of corporate collaboration using IP:
https://ip-knowledgebases.go.jp/public/

Case Study VC supports hands-on procurement of peripheral IP from an external company

A US VC invested in a startup that had spun out from a research institute. Although IP relating to core technology has been transferred from the original research institute, it has become clear that it does not have the peripheral IP needed when a business-use case was considered. Through investigation, it was found that a foreign company possesses the peripheral IP. The VC and the startup jointly negotiated with the foreign company, and they were able to obtain a license for that IP.

(US venture capital)

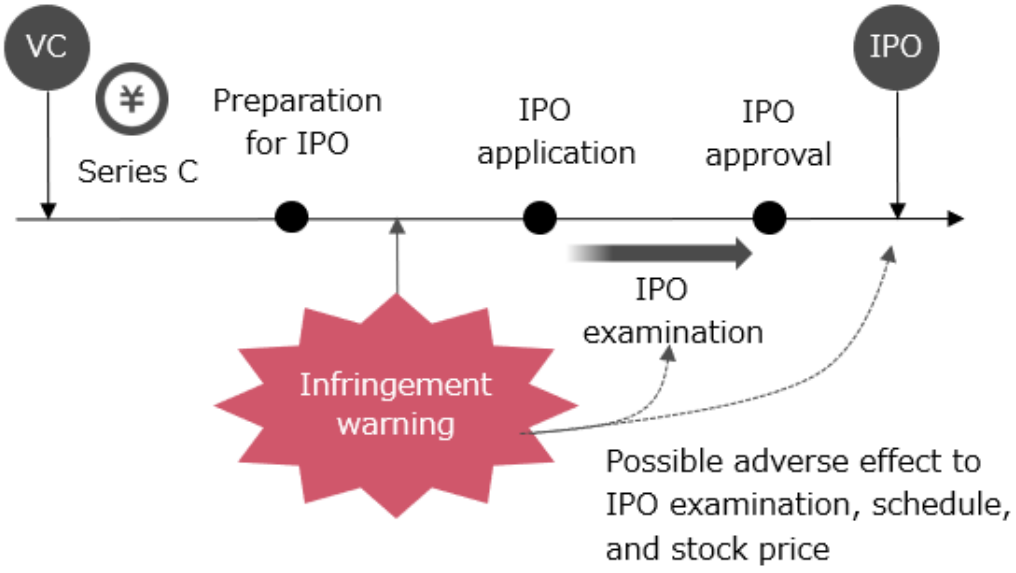
Exit

Pitfall 9 Infringement warnings and lawsuits from competitors just before IPO

Common Cases

A startup was preparing for IPO with a securities firm. This was also reported in the newspapers and became a hot topic.

However, shortly before the IPO, a privately-owned company warned of patent infringement. Upon negotiation with the company, they were required to pay **huge compensations and future royalties higher than expected**. The dispute might affect listing examinations, but the IPO schedule could not be revised. Both the startup and the securities firm were at a loss as to whether "they should accede to the demands".



Pitfalls with similar patterns

- With increased media exposure, a startup received warnings that the company name or product / service name infringed the trademark rights of other companies.
- The search formula for the freedom to operate (FTO) survey in an IP database conducted by the startup was inadequate, overlooking the patent rights of a foreign competitor who accused the company of infrignement of patent rights. In addition, the suit was carried out in the plantiff's country, and the company lost the suit due to geographical disadvantage.

Measures Regularly conduct intellectual property investigations to reduce the risk of infringement if there is a possibility of IPO

Point 1 Risk of intellectual property infringement increases with startup growth

Sales escalating in the order of billions of yen pose a threat to competitors, thereby increasing the risk of becoming a target in IP litigation. The presence of disputes before IPO will affect the listing examination, listing timing, stock prices, etc., and these will weaken the position of startups.

Point 2 Conduct regular surveys after product sales has begun. Estimate and add the survey cost to the investment amount

Startups should regularly check for patent applications from competitors even after the product sales has begun. It is necessary to conduct a proper search for patents of other companies especially before an IPO. It is useful to include such intellectual property search costs in the investment amounts for Series B and C funding.

