Session 4 (Parallel)

Venture Capital in Open Innovation—Critical Evolutions Ahead

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In the transformation of a scientific or technological seed to use in the economy, it is hypothesized that the interactive dynamics of the transitional phase or "ba" are critical to success. Within this general framework, one mechanism for facilitating this transition is the role of venture capital to fund and guide emerging companies. Emerging businesses and venture capital have the potential to bring this value by taking on the higher risk, sometimes disruptive technological challenges. To achieve success, the strengths of the links within the "ba" are essential as they facilitate more effective open innovation. Although great improvements have been made in Japan, major challenges still exist. This discussion will analyze the strengths and weaknesses for enhancing open innovation via the "ba," using as an example the emerging biotechnology sector.

Over the past 7 or 8 years, there have been substantial reforms in policy and business in Japan to promote a more active venture business sector. Many of these reforms have improved the richness of the "ba" for linking ideas, expertise, resources, business capabilities and markets – capabilities that had wilted for emerging companies due to the dominance of large corporations in the post-war economic boom. As a result of these reforms, today, there are growing signs of a re-emerging sector of vital venture companies.

However, the progress of this sector still faces handicaps and challenges, and the framework of the "ba" can help to understand the weaknesses that must still be addressed. Although discussion of the "ba" often focuses on the linkages that can be made, in the case of emerging companies, it is certain elements within the "ba" that need greater momentum to enable useful links. These elements are particularly related to characteristics of open innovation in a system.

In the case of biotechnology – the most active sector in Japan for university patent activity and university-based venture spin-outs – some of these key challenges occur in the following areas:

- Weakness in partnership opportunities with larger biotechnology and pharmaceutical partners
- Absence of M&A strategies and activity
- Low volume of international investment
- Personnel mobility

On the surface, it might seem that simply improving the "ba" would address some of these weaknesses. But this does not appear to be the case. Although strategies for improving the "ba" are helpful, for more successful open innovation the actors in the "ba" need to be educated and motivated, and this is where improvements are needed. The rest of the discussion will address some of the critical actors and measures needed to gain more effective engagement.

Weak partnerships

In the summer of 2005, the MOTHERS stock exchange issued new guidance for biotechnology companies seeking an IPO. These new guidelines emphasized the need to show human proof of concept in a lead drug or therapy, a credible second candidate in the pipeline, and strongly urged partnership with a major pharmaceutical company. The Hercules stock exchange in Osaka soon followed with similar listing priorities. There have been no biotechnology IPOs in Japan in the year since these changes.

The need for partnership reflects an attempt by the exchanges to reduce investor risk in these money losing businesses by validating that a major commercial player sees potential in the therapeutic and is willing to commit its own resources. This reflects the growing reality that it is increasingly expensive to bring a drug through human trials for regulatory approval and to then create the marketing connections needed to successfully commercialize it.

The National Institutes of Health in the United States has started programs to accelerate the timing of linkages between very early stage ventures and large pharmaceutical and biotechnology partners. Over the course of seeding such companies through their Small Business Innovation Research (SBIR) program, there has developed a recognition that success is enhanced when partnerships occur early in this high risk sector. Given the particularly high requirements of time and resources for developing new drugs, the deeper resources of these partners can also prove essential for survival.

Yet in Japan, good partnerships are often difficult to conclude, particularly at an early stage. Japanese pharmaceutical firms still seem to give greater priority to searching for such emerging partners abroad, in the U.S. and Europe. Further, such partnerships are still virtually absent with global pharmaceutical companies and international biotechnology companies.

Absence of M&A

"M&A is Good, M&A is Essential," this should be the mantra of the biotechnology sector in Japan to highlight the importance of this mode of business growth to achieving success, and to counter some of the negative atmosphere that still surrounds M&A activities in this country.

With the misfortunes of Livedoor, M&A seems to have fallen again in reputation as a form of business transaction. Yet because of the highly specialized nature of drug development, M&A is often the most effective way to build a portfolio of products needed to offset the risks associated with any one development effort in order to achieve a sustainable business. M&A is often rather foreign to the scientific community and scientists still dominate biotechnology in Japan. There are also few cases of mergers between biotechnology

companies to leverage complimentary strengths, although some are occurring, and no cases of Japanese or global pharmaceutical companies acquiring biotechnology companies in Japan. This lack of M&A weakens the sector because it weakens the sustainability of the business models and it weakens returns to investors, discouraging financial support to these businesses.

For the investment community, for sustained investment returns, an active level of M&A is essential. The "IPO" has received much attention in the press, but the reality in the US and Europe is that acquisition is an even more important avenue. Acquisitions account for approximately 80% of venture capital exits in the U.S. in recent years, and over half in Europe. In Japan, the percentage is still below 5-10 percent, with venture-to-venture acquisitions comprising the dominant form.

Low level of international investment

This is a slightly different dimension of the "ba" as it refers to the lack of international investment in biotechnology ventures in Japan. The strategic value of such investments from international pharmaceuticals and biotech corporations was touched upon earlier, but this point refers to the potential value of international investments in building a more hands-on and valued added venture capital investment capability. Since 2000, a number of independent, biotechnology-focused venture capital firms have emerged which are modeled on the early stage, value added approach of classic U.S. venture capital. Several of these funds were launched with the partial investment of national or local governments. However, these venture capitalists have found a major challenge in raising limited partner investments from other sources. This has been a particular challenge for "second funds" which usually must be raised before first fund investments have seen many returns. One key reason for this is the restricted flow of venture investments when compared, for example with the U.S. Part of the solution may reside in attracting more international investment into Japanese venture capital funds.

Personnel mobility

Finally, no analysis of emerging companies in Japan can be complete without some mention of the challenges of personnel mobility. Finding good emerging company business managers continues to be a major challenge. Some ambitious venture capital firms have tried to install management from their networks, but the results have in several instances weakened the company rather than strengthened the business. This again reflects the lack of a mobile talent pool in this area.

A more effective registry of personnel is much needed and the "ba" for mixing those with drug management experience with emerging ventures needs to be greatly expanded. In this regarding Kansai would seem to play a particularly important role with the concentration of pharmaceutical talent in this region. To expand the registry one measure that might be taken is to provide to venture businesses with a list of Japan's life science and physical science post-doctoral researchers supported by the recently expanded post-doctoral fellowship programs.

Further, there is rich international experience in the development of emerging venture businesses that is minimally tapped in Japan's venture sector.

Ultimately the goal of a good venture system is to bring knowledge and resources together in a forum with little friction. There is still a lot of friction slowing Japan's venture sector. More actively internationalizing this sector can strengthen key components of a more successful "ba" by adding resources and expertise, and by awakening Japan's own industries to this underused asset.

Perhaps one action that will catalyze the interaction of emerging and large companies would be the active entry of international, or "foreign," corporations as active business partners or acquirers. The acquisition of a few promising emerging businesses in Japan by international businesses may well have the very positive effect of waking up the still conservative Japanese large corporate sector to take more serious notice of the resources that have been sprouting up around them. Sometimes the perceived threat of international competition can be a far more effective catalyst of activity than government policies.