Learning through licensing: 3 keys when licensing-in knowledge from rivals

Licensing-in knowledge is a way of gaining valuable new capabilities that your firm lacks. But there are three necessary preconditions for making such arrangements work.

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Traditional firms recognize that the knowledge that got them to where they are today won't necessarily keep them there or take them to where they need to go next. They don't have all the answers. To keep up with the pace of change, they may have to collaborate with rival companies, sectors and industries. Their knowledge base may have to be combined with somebody else's, or they may need entirely new knowledge that comes from outside the walls of their firm.

But how do you venture outside your firm's boundaries, perhaps even allying with rivals, without giving away your own competitive advantage? In lowering the drawbridge to let new knowledge in, might you also be letting in the enemies at the gate?

These are questions that I have been exploring in my research. To innovate today, there's no escaping the fact that firms will have to learn how to locate and extract valuable knowledge from beyond the boundaries of their own firm, sector or industry. And this, I've found, can be accomplished by forging strategic alliances with other firms.

Licensing valuable knowledge is one way to do that. But there are certain preconditions that need to be in place to make such arrangements work.

M&As: handle with care

In previous times, companies facing these pressures might have just gobbled up the competition as soon as they spotted startups developing interesting new technologies that could one day pose a threat to their dominant market position.

In their study of acquisitions in the IT manufacturing sector in the United States, Phanish Puranam, Harbir Singh and Maurizio Zollo quoted a senior manager at Cisco who described it this way: "If we're not good at something, we've got Silicon Valley. It's our lab. (We) look at startups if we are too far behind competitors to take the time to build from scratch." And it wasn't just the product or a specific technology that firms like Cisco would acquire, but the whole team that had created it.

But times have changed, and mergers and acquisitions (M&As) have lost some of their allure. Rather than being the secret to financial success, M&As can destroy shareholder value more than they create it. Their estimated failure rate has been put at anywhere between 50% and 90%.

Among the many reasons given for why this happens, four are frequently cited:

1. The M&A inflicts collateral damage, including a flight of core talent.
2. The acquiring firm ends up divesting the acquired firm for a much lower valuation.
3. The acquiring firm goes bankrupt.
4. The acquiring firm has to take a major write-down when it turns out the acquired firm wasn't as valuable as originally believed. In other words, the buyer overestimated the synergies that the merger would bring — whether economies of scale or the promise of shared capabilities — and ended up overpaying for the asset when those synergies never materialized.

Are strategic alliances better?

So, if merging with or acquiring rival firms to gain the technologies and knowledge they possess is not the best answer to secure or even boost your market position, then what is?

One possibility is to forge an alliance with a rival firm that offers mutual strategic benefits for both parties. With an alliance, firms can combine resources and capabilities to explore important synergies but, unlike an M&A, they each remain independent entities.

A large number of studies have shown the usefulness of alliances for exploring new market opportunities or engaging in joint R&D. In this sense, alliances provide safer, flexible means for firms to develop competencies in areas where they may have little or no prior expertise.

This is particularly relevant when it comes to innovation, where access to diverse knowledge is a critical factor. As innovation grows more complex, the less likely it is that a single firm can innovate based solely on its own in-house knowledge.

Research by IESE's Bruno Cassiman underscores this point: even the largest corporations with high R&D intensity have to tap external sources of knowledge to complement their internal efforts. This leads to a scenario of "coopetition" — of firms working in strategic collaboration with market competitors.

M&As are usually long processes, causing significant disruption to the firms involved. Alliances, on the other hand, allow synergies to be created and new internal capabilities to be developed, helping firms build up their resistance to threats that could potentially erode their market position, all without the complexity and drawbacks of fully integrating two separate business entities into one.

Despite these advantages, the effective implementation of strategic alliances can be

challenging. The resource commitment from both firms tends to be high, requiring dedicated personnel and resources. In many cases, firms may have to invest in a new, dedicated organizational structure, as in a joint venture.

Another challenge relates to the need to develop and sustain coordination among the alliance partners. For an alliance to be successful, the partners have to coordinate a wide set of activities, involving the exchange of sensitive knowledge and other strategic resources. This raises the risk of unintended spillovers of strategic knowledge, especially in R&D alliances.

Finally, even though the objective of the alliance may be to develop new markets, new technology or new knowledge, there is no guarantee of doing so.

Licensing advantages

Another option — which has been the focus of research with IESE's Thomas Klueter — is to license knowledge from other firms. In simple terms, licensing is a business agreement involving two companies: one gives the other special permissions, such as using patents, trademarks, copyrights, designs and other intellectual property, in exchange for a share of revenues or a fee.

As more and more firms are discovering, there can be big mutual gains from licensing knowledge or technologies from other companies.