Point 3 There are many options to defend against patent infringement accusations

Paying the license fee is not the only option even if you get an infringement warning or infringement lawsuit from another company. You can also request a cross license if you have strong rights in-house. Buying a patent from the company lodging the claim is also an option if you do not have enough counter patents.

Point 4 Be sure to check trademarks right from the early stages

It is important to check the registered trademarks of other parties when deciding on a company name or product / service name. If you later discover that you are infringing on another party's trademark, you will have to change the name, despite its having a good reputation, and even if you have a deep affection for it. Alternatively, it costs a lot to buy a trademark from another party. Trademark checks can be done relatively easily with the Japan Patent Office's free database. It is therefore best to check it yourself first.

J-PlatPat https://www.j-platpat.inpit.go.jp/web/all/top/BTmTopPage

Case Study Organize licenses for the technology you are currently using

From its early stages, a startup requested an IP lawyer to investigate the rights of other companies while sorting out present technology licenses from other companies. Sorting out licenses involve taking an inventory of the source of the technology and source code that is currently being used. If negotiations for the necessary technology identified by the sorting appear to be difficult, the startup can consider workarounds, i.e., devise measures such as changes to designs or program development environments.

(Domestic law firm)

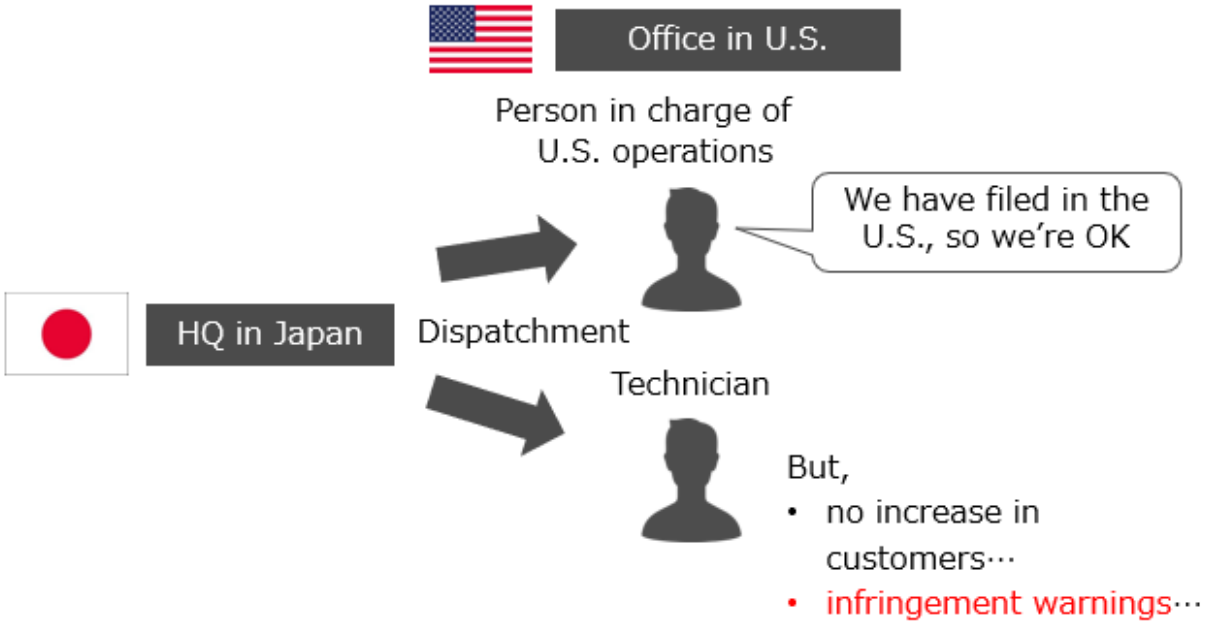
Foreign | Business / IP Correspondence

Pitfall 10 Lack of global IP and standardization strategy

Common Cases

A university-initiated startup into which a VC had made an investment was trying to expand its business into the US and Europe, as it had produced some results in the domestic market. All team members were confident, thinking that "this business will definitely work in the US as it was already successful in Japan". In addition, they had also applied for basic patents overseas in preparation for overseas business expansion.

