Tech positioning and differentiation

Uniqueness is a selling point — literally. Here’s how to gauge the value of your tech portfolio, and acquire wisely.

October 10, 2024

Do firms actually profit from their technological innovations?

This might seem like an odd question in light of the staggering amounts of capital contemporary tech startups can raise, not to mention the colossal success of companies long at the vanguard of innovation like Alphabet or Microsoft. Yet characterizing the economic

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value of an organization’s technology portfolio has been stubbornly elusive and subject to guesswork.

A firm’s rate of invention and its effect on performance have long been pillars of economics and strategy. But the positioning and differentiation of that inventiveness has until now been overlooked.

To address this, Prof. Bruno Cassiman, along with his co-authors Sam Arts (KU Leuven) and Jianan Hou (Xiamen University), developed a new method of measuring innovation with an analysis of patent language to map a firm’s competitive positioning in the technological space and the uniqueness of its tech portfolio.

This novel text-based measurement of positioning and differentiation helped them: identify technological trailblazers; determine how the uniqueness of a tech portfolio aids performance; and, from there, encounter potential M&A targets.

An improved measurement

The co-authors applied their semantic measurement to a large panel of U.S. public firms from 1980 to 2015 to measure performance, and an economy-wide dataset of all M&A transactions involving U.S. public firms between 1984 and 2015. The research finds that tech differentiation has a strong positive correlation with performance due to difficult-to-substitute proprietary technology possibly creating market power and reducing rivalry, as well as cutting down on outgoing tech spillovers to other firms.

That correlation is especially pronounced in R&D-intensive industries and those with strong product market rivalry. Tesla (motor vehicles) and First Solar (semiconductors) are two examples of companies with a steadily high level of differentiation in such industries.

This finding has major implications for firms considering M&As, whether on the buy- or sell-side.

What all players should take away from the findings is that firms with more unique technology portfolios are more likely to become M&A targets for competitors looking to cut competition and bolster their existing product business. Firms with less unique portfolios, on the other hand, are likelier to acquire present or future rivals. Finally, innovative firms are especially attractive to their close competitors in the product market.

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A matter of resources

Superior performance, the resource-based view tells us, relies specifically on resources that are unique and tough to imitate or substitute. These include proprietary firm technology. After all, firms with a proprietary and unique tech portfolio can arguably develop distinct products or processes that appeal to customers, build market power and make it tough for upstart rivals to enter the market.

Having established that, it follows that organizations with unique technology as one of their assets will appeal to buyers on the market who are looking to become more innovative.

When buy-side organizations find themselves wanting to improve their tech capabilities, their two options are to develop them internally through R&D investment or to acquire those resources through M&A. The research finds that, as expected, younger, smaller, R&D-heavy firms have higher levels of tech differentiation than their older, bigger and less R&D-intensive counterparts.

M&As typically being hunts for resources, an enhanced resource endowment, propelled by distinct technology portfolios, would explain why such firms become targets.

One reason for this is that by engaging in an M&A with an innovative firm, the acquirer can expand their competitive advantage through integrating the cutting-edge technology into their existing business. This integration is typically done more smoothly when the merging firms offer similar products. A second benefit is that this type of M&A wards off a future rivalry between the buyer and target.

Google is one example of a company that has cemented its dominance with these types of acquisitions. By acquiring the search engine companies Kaltrix, Outride and Orion, it was able to integrate their innovations, including, in the case of Kaltrix, proprietary technology to drastically speed up Google’s own PageRank algorithm.

While caution should be exercised when putting a specific number to this correlation, the expansive dataset found that the estimated probability of acquisition for firms with the least unique technology portfolios in the sample is 7% and it rises to 20% for those with the most unique technology portfolios. As for an organization with distinct technology being especially attractive to a firm in a similar product market, they might expect a transaction incidence of up to 27% higher than organizations with less unique technology.

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How can your business benefit from this? By applying these measures, you will more accurately gauge the value of your technology portfolio, identify potential acquisition targets (if you're an acquirer) or acquirers (if you're a target), and more broadly, pinpoint strategic partners for rewarding technology development.

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