

The Open Innovation Model

The traditional path for innovation among corporations is the so-called Closed Innovation model. In this model, corporations run their own R&D labs and, to innovate, they rely only on what they manage to research and develop internally. The Open Innovation model, on the other hand, acknowledges the fact that there is a huge supply of ideas and technologies outside the firm – and the firm should take advantage and benefit from these innovations.

Corporations used the Closed Innovation model for most of the 20th century and, during this period, it worked quite well. In fact, the 20th century was the golden age of internal R&D. Other players – such as universities, for example – did not offer viable alternatives for internal R&D. Although knowledge was being created in universities, its transfer to commercial use was limited. Moreover, universities lacked the financial resources to conduct significant experiments themselves. The government was not of much assistance either, with very limited role in organizing or funding science. Corporations, on the other hand, were at the cutting edge of scientific research. They had the best equipment and people, and spent significant funds on research. This commitment to internal R&D was viewed as a barrier to entry, since new competitors would have to make similar investments to compete in the industry.

Today, though, in many industries the logic underlying Closed Innovation has become fundamentally obsolete. Several factors have eroded this paradigm, such as:

(i) Today, the best people in a given field may not be necessarily inside big corporations – they may be found at universities, the military, and also at startups. Currently, dozens of universities – not only in the US, but also in Israel, Singapore, India, etc. – have world-class research capabilities. Technologies that were designed for military use have been adapted to civilian applications in fields that go from cyber security to medical devices. Also, startups are themselves conducting research, many of which in incubators or accelerators.

(ii) There are also no geographic borders to innovation anymore. In general, innovations are being developed in clusters in different parts of the globe. The biggest cluster in the world is in Silicon Valley, followed by others such as Tel Aviv, Los Angeles, NY, Boston, and London.

(ii) The VC industry has expanded significantly over the last 3 decades and today there is money available to fund promising and innovative technologies outside corporations. Access to capital is not the absolute bottleneck it used to be anymore. In fact, people that used to work for big corporations – or even those who were about to enter the job market – started to get lured by the perspective of starting their own businesses, which exacerbated the crowding out of brains from corporate internal R&D labs and into startup companies.

In fact, the Open Innovation model comes to complement – and not fully replace – internal R&D conducted by big corporations. Moreover, Open Innovation thinking changes a little the role of researchers inside big corporations to include not just knowledge generation, but also knowledge evaluation. The results of internal research are multiplied when linked to and built on achievements of others.

Nowadays, ideas flow fast and new tendencies and technologies flourish everywhere every day. It is important that any given corporation keep track of these novelties. However, the screening, scouting and monitoring of these innovations is not a trivial task. In fact, it can be overwhelming. So, besides investing directly in startups, many big corporations have also developed different models of collaboration with other players in the ecosystem such as joint R&D labs at universities, Open Innovation Centers/Hubs powered by third parties, investment vehicles managed by VCs, etc.

Below, we present the case of Intel, one of the pioneers in Open Innovation. Its example shows how Open Innovation principles can leverage internal knowledge beyond any level that would be achieved under the Closed Innovation model.

The Intel Case:

In the 1980s, Intel started to invest in its close suppliers, primarily to ensure a reliable source of quality inputs. While Intel intended to make a profit on these investments (i.e., Intel was not subsidizing its suppliers), its main goal was strategic. Intel wanted to develop the technology supply base it needed to achieve its business goals.

Over time, Intel also added other goals to its strategic investments. It also started to explore new potential technologies and markets beyond its core business. Currently, its extensive investment portfolio gives it great visibility into new and emerging technologies, and this view can broaden its own vision of possible future directions for Intel's own business.

After selecting companies that offered both strategic and financial promise, Intel started negotiations for a possible investment deal. Eventually, such investments could culminate in M&As. Once the investment went through, processes for monitoring the company were developed. The invested companies would gain feedback from Intel in order to improve product performance. Moreover, they could get insights into Intel's product roadmaps, participate in Intel's marketing programs, and access its distribution channels. There were usually term-sheet warrants for additional shares in the invested company if Intel enhanced its product performance to specified levels.

Monitoring the investments – especially when financial issues facing the venture become a concern – can be challenging for any big corporation. However, Intel did not need to closely



manage every investment it had, because it typically co-invested alongside VC funds, which directed the venture's growth and monitored its performance.

Notice that measuring the actual market value of Intel's portfolio holdings has always been tricky, given that no metric can accurately measure internal learning, development, or increased sales of Intel's own products as a result of its investment activities. In fact, strategically & financially driven investments are inherently much harder to evaluate and measure quantitatively than pure financially driven investments.

Intel's approach provides a good example of how Open Innovation principles can leverage internal knowledge beyond any level that would be feasible under the Closed Innovation model. Moreover, Intel's willingness to partner with other players in the ecosystem shows its clear perception about how the "engine" works. Intel's internal research capabilities allow it to conduct much deeper due diligence on the technical side of its investments than is typically done by most venture capitalists. However, the monitoring and management of the invested companies themselves – especially when it comes to financial issues – is usually designated to related third parties such as partner VC funds. In this way, Intel can extract the best from everyone: from its own team, from startups, and from partners in the ecosystem.

Source: "**Open Innovation: The New Imperative for Creating and Profiting from Technology**", by *Henry Chesbrough*, Harvard Business School Publishing Co., 2003.