They proceeded to set up an office in the country they wished to operate in, dispatched a manager and a researcher from the head office in Japan, and proceeded with the development of products for the local market. The product was released one year later, but the customer base did not increase at all. **On the contrary, a foreign company issued warnings about their infringement of intellectual property**.



Pitfalls with similar patterns

- The VC helped hire local management and technical staff. However, some switched jobs to a competitor soon after recruitment and leaked trade secrets including confidential data.
- A startup had applied for a basic patent only in Japan, and as a result, had to give up overseas expansion.

Measures Formulate IP and recruitment strategies tailored to the destination country

Point 1 Assist in planning IP strategies for destination countries

An IP strategy different from that in Japan is required for foreign operations. It is important to investigate foreign IP, discuss about creating an IP portfolio by filing for additional basic patents and trademarks associated with product development for the destination country and also about preventing trade secret leakage. It is also important to consult with experts familiar with foreign circumstances. It should be noted that different countries have different laws and standards, and you may not be able to procure scope of rights similar to those in Japan.

Point 2 Support recruitment of local managers and technical staff

In deep tech startups, technical staff may consist of only Japanese people such as researchers in university laboratories. When considering foreign expansion, VCs should support the hiring of foreign managers and technical staff in the destination countries and support intellectual property-related practices such as local product development and the accompanying patent application and research.

Case Study VC supporting IP localization for foreign expansion

A VC invested in a startup that is developing B-to-B software that handles big data. As core technology is in the form of an algorithm, it can be hidden as know-how rather than through patents. The startup decided to expand into the US after receiving investments. Unlike Japan, as US users prefer a simple user interface (UI), they thoroughly redesigned the UI with an American design company. This difference in user values between countries is important.

Furthermore, there was concern that the company name of the startup would be difficult to pronounce using US pronunciation. They therefore scrutinized for a company name that can be used across the languages of multiple countries, and also investigated the existence of prior trademarks. With the US being a major market, they were able to rebrand the company name so that it would give a good image in English.

(Domestic venture capital)

