Technology-Based Intellectual Assets: Realizing Their Potential

Dr. Mildred Hastbacka

One way to grow is to leverage your technology-based intellectual assets.

I assume that a lot of you are here this morning, knowing what my topic would be, because you're thinking about how to grow. The common wisdom right now is that reengineering is largely a thing of the past, and that we have to start focusing on growth. One way to grow is to leverage your technology-based intellectual assets. You can leverage them yourself, or, as many companies are beginning to realize, you can license them to others or use them as if they were cash in a variety of transactions.

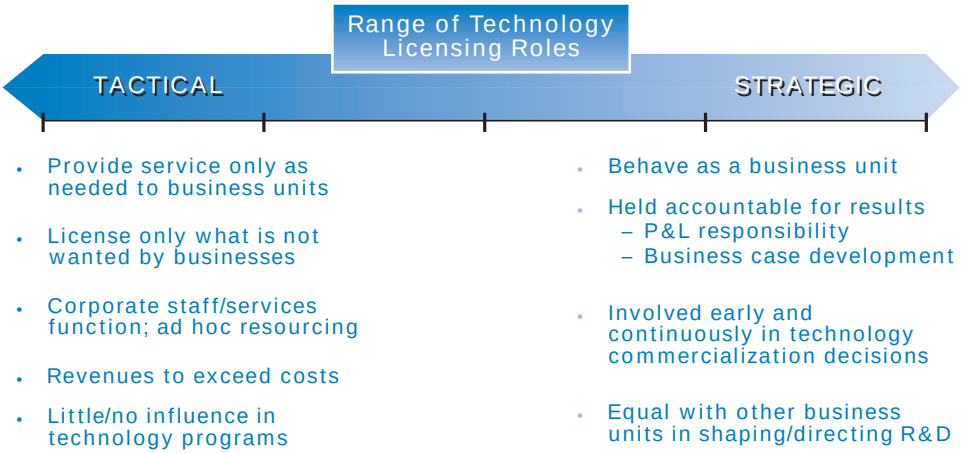
I'm sure we've all heard the anecdotes about companies such as IBM generating $800 million a year from licensing intellectual properties. But for many of us, it's hard to relate to IBM with its huge storehouse of intellectual assets. In order to find some more helpful examples for our clients, we selected about a dozen companies involved in the petroleum, petrochemicals, and chemicals industries for an industry "benchmark" study.

All of you probably have some idea of what benchmarking entails. But instead of a conventional benchmarking study, in which you compare one company to another process-to-process, we simply tried to develop a sense of how the petrochemicals industry looks at technology-based intellectual assets as a source of value. We wanted to learn about their past and present views about the licensing of such assets, to see if we could identify new trends and business models useful to others.

We did identify some trends, all stemming from a basic dichotomy in approaches to technology licensing. On the one hand, we found companies whose licensing of intellectual properties can be described as tactical or opportunistic. These are companies with technologies for which they'd like to recover some of the development cost. Their licensing organizations will license them as long as doing so doesn't hurt the company strategically and actually provides some economic benefit. In companies taking this tactical approach, the licensing departments provide service only as needed to the business units, and license only what the businesses don't want. Licensing in this environment is a corporate staff/services function, its resourcing is ad hoc, and its revenues are supposed to exceed costs. It has little or no influence in technology programs.

On the other hand, and in contrast, we found companies whose more proactive licensing of their intellectual property is best described as strategic. Given that our benchmark industry is conservative, capital-intensive, and generally viewed as very proprietary, we found it remarkable that we also saw significant movement among the 12 companies surveyed from tactical to strategic technology licensing. Just as significantly, we learned that this shift in approach improves a company's income, which is precisely what is making it attractive. (See Figure 1)

Figure 1: The role of technology licensing can range from tactical to strategic.



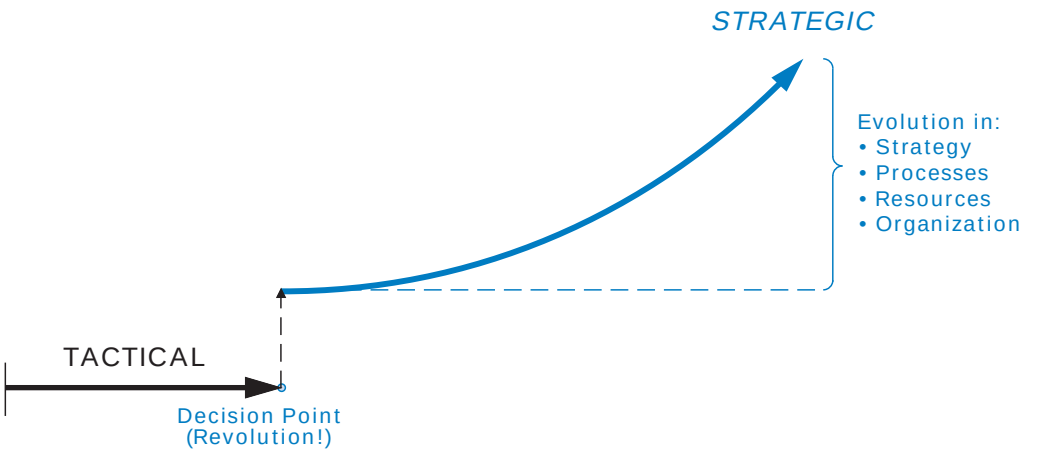
Moving from left to right on this continuum increases the potential for income growth.

