Corporate venturing with deep-tech start-ups: Lessons learned from Asia

In just five years, investment in deep-tech start-ups has quadrupled to reach more than $60 billion in 2020. A new study offers advice to help larger companies team up with deep-tech start-ups, gleaned from cases in East and Southeast Asia.

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Companies such as Toyota, Samsung, Alibaba and Lenovo are already innovating through partnerships with start-ups in the deep-tech field — that is, with ventures in emerging technologies. Globally, investment in deep-tech start-ups has quadrupled in the last five years: from $15 billion in 2016 to $60 billion in 2020.

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Diving into this rising trend, the 2021 study, *Open Innovation: How Corporate Giants Can Better Collaborate with Deep-Tech Start-ups. The Case of East and Southeast Asia*, by IESE co-authors Josemaria Siota and professor M. Julia Prats, together with researcher Vittoria Emanuela Bria, analyzes more than 100 East and Southeast Asian companies collaborating with start-ups — a practice known as corporate venturing. Looking to the future, the study reports that 71% of the companies analyzed are planning to increase the weight of deep-tech start-ups in their corporate-venturing portfolios.

What is deep tech?

Deep tech refers to "a group of emerging technologies based on scientific discoveries or meaningful engineering innovations, offering a substantial advance over established technologies, and seeking to tackle some of the world's fundamental challenges," according to the authors. It includes artificial intelligence, advanced materials, biotechnology, blockchain, robotics and drones, photonics and electronics, as well as quantum computing.

Deep-tech products are often developed by PhDs and other highly qualified experts and they tend to take more time and capital to develop, as they often require in-depth testing and periodic reviews. Many deep-tech initiatives have their roots in academia and are funded by government grants. Products' time-to-market can be long, even exceeding five years, and the ventures carry a lot of risks — risks that can be compounded by a lack of business expertise.

Larger companies that have partnered with deep-tech start-ups are already innovating, while they also face particular challenges. In this field, the top seven concerns keeping chief innovation officers awake at night are: technology evaluation, a short-term view, internal alignment of KPIs, regulation, regional fragmentation, silos between R&D and corporate venturing teams, and top-down management. It is also notable that three departments — finance, legal and R&D — are usually reported to be possible bottlenecks for corporate venturing relationships within deep tech.

A boom in East and Southeast Asia

In 2019, Asia accounted for 40% of corporate venturing investments in the world. In East and Southeast Asia, some of the corporate venturing activity is concentrated in nine regions: mainland China, Hong Kong, Indonesia, Japan, Singapore, South Korea, Taiwan, Thailand and Vietnam.

In mainland China, for example, tech giant Tencent sought to grow through its WeChat app.

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The company combined two distinct paths to innovation: They launched WeChat with a traditional top-down approach to provide an unequivocally clear vision, with precise information coming from a single architect. But when incremental innovations were sought to keep growing, a bottom-up approach allowed more input for improvements. Based on this and many other examples in the region, the study sheds light on how to engage in open innovation with deep-tech ventures.

6 tips for collaborating with deep-tech start-ups

The report offers up 17 points that may be helpful to companies partnering with deep-tech start-ups. Below is a brief selection, looking at issues of governance, hierarchies and risk perception.

1. Secure an unbiased technology evaluation for the deep-tech start-up. Be aware that corporate R&D teams may be biased toward their own inventions. Consider two variables for a more objective evaluation. Firstly, who has the technical knowledge for conducting the technology evaluation? It may be someone from the R&D department, the corporate venturing team or an expert outside the corporation. Secondly, consider having a shared mandate and a joint boss with expertise in both the venturing and the technical side to help overcome team bias.

2. Design an innovation architecture that takes into consideration the particular risks of each corporate venturing mechanism. Of all the corporate venturing options for deep-tech start-ups, the three riskiest were perceived to be start-up acquisitions, corporate venture capital and venture builders. The safest, in terms of perceptions, were hackathons, scouting missions and challenge prizes. Evaluate the amount of risk that your company is willing to take on, among other factors, in order to pick the best mechanisms for you.

3. Work to counteract the disadvantages of a top-down corporate venturing approach to boost employee motivation, creativity and faster approvals. For this, upper management needs to be convinced that this change is needed — both from the outside (e.g., bringing in external experts) and from the inside (leveraging the CEO's inner circle). Later, upper and middle management can help instill changes in their business units and departments. Finally, a structural change should ensure that internal policies and incentives support the new approach. These policies may include, for instance, shortcutting approvals by securing a sponsor in the executive committee to speed up corporate venturing decisions, or by having a flexible upper-management involvement depending on thresholds of resources required (e.g., a $20-million investment in a deep-tech start-up may require a higher

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involvement of upper management than launching a hackathon in deep tech).

4. Tailor your pitch to suit its audience when talking about deep tech. Executive committee members may prefer arguments related to long-term strategy. Drilling down, business units might favor more focus on the short or medium term. Once you achieve a success case in one business unit, take it to the rest of the company.

5. Don't start with the technology. In this pitch, instead identify a problem that you want to solve through a clear use case. Focus on the quantitative and translated impact for corporate decision-makers. Involving business units in the creation of the use case may help increase acceptance along the way.

6. Minimize risk with a sandbox. Build a simple test environment (sandbox) to carry out the minimum proof of concept and then gradually increase the resources allocated to the project. This approach is especially useful in highly regulated contexts.

Methodology, very briefly

In total, more than 180 companies were analyzed, and 77 interviews were carried out in 67 companies. The core of the study focuses on 41 of those interviews carried out in 32 companies — 18 of which stand among the top 30 companies in terms of annual revenue (greater than $51 billion) which are engaged in corporate venturing and headquartered in East and Southeast Asia.

The report was released in the Corporate Innovation Summit, hosted by the Hong Kong Science and Technology Parks Corporation (HKSTP), discussing trends and best practices.

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*Download the full study here: "**Open Innovation: How Corporate Giants Can Better Collaborate with Deep-Tech Start-ups. The Case of East and Southeast Asia**" (also available in Chinese).*

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