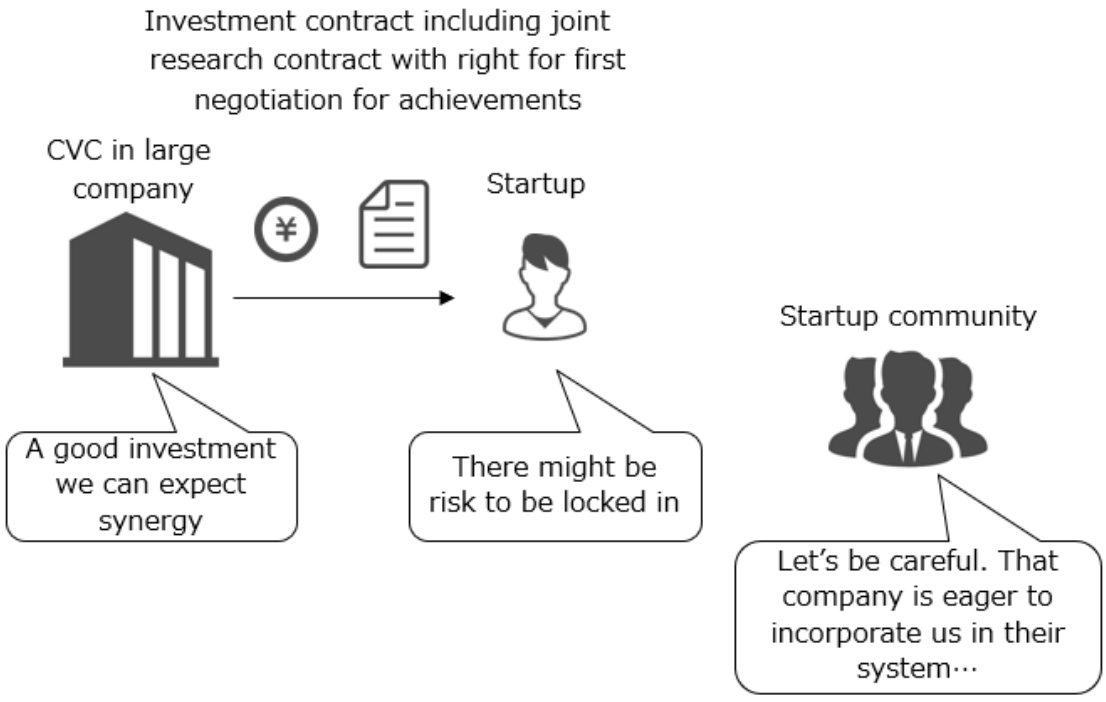
CVC Exit

Pitfall 11 CVC limiting collaboration between startup and potential competitors

Common Cases

A corporate venture capitalist (hereinafter "CVC") invested in a startup that is deemed to have synergies with the company, and at the same time signed a joint research agreement and right-of-first-negotiation regarding the outcome via a side letter.

Although having merit in terms of synergies, the agreement had excessively limited collaboration between the startup and potential competitors, resulting in the company **having a poor reputation in the venture community**.



Pitfalls with similar patterns

- A CVC used its veto right to hinder a startup's exit (M&A) to a competitor, and in the process damaged its reputation in the startup community.

Measures Support growth and exit with a “Startup First” mindset

Point 1 Give priority to the growth of startups when investing

The first priority should be the growth of the startup invested in when investing. As shareholders, contracts that hinder the growth of startups are not appropriate.

Point 2 Both the startup and CVC to consider various exit scenarios together

Startup exit options may include not only IPO and M&A by the CVC company, but also a sale to other companies. It is important to consider various exit scenarios and deliberate the most suitable options for both the startup and the CVC.

Point 3 A downfall in reputation is fatal in the venture ecosystem

It is necessary to enhance the reputation of the CVC in order to continuously collaborate with startups. If you take actions that are considered to be harmful for the growth of the startups you invest in, you will get a bad reputation, and this will hinder future open innovation activities.

Case Study CVC open to startup’s collaboration with other companies

A CVC based in the US consider synergies with the CVC company as an investment criterion but has never considered it to be absolute. It does not conclude side letters related to cooperation or IP agreements, but rather treat them as pure investments. Hands-on support may be provided by the head office if necessary, but the CVC company is just simply one of the candidates for potential collaboration. It strongly recognizes that "CVCs that do not grow startups and that hinder exit will be alienated from the US venture community".

(A Japanese CVC with a presence in the US)

- Regarding the handling of intellectual property as an operating company in open innovation, refer to “IP Open Innovation”, a collection of IP best practices for open innovation (April 2018, Japan Patent Office).
  URL : https://www.jpo.go.jp/support/startup/document/index/2017_09_jirei.pdf

CVC

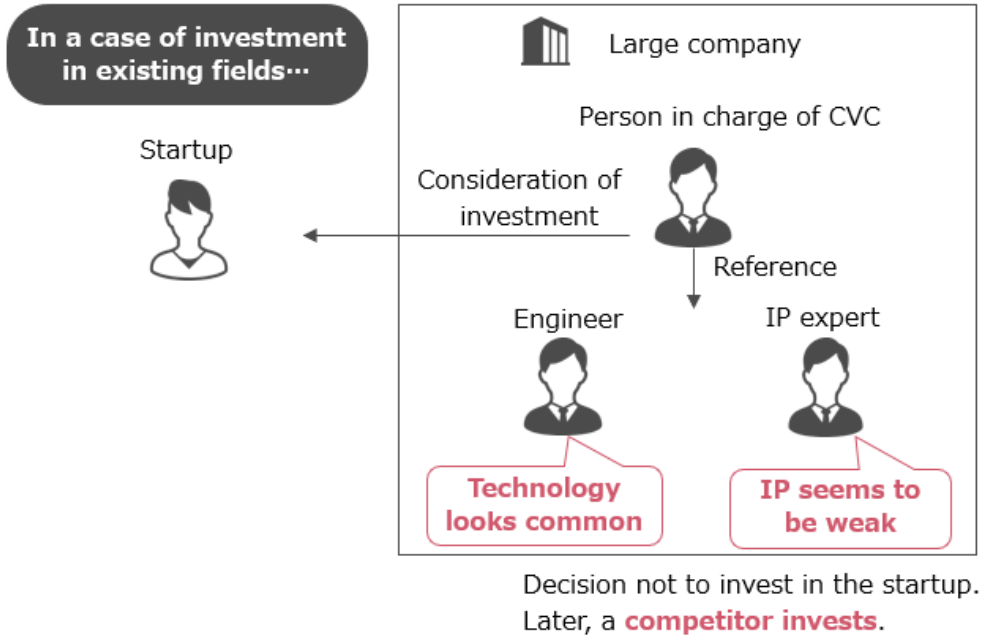
Pitfall 12 Lack of objectiveness in evaluating investments in existing fields