Yet another important conclusion of our study is that the actual migration from a tactical licensing approach to a strategic one is not incremental. In other words, it doesn't happen slowly, day by day. At some point, identifiable at least retrospectively, a decision is made, typically by the CEO, that the company is going to begin using its intellectual assets in a way that is significantly different from the way it had been using them. In other words, the CEO is looking to maximize return on all assets, including intangible assets. Then it is up to the people whom the CEO designates as responsible to figure out how to do that. (See Figure 2)

The actual transformation, operationally, from tactical to strategic technology licensing requires a supporting evolution in four distinct areas: strategy, processes, resources, and organization.

Regarding the strategy that companies in the midst of this transformation use to get money for their technology, we've found that *a common strategic*

Figure 2: Transformation from tactical licensing to strategic licensing is a "step-change."



Companies that are trying to become more strategic in their technology licensing develop comprehensive business cases to justify licensing decisions.

objective is maximizing total return on technology investments. Companies say, in effect: "We've got all this technology that we may or may not be using ourselves. And if we're going to let anybody else use it, we're going to get fair market value and then some, if possible."

In pursuit of this strategic objective, such companies make an effort to understand what their technology offerings can do for prospective licensees, and, therefore, what kind of a price premium they can extract. We also found that the more strategic the approach, the more likely a company is to license current as well as older technologies.

In terms of *processes*, the key issue for companies that are trying to become more strategic in their technology licensing is decision-making. And a key aspect of such companies' *decision-making*, in turn, is simply the choice of whether or not to license. Licensing organizations in these companies tend to develop comprehensive business cases to justify decisions.

What do I mean here by a comprehensive business case? Let's take Union Carbide as an example. Union Carbide is a company that is well known as an integrated manufacturer and licenser of polyethylene technology. It could have put up as many polyethylene plants globally as it wanted to, subject only to capital constraints, and, by selling products, received a return on those investments. Instead, the company recognized that a prudent and planned *combination* of manufacturing and licensing could and should provide them with a greater return on capital employed—a greater

return on assets managed. As a result, rather than being simply one of many global polyethylene producers and sellers, Union Carbide now gets revenues from 25 percent of the polyethylene sold in the world—some from sales of its self-manufactured product and the rest from royalties from licensees of its proprietary technology.

In retrospect, the wisdom of this decision seems to speak for itself. Yet how would you have made a business case for it? Can't you just hear the polyethylene business manager at Union Carbide saying, "Forget it. Those licensees are going to be competing with me!"? So the kind of comprehensive business case that I'm talking about is one that takes into account the implications of strategic technology licensing for your own businesses. If the potential net return from such licensing is attractive enough, then a company should consider doing it.

Some companies in our survey did develop formal business cases for licensing, similar in breadth and depth to five-year plans, including spreadsheets of projected revenues and costs, with input from multifunctional teams. A common alternative approach to decision-making and consensus we found in our study is a more informal business-case development, where people in the licensing departments and their counterparts in the business units are empowered to make these kinds of decisions, at their level, as the need arises.

As for resources, assuming that you now have a technology-licensing organization that the CEO expects to behave as a business, new questions are raised: where are you going to generate your licensable technologies? What happens if you develop formal business cases and find that only a small fraction of your technologies are worth licensing? Does the licensing organization then fund R&D in order to develop more technologies?

Although our study found a few instances of licensing organizations directly funding R&D programs, these don't represent the majority. Most of the time, the operating units or business units continue to fund R&D and, therefore, direct it. Yet many companies told us that their licensing organizations now get at least a voice in the early stages of the technology-development process. We think that this is an important reflection of the shift from tactical to strategic technology licensing. If you're licensing tactically, there's no reason for a licensing organization to be in on the early stages of development; licensing won't occur until and unless everyone else in the company is through with the technology. Yet if you're thinking, even potentially, in terms of strategic licensing, then having your licensing people involved early on is a way to develop increasingly valuable properties.

If you're thinking, even potentially, in terms of strategic licensing, then having your licensing people involved early on is a way to develop increasingly valuable properties.

