From acquisition to advantage: the power of tech licensing

Acquiring technology is only the beginning. Here are the keys to deciding whether to license it out, retain it or divest. Whatever you do, keep the value tethered to your firm.

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Between 2000 and 2024, the Swiss pharmaceutical company Roche acquired more than 32 tech-driven startups with the aim of gaining key capabilities to bolster its R&D efforts. It is a strategic move frequently made by major industry players, including Cisco, Qualcomm and IBM. They are looking to add technical expertise, intellectual property and cutting-edge innovations to their portfolios in order to maintain a competitive edge in their respective fields.

However, acquisitions also introduce well-documented challenges. Having an expanded portfolio opens up a raft of new issues. Managers must determine the best course of action for the newly acquired technologies: which to retain, which to develop and which to restructure. Acquired firms may also have overlapping R&D projects, technologies and personnel expertise. This raises integration issues and coordination difficulties. And where redundancies and inefficiencies exist, managers must find ways to mitigate them. Failure to manage these transitions effectively can result in wasted resources and erode competitive advantage. No wonder acquisitions generally have failure rates of between 70% and 90%.

For a tech acquisition to really add value and become a strategic advantage, managers must learn the best way to navigate the process.

Resources as roadblocks: the managerial trade-offs

Integrating new resources into portfolios involves inherent trade-offs. First, managerial attention is limited, so firms cannot possibly develop everything, especially after adding new R&D projects through an acquisition. To keep the R&D pool trim and avoid investing too much in technologies and applications that are overly broad, firms may have to balance trade-offs such as choosing to terminate certain projects or divesting certain assets they no longer deem valuable. However, doing so can be financially and strategically costly.

R&D is an intrinsically uncertain activity. Discarding assets runs the risk that they might later turn out to be highly valuable. A classic example is Xerox, a historically active acquirer, which held on to some technologies but spun off companies like Adobe and 3Com — decisions that proved to be strategically costly in retrospect.

Reconfiguration is an alternative to divestiture. Instead of subtracting, firms may opt to add resources through a strategic reconfiguration of acquired assets with existing ones. However, the challenge remains: what if the firm proceeds down a new path only to find out later that it

leads to a dead end?

Why some firms’ innovation efforts hit a dead end

The message from top managers to internal R&D teams is to seek out new, disruptive technologies from smaller firms in order to find innovative solutions that they may struggle to find in-house. Yet when sourcing those external technologies, large firms often miss out on breakthrough innovation. Why?

Research in the biopharma sector shows that, despite leaders’ calls for disruption, internal R&D teams tend to choose solutions aligned with existing expertise, thus limiting novelty. Whether it’s a result of cognitive biases or established routines, they go for technologies they are already familiar with, leading to inertia or a failure to adapt to changing markets.

The message is clear: sourcing innovation isn’t enough; firms must also challenge their own internal biases to unlock real transformation.

Licensing as a solution

Discovering the best ways to make the most of tech resources post-acquisition has been the subject of our research. In “Understanding the link between post-acquisition resource reconfiguration and technology out-licensing,” published in the *Journal of Management Studies*, we studied how firms in the biopharmaceutical industry use tech licensing as an alternative to divesting or shutting down R&D projects entirely.

12 %

Increase in tech licensing activity in the year following an acquisition

Rather than eliminating technologies outright, acquiring firms seek external partnerships and they “license out” their tech to these partners. This allows them to capitalize on innovation without bearing the full cost of development and commercialization themselves.

It’s important to note that out-licensing isn’t the only answer. It is possible for firms to keep the tech in-house yet not have to shoulder all the development costs themselves.

We documented this in another study (“Market for technology 2.0? Reassessing the role of complementary assets on licensing decisions” by Solon Moreira, Thomas Klueter and Aman Asija, published in *Research Policy*). Firms can contract services via Contract Development & Manufacturing Organizations (CDMOs), allowing much-needed flexibility to reconfigure and develop projects internally, without having to completely out-license strategically important tech capabilities to external partners.

The key in both cases is that firms retain ownership of their tech while transferring development and commercialization costs to others. In addition to the flexibility this offers, licensing generates revenue through fees and royalties. Unlike outright divestitures, which sever ties with the technology, licensing agreements allow firms to maintain some level of influence over its future trajectory. By choosing licensing over divestiture, firms also hedge against uncertainty: If a licensed tech proves highly successful, the original firm retains options for renegotiation or reacquisition.

Ligand Pharmaceuticals example

Following its acquisition of Vernalis, Ligand Pharmaceuticals strategically out-licensed several acquired assets. As the CEO noted, the acquisition provided additional assets with potential licensing opportunities, allowing the company to monetize its tech while maintaining strategic options. This approach enabled Ligand to expand its financial and technological footprint without overextending its internal R&D resources.

Our research in the *Journal of Management Studies* further highlights the prevalence of this practice. The ratio of licensing deals to technology-based divestitures stands at approximately 15-to-1, underscoring the strategic importance of licensing as a post-acquisition reconfiguration strategy.