Common Cases

The CVC manager at an operating company considered investing in a startup that was introduced by a venture capital. The CVC manager began to make a full-scale investment study on the startup he deemed to have synergy with the company's domain and have a technological advantage.

During the technical due diligence, he asked an in-house research laboratory engineer for a reference, but the engineer **severely criticized** the startup that "**the technical content is not particularly superior**". Furthermore, when the CVC manager asked the in-house IP department for intellectual property due diligence, he was told that "**there are few patent rights and there is a possibility that the business may infringe the patents of other companies**", resulting in the deferment of the investment.

A competitor subsequently made an investment and the CVC manager was asked by management to explain the reason for not making the investment.



Pitfalls with similar patterns

- Cases where a CVC misses an opportunity owing to too much time taken for due diligence by the business division.
- Cases where a CVC judges the startup as having little technical advantage and cannot fully evaluate the novelty of the business model.
- Cases where investments are made but the startup is unable to get hands-on cooperation from the relevant department within the CVC company.

Measures Use internal resources while keeping in mind that valuing investments close to existing businesses can be biased

Point 1 Agree beforehand with the relevant departments on evaluation, hands-on support, and integration

It is desirable to agree in advance on support with the department involved within the company when investing on the premise of synergies. Startups have limited resources and many steps are required for commercialization. It is a good idea to provide necessary in-house resources and discuss in advance with hands-on departments such as the IP department how to establish relationships with startups.

Point 2 Involve the IP department from the initial stage and deliberate based on objective IP information

In particular, the in-house IP department can evaluate objectively based on the available IP information. It is important to involve the IP department from the initial stage of investment consideration to consider issues relating to competition and alternative technologies based on available IP information, and link to hands-on involvement after the investment has been made.

Point 3 Collaborate with external investors and experts to objectively evaluate technology and IP

Business unit due diligence in existing fields may result in unreasonable undervaluation or be biased. The evaluation may be also limited only to technology aspects. It is therefore desirable to build a system that can access the opinions of external investors for evaluation from the market perspective as well as technology and IP.

Case Study Proactive support from HQ legal and IP departments in terms of evaluation and hands-on involvement

At one CVC, the legal department not only checks patents and papers during the due diligence stage of investment, but also considers unpatented assets to be as equally valuable as patents. They join with partner VC experts to conduct detailed hearings on what the basic technology is and how value chains will be created.

Furthermore, in terms of post-investment support, the IP department at the head office provides free support for IP strategy formulation and patent application at the request of the startup. The IP department actively supports venture businesses in response to the management's emphasis on open innovation efforts.

(Domestic corporate venture capital)

- For an overview of intellectual property due diligence, refer to ""SKIPDD", the Standard Procedure Manual for Intellectual Property Due Diligence" (March 2018, Japan Patent Office).
  URL : https://www.jpo.go.jp/support/startup/document/index/2017_06_kaisetsu.pdf