- **Licensing offers a prompt, flexible response to competitive pressures.** Licensing offers firms a way to rapidly access existing knowledge and technologies from outside the firm. It's much easier and faster to access knowledge that already exists and is readily available, albeit at a price, than to develop it from scratch through the substantial commitment of fixed assets, as is required through internally generated R&D.
- **It allows for a targeted response to industry threats.** R&D actions taken by competitors often provide a clue as to what kind of knowledge and technologies enabled those competitors to create a competitive advantage and exert competitive pressure in the first place. One of the big pluses of licensing is that it allows a directed response toward competitive R&D actions, meaning that firms can define and select *ex ante* the relevant pockets of knowledge and technologies to be acquired.
- **Firms can erect competitive barriers without having to disclose their own**

R&D activities. By acquiring the rights to access and use the knowledge of another firm, firms can impose a deterrence barrier that precludes rivals from accessing that knowledge or building competitive advantages derived from it. It also does not require reciprocal knowledge exchange. In other words, by licensing external knowledge, companies can tap into that knowledge without fear that competitors may appropriate their own core technological knowledge.

- **It can enhance your own innovation capacity.** By licensing-in knowledge, firms are both neutralizing an immediate threat from rivals while also improving their own capacity to innovate more effectively, thus paving the way for future competitive advantage. Specifically, firms can learn about state-of-the-art technologies and then experiment by linking newly licensed knowledge with knowledge already residing inside the firm.

Licensing helps bring new pockets of available knowledge into the firm. These, in turn, raise the potential for recombination between new and existing know-how. In this way, firms increase the variety, depth and richness of their knowledge base, by adding technologies about which they know very little or nothing.

Licensing is often associated with the transfer of tacit knowledge, which goes beyond patents and blueprints, and allows firms to acquire idiosyncratic knowledge embedded in the licensor's routines and internal processes — information that would be virtually impossible to access otherwise.

With these pockets of newfound (or newly purchased) knowledge, firms can discover new approaches to problem-solving, new processes and new routines, all of which may mark a substantial departure from how the firm used to do things internally.

As the firm's learning potential increases, it starts to recombine knowledge pieces in novel ways, which enhances its capacity for innovation.

Pitfalls and shortfalls of licensing

Although knowledge acquisition through licensing entails less complex integration challenges when compared with mergers and acquisitions, it is not a cure-all.

- **If used badly or in excess, it can hamper a firm's ability to innovate.** For firms to foster new learning and knowledge, they must develop an in-house culture that encourages exploration and experimentation. If firms continuously depend on

licensed-in knowledge, they may weaken their own innovative capabilities over time, and become too dependent on external knowledge.

- **It can dilute the diversity of a firm's knowledge.** Firms will naturally be guided by competitors' R&D actions and hence drawn to acquire technological knowledge as an ad-hoc response to a rival's R&D moves. This limits the scope of the knowledge that firms consider feasible for learning and recombination to a smaller subset among possible alternatives, as they attempt to remediate or imitate the strategic moves initiated by their competitors.
- **Unidirectional knowledge flows can be limiting.** Learning is generally more effective when interactions between firms are reciprocal. This does not always happen in licensing deals. If the licensor and licensee are not equally committed to the process, then it will be difficult to transfer tacit knowledge, in particular.

A lack of willingness to engage in reciprocal knowledge exchange will restrict not just the quantity of knowledge acquired but participants' understanding of how to recombine and apply it effectively to innovate. When licensing is used under intense competitive pressure, such reciprocity is likely to be weakened. Consequently, the overall potential to learn and recombine knowledge will be reduced.

A further line of research by Klueter reinforces this point. Some firms opt for "standard" licensing agreements. In other words, they treat knowledge as a mere transaction: I pay you for the right to use some knowledge, but there's no resource sharing, no commitment of staff, and few if any interactions between us.

However, when Klueter and his co-authors analyzed licensing agreements from top global biopharmaceutical firms, they found that standard licensing may not be as effective as "partnership-embedded" licensing, when both firms pledge resources and personnel, sharing knowledge back and forth throughout the R&D process.

Firms that used "partnership-embedded" licensing tended to yield more innovation — an advantage attributed to that extra organizational attention devoted to the new knowledge.

Making licensing work for your firm

Given these risks, it's essential that companies interested in engaging in licensing, whether as a licensee or licensor, make appropriate arrangements before signing any agreement with another firm.

Based on my research, I see at least three necessary preconditions for making knowledge licensing work.

1. Is there sufficient financial slack?

To take advantage of external knowledge transfer, a firm needs disposable financial resources, often referred to as slack. When firms have slack, they can deploy or divert their financial resources to achieve new organizational goals as they emerge. Such discretionary internal funds must be readily and rapidly available, so that the licensed knowledge can be recombined, refined and adapted to meet the licensing firm's specific needs.