This trend reflects the growing recognition that firms can extract long-term value from acquired innovations without relinquishing ownership. Instead of viewing non-core assets as excess baggage, successful acquirers strategically license them to external players, ensuring continued development while maintaining financial and strategic benefits.

In industries where technological uncertainty is high, licensing offers a viable alternative that

balances control, flexibility and financial return.

When is out-licensing the right choice?

Despite its advantages, licensing is not a universal solution. Similar to divestitures, licensing can create long-term risks, particularly if the technology gains significant market value and strengthens external players who later become dominant competitors.

A prime example is IBM's licensing of its PC architecture to third-party manufacturers, including Compaq and Dell. Initially, this strategy helped IBM establish industry standards and expand market penetration. However, as these licensees refined and innovated upon IBM's technology, they eventually outcompeted IBM itself, forcing the company to exit the PC market entirely.

This illustrates a key risk of licensing: While it can reduce development burdens and generate immediate financial returns (the median upfront payments in licensing to preclinical biotechs can be around $50 million), it can also erode a firm's competitive position if external partners gain a disproportionate share of market power.

Our research suggests that firms are less likely to license newly acquired technologies when there is significant uncertainty about their long-term value. High-uncertainty environments, particularly in industries with rapid technological evolution, make it difficult to predict whether a licensed technology will become a critical competitive asset or an obsolete innovation. In such cases, firms prefer to retain control, opting to internally develop or test different applications before making external commitments.

Additionally, companies with strong financial resources tend to delay licensing decisions, using their capital to explore multiple technological pathways and assess potential synergies with existing R&D efforts. This cautious approach ensures that firms do not prematurely cede valuable technologies to external players before fully understanding their strategic implications.

Moreover, firms may also limit licensing if the technology is integral to future platform-based strategies or ecosystem control. In sectors such as pharmaceuticals and artificial intelligence, where proprietary advancements can define industry leadership, companies often keep promising technologies in-house to maintain exclusivity and sustain long-term differentiation.

Thus, while licensing remains a powerful post-acquisition tool, firms must carefully weigh its

short-term benefits against potential long-term competitive trade-offs.

5 key factors for out-licensing decisions

To help managers decide whether to out-license, retain or divest an acquired technology, we recommend carefully considering the following five factors.

1. Understand the technology and its applications

Managers must assess the long-term strategic value of a technology before licensing it. A strong grasp of its potential applications allows firms to craft more effective licensing agreements that protect their interests while benefiting from external development efforts. Retaining some control over the technology enables firms to capitalize on unforeseen breakthroughs.

2. Evaluate financial constraints

Limited financial resources can restrict a firm's ability to develop all acquired technologies. Licensing can serve as an alternative to costly in-house development, allowing firms to monetize their technology without bearing the full financial burden. This consideration is particularly relevant post-acquisition when integration costs are high.

3. Retain key R&D talent

If the technology is closely tied to specific R&D personnel, licensing can help retain critical institutional knowledge while establishing collaborative partnerships with external firms. In the case of Adobe, Xerox lost key engineers when it spun off the company, ultimately losing access to a breakthrough technology.

4. Capture strategic future value

Well-structured licensing agreements can enable firms to benefit from future improvements made by licensees. By including provisions that ensure continued collaboration or future revenue-sharing opportunities, companies can maintain a foothold in evolving technological landscapes.

5. Involve the right decision-makers

Tech licensing decisions should not be made in isolation. Managers need to involve multiple stakeholders, including the CEO, the board, R&D leadership, legal teams and even external advisers where necessary. The CEO and board typically assess strategic fit and long-term value, while the R&D team and engineers evaluate technological feasibility and potential innovation trajectories. Legal teams ensure robust agreements that protect intellectual property, mitigating risks of future competitive threats. Effective collaboration among these stakeholders ensures a well-rounded decision that aligns with corporate objectives.

To reap the benefits, manage it well

Although the focus of our research was the biopharmaceutical industry, the implications extend beyond that one industry. The IT sector, for example, faces similar challenges when managing intellectual property portfolios post-acquisition, with Qualcomm and Cisco, as mentioned, regularly using licensing as a means to optimize R&D investments while maintaining their competitive edge.

But licensing is not without its risks, so managers must weigh the potential consequences, as we have highlighted, before committing to this strategy.

Ultimately, the decision to keep, license or divest a technology hinges on a firm's ability to assess its financial capacity and the strategic value of the technology to the firm's long-term goals. By carefully considering these factors, managers can optimize post-acquisition R&D reconfiguration and maximize the value of their technological assets.

MORE INFO:

"Understanding the link between post-acquisition resource reconfiguration and technology out-licensing" by Thomas Klueter, Solon Moreira and Clinton Ofoedu. *Journal of Management Studies* (2024).

"Market for technology 2.0? Reassessing the role of complementary assets on licensing decisions" by Solon Moreira, Thomas Klueter and Aman Asija. *Research Policy* (2023).

"Not in-sourced in here! When does external technology sourcing yield familiar versus novel solutions?" by Thomas Klueter et al. *Strategic Management Journal* (2024).

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