CVC

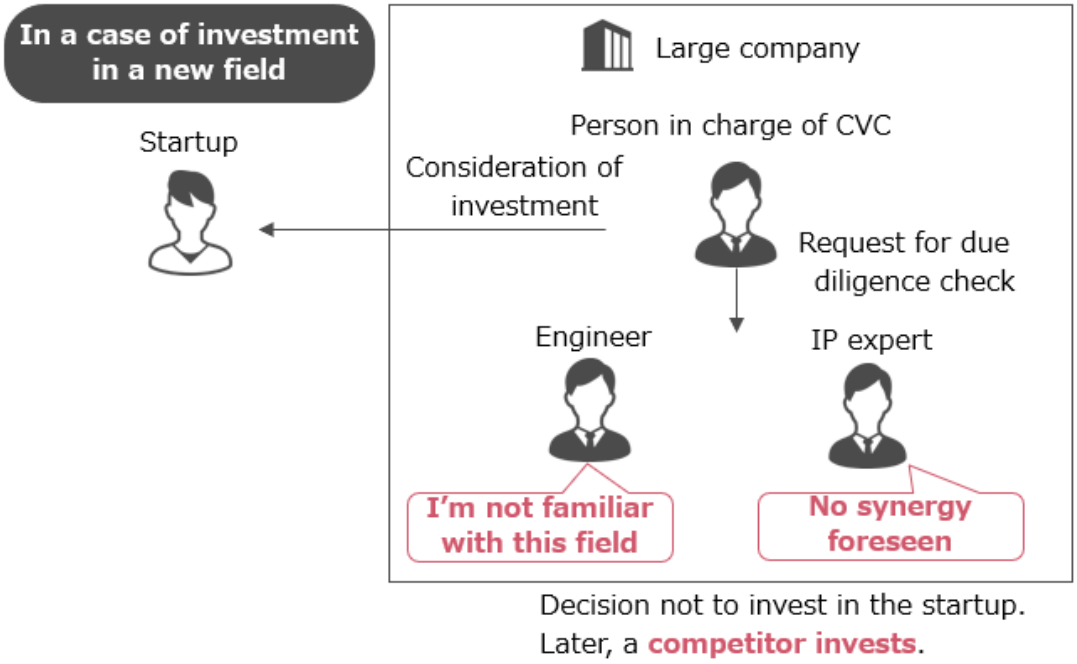
Pitfall 13 Lack of evaluation and “hands-on” support capabilities in new fields

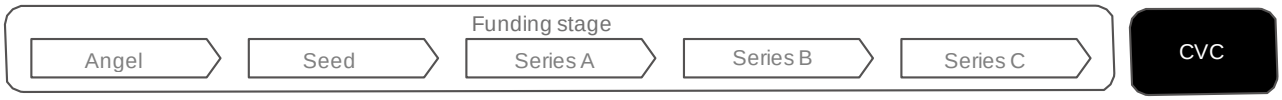
Common Cases

The operating company running a CVC was considering investing in a deep tech startup. Aiming to invest in companies that are likely to have synergies several years ahead, and in areas that are far from existing businesses, the investment manager was interested in the technology of the startup that targeted potential growth markets, although there was a high chance of not getting those markets.

However, due diligence of the business and IP departments concluded that it was not possible to evaluate due to lack of familiarity with the technology. They therefore decided to forgo investment.

A competing operating company subsequently invested in the startup.





Measures Keep in mind that in-house evaluation and hands-on ability may not be sufficient when investing in unfamiliar fields

Point 1 Provide evaluation and hands-on support in collaboration with external investors and mentors

In-house business and IP departments may not be able to properly evaluate startups in fields completely different from existing businesses. The IP department tends to be cautious during evaluation from a risk perspective. Furthermore, the evaluation of technology of startups that may compete with existing businesses in the future tends to be negatively biased. It is therefore worth considering building a network of external investors, mentors and experts etc., to evaluate startups from an outside perspective, while internal resources such as the IP department concentrate on hands-on involvement.

Point 2 In some cases, it may not be possible to invest in projects with high-novelty based purely on synergy criteria

In the short term, it may be difficult to discern logic for synergies and recovery of investment funds with highly-novel technologies and services. There are numerous cases in which markets and technologies have fused in the future to create new markets. It is therefore necessary to keep in mind that it may not be possible to invest in projects with high-novelty based purely on synergy criteria.

Case Study Hire venture capitalists specializing in new fields as GP

In order to invest in an area totally different from its core business, a CVC of a Japanese company based in the US hired a top local venture capitalist specializing in said new area with experience working in a top VC in the US as a general partner (GP).

Having a technical background in the said sector, the GP was able to smoothly evaluate the startups' technology and IP and provide hands-on support. In the evaluation of IP, he employed an IP lawyer to investigate the kind of players in the industry and the types of IPs they possess. Although investments may be made without the startup having IP, advice will be given in order to create an IP portfolio as part of hands-on support. Licensing from other companies was also provided as needed.