If a firm lacks discretionary financial resources, it may struggle to integrate newly licensed-in technologies. As a result, those technologies may end up being underutilized when it comes to generating new innovations.

The existence of discretionary internal financial resources also allows a firm to pay closer attention to diverse pockets of knowledge simultaneously. This, in turn, enables it to experiment with new ways of solving problems.

By contrast, when discretionary resources are limited or absent, firms are forced to develop projects with less uncertainty and ambiguity in terms of potential outcomes.

One other advantage of having lots of financial slack is that it provides a temporal buffer. This affords the firm the luxury of being able to move beyond simply deploying licensed knowledge as a short-term fix to the immediate R&D problems it faces, to actually being able to consider long-term goals and targets.

When licensing is used predominantly as a short-term competitive tool, learning tends to suffer as a consequence. The firm focuses on receiving knowledge, but not on actively exchanging knowledge with the licensor. This falls into the trap explained in the prior section.

2. How core is the tech? How uncertain is the future?

For licensors, there is a risk that licensing your most valuable knowledge and know-how to competitors could end up backfiring.

Take the case of Ampex, the little-known company that invented the first commercially viable VCR. Ampex licensed its cutting-edge technology to rival firms like Sony, which improved on the Ampex VCRs, took over the market and ultimately made the original technology obsolete.

This is a classic case of what researchers refer to as the “boomerang effect” — whereby the licensee of a new technology develops it to the point that it ends up overtaking the licensor.

Clearly, companies that license their technology need to protect themselves from getting put out of business by the licensing company. But given the complexity of tech innovation and market uncertainty, this is no easy task.

The best solution developed so far is to include a “grant-back clause” in the licensing agreement. This requires that any improvements made to the licensed technology must be shared with the licensor.

Given that grant-back clauses can make the licensee feel less invested in developing the technology, they are not for every occasion.

Keld Laursen, Toke Reichstein, Maria Isabella Leone and I analyzed 397 patented and licensed technologies in the pharmaceutical industry during the period 1984-2004. Based on that research, we found the ideal scenario for including a grant-back clause is when:

- The technology in question is central to the licensor’s ability to create value, and therefore needs to be protected.
- The potential benefits of accessing this technology for the licensee outweigh the potential drawbacks of having to share any new knowledge it develops with the licensor. This is particularly relevant in the case of unfamiliar technologies — say, a gene therapy innovation licensed by a more traditional drug company.

Licensors are most likely to add a grant-back clause in the case of technology that is both core to their business *and* uncertain.

For the licensee, the more closely related the technology is to its own core patents, the less likely it will want to agree to a grant-back clause. Instead, it will want to use its core experience and expertise to develop the technology itself, not sharing future property rights but protecting its future rents.

The key question to ask is: How core is the technology or knowledge piece to our own future business viability? Potential developments that are predictable and low-risk make for the

least risky alliances.

3. Are in-house knowledge networks diverse and interconnected?

Bringing in knowledge from outside the firm is merely the first step of a very long, complex innovation process. Don't forget that understanding and integrating licensed knowledge ultimately hinges on individual and team performance.

In a different study on pharmaceutical firms that engaged in licensing-in technology that I conducted with Arjan Markus and Keld Laursen, we found that the structure and composition of networks inside firms increase the speed with which they are able to assimilate licensed technologies into their own innovation. The more diverse and interconnected a firm's expertise, the faster and better it is at integrating knowledge.

For this reason, firms should pay close attention to the structure of their R&D teams. Whether the licensing process is ultimately successful will depend largely on the richness and variety of internal knowledge within the firm, as well as on how well it coordinates its knowledge absorption activities.

Stay on the lookout

As important as internal expertise is, mapping the threats of your external environment is just as vital. Specialized knowledge is spread across many different industries, sometimes residing in unique geographic pockets such as Silicon Valley or the Cambridge Cluster.

Given the complexity and pace of innovation, firms that can't sustainably access strategic knowledge sources residing outside their boundaries will eventually find themselves pushed out the market. This is why the ability to scan the competitive landscape and identify new technologies and knowledge has to become a core organizational activity.

Having strong internal R&D might have been enough to create and sustain competitive advantage in the past. Today, that is only half the solution, at best.

Many more firms are rethinking the way they access external knowledge, making use of several different options from a wide variety of industries. Their activities range from employing scouting personnel to being more strategic and mindful about their acquisitions.

In a world where the disruption of industry leaders is becoming more common and the size of competitors less relevant, the need to reconsider R&D practices seems one of the most viable options for firms to ensure their long-term growth and survival.

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