(CVC of Japanese company based in the US)

Chapter 4 Framework for IP evaluation and support

Create a framework to evaluate and support technology and IP both inside and outside the company

It is important to create a framework that allows evaluation and support both inside and outside the company in order to evaluate and support the technology and IP of startups.

Structure in-house evaluation processes and share know-how

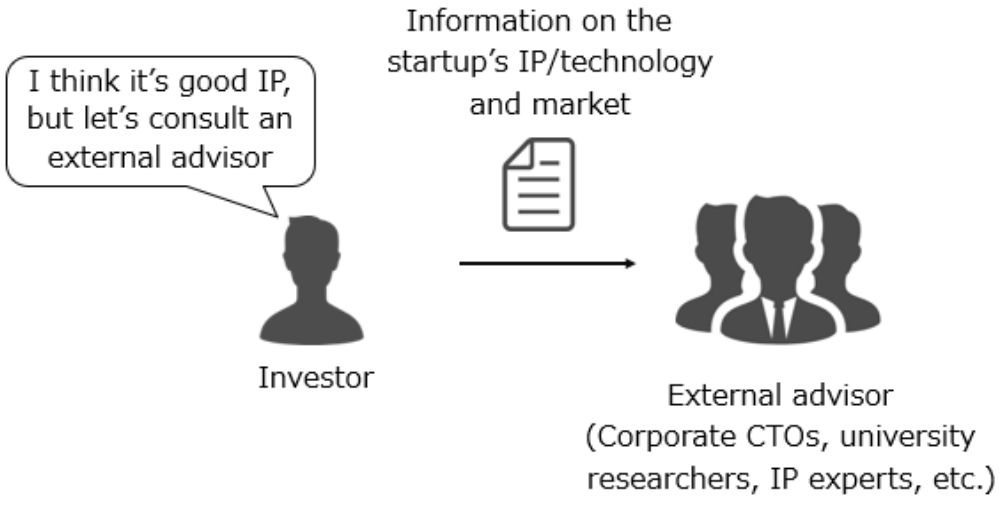
It is important to set up processes for technology and IP evaluation. Technology and market pivot events occur especially in the seed and early funding stages, and the requires the adaptation of IP accordingly. In addition, even after the middle stage funding, additional IP is frequently required due to additional technological development.

It is therefore important to build a framework that can provide IP evaluation and support on a regular basis in order to respond to changes in the business environment. IP should be evaluated not only at the time of investment but also continuously. In addition, it is useful to share know-how within the organization rather than leaving it to one in-house IP manager so that the organization can respond to new IP strategies as a whole.

Case Study

Be sure to include IP evaluation by an external advisor during the investment process

A venture capital in the US decides to conduct due diligence on IP at the beginning of the investment process. In the process, they obtain references on technology, IP and the market from external expert advisors and not just from in-house resources. They ask the advisor to evaluate IP from a market perspective, and thereafter evaluate whether the IP should be used for protection or for licensing purposes.



(Foreign venture capital)

Collaborate with IP experts

It is important to collaborate with experts such as lawyers and patent attorneys for IP support. By building networks with the appropriate IP experts, investors can seek collaboration when needed.

In addition, because investors and IP specialists have different perspectives, we can achieve better IP utilization through discussion among investors, entrepreneurs, and IP experts, rather than entrusting everything to the IP experts.

Case Study

IP lawyer within VC supports IP strategy, eventually leading to exit

A venture capital firm in the US employs a lawyer specializing in IP as a managing director. The aim is to efficiently support the IP strategy of the startup. The support provided by the IP lawyer covers a wide range, including the evaluation of startup's IP and the formulation and execution of IP strategies. In particular, since the patent right has a limited protection period, latecomers can enter if additional rights are not taken. The IP lawyer therefore also provides advice not only for basic patents but also for building an IP portfolio.

As an example of support, the IP lawyer advised the startup to acquire an international patent as early as possible. The rights were subsequently obtained within two years from the PCT application. A major company was impressed that they could protect their IP even in a foreign territory, and they subsequently acquired the startup for 200 million dollars.

(Foreign venture capital)

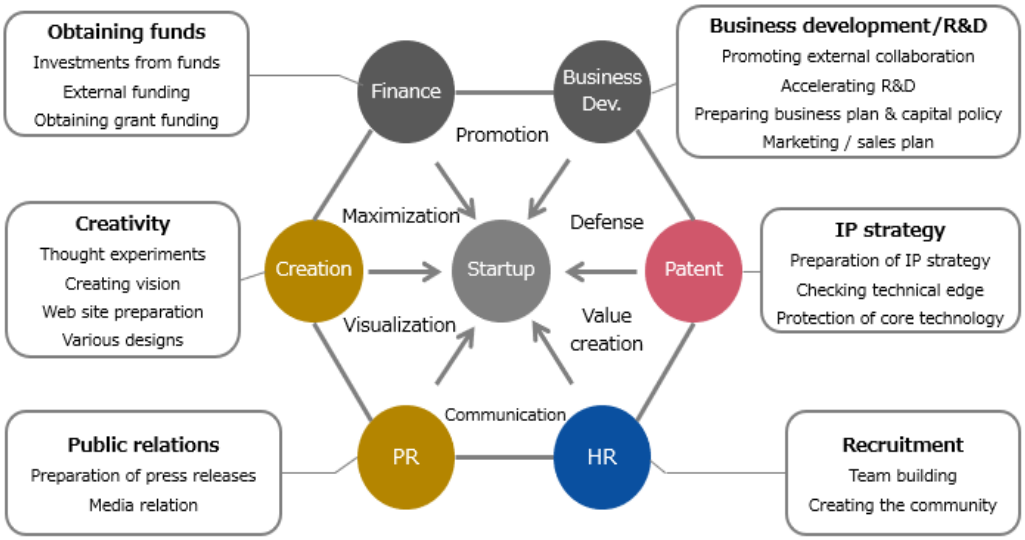
Case Study

VC cooperates with law firm to provide hands-on support for IP

The Real Tech Fund provides various support necessary for social implementation of technology. As part of this, they decided to promote "Patent Booster", an IP hands-on support that is indispensable in the real tech field. This has enabled early planning and execution of IP strategies that are integrated with business strategies.

Specifically, in cooperation with a law firm, an attorney supporting IP strategies for startups provides the startup with support such as formulating IP strategies, confirming IP superiority, and patenting important assets at every stage including the investment committee, hands-on support stage, invention creation stage and entry into new business stage.

Since it would be too late to provide IP support for a startup when it starts to think of it, you need to stay close to the startup and maintain access to expert knowledge.



(Real Tech Fund)

CONCLUSION

Key Messages

Key messages are as follows:

1. **It has become increasingly important for investors to support startups to formulate their IP strategies.**
2. **An IP strategy is not only about "how to secure a broad patent right", but also about incorporation of IP elements into various parts of the overall management strategy.**
3. **The role of investors is to develop the perspectives of IP strategy.**
4. **In order to prevent IP pitfalls, IP strategies need to be incorporated into business plans.**
5. **IP pitfalls await investors and startups at each stage of investment.**
6. **Pitfalls can be avoided if investors can provide support from a strategic angle, and from the early stages of a startup.**
7. **It is important to create a framework / mechanism to evaluate and support IP both inside and outside the company, including help from IP experts.**

In the process of creating this guide, we collected and summarized the pitfalls of startups and their responses from many investors and IP experts. We hope that using this guide investors and IP experts will be able to work more closely with each other to deepen discussions and work towards new initiatives. Furthermore, the Japan Patent Office welcomes further information on "new pitfalls discovered in venture investments".

Finally, we hope that this guide will contribute to the enhancement of evaluation and support of your intellectual property and help contribute to the business expansion of startups and the enhancement of the startup ecosystem.

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Guide on Intellectual Property Evaluation and Support for Venture Capitalists:
Common IP Pitfalls and Countermeasures

2018 Research on system issues relating to industrial property rights
“Research and Study on IP Support for the Proper Evaluation of Startups”

Contracted Party: Mizuho Information & Research Institute, Inc.

Guide on Intellectual Property

Evaluation and Support For Venture Capitalists

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