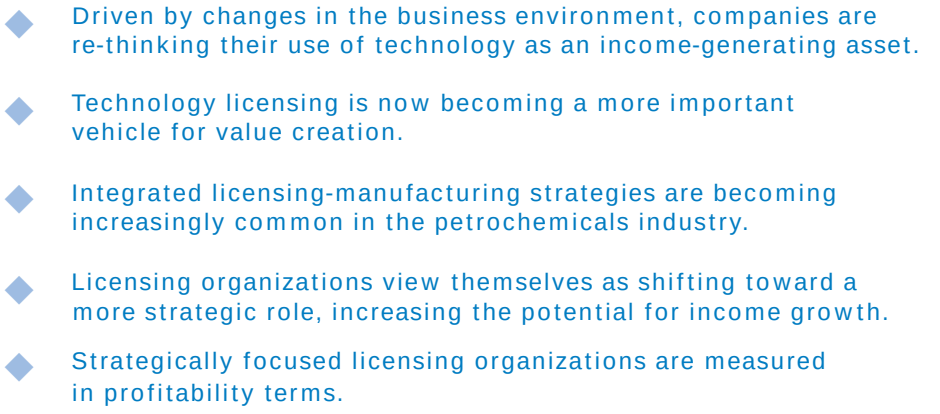
Finally, the transition from a tactical to a strategic approach to technology licensing also tends to involve shifts in *organization*. In our study, we found a variety of management-reporting structures for licensing organizations. Almost half of the licensing organizations we surveyed report to a corporate technology center or corporate R&D. Some report to the business units, and very few report to a patent or legal department. We see this as a real shift: in companies where licensing is, or was, tactical, you typically see a patent attorney, perhaps assisted by someone from R&D, deciding what to do with a company's properties. In companies that have begun to treat licensing as a bonafide business, you see someone with prior successful P&L experience at the helm, gradually building a full-time supporting cast dedicated to commercializing technologies.

Another significant finding we made is that the *performance* of strategically focused licensing organizations is measured in terms of *income generated*, whether these organizations are "real" P&L centers or not. How can this be? If you're licensing, you're bringing in revenues; you may not get to keep them yourself, but the company is getting them. The more revenues licensing brings in, and the more consistently it does this at low cost, the better off the company is. If the licensing organization isn't a real P&L center, it can still set up an accounting mechanism with which to demonstrate to management that it is contributing to corporate profitability.

Interestingly enough, half of the licensing organizations surveyed were organized as traditional P&L centers. In each of these cases, a business manager is in charge of licensing. That business manager is typically not a patent attorney or an R&D person. It's usually someone who has been brought in from another part of the company, or even from outside, with demonstrated success in managing a business.

Where does the licensing income go? The majority of our respondents told us that it goes back to the operating and business units. There's a very practical reason for this: you need a business manager's cooperation to free up internally used technology for licensing to the outside. Since the business manager is going to participate with you in the development of the business-case justification for licensing, he might as well get some of the financial reward for helping to realize the maximum value of the technology.

Figure 3: Key conclusions of Arthur D. Little's benchmark study



I'd like to end by summarizing the key conclusions that we drew from our benchmarking study: (See Figure 3)

- Technology licensing is becoming more broadly recognized as an important vehicle for value creation. Technology out-licensing is still the primary vehicle, but coming up fast is the use of technology in lieu of cash for purposes such as acquisitions.

- Integrated licensing-manufacturing strategies are becoming increasingly common in the industry we studied and, consequently, licensing organizations perceive themselves as shifting toward a more strategic role.

- Strategically focused licensing organizations are measured in profitability terms, a fact that has implications for who should run these organizations and how they should be run.

Thank you for coming this morning. I hope that I've been able to give you some insights into how you can realize the value-creation potential of your technology-based intellectual assets.

About the Speakers

Dr. Dennis Gilstad
Dr. Dennis Gilstad has an extensive medical and technical background and focuses his practice on intellectual property and technology law before the Patent and Trademark Office and the Food and Drug Administration.

Prior to joining Akin, Gump, Strauss, Hauer & Feld, L.L.P., Dr. Gilstad was a partner in the law firm of Gambrell, Wilson & Hamilton, L.L.P. Prior to obtaining his law degree, he was involved in medical research, instrument development (including patents and FDA approval), classroom instruction in the medical field, and clinical anesthesia.

Dr. Gilstad received a B.S. from the U.S. Military Academy at West Point, an M.E. in Electrical Engineering from Texas A&M University, a Ph.D. in Electrical Engineering from Purdue University, an M.D. from the University of Texas Health Science Center, and a J.D. from the University of Texas. He is a board-certified anesthesiologist and a registered professional engineer.

Akin, Gump, Strauss, Hauer & Feld, L.L.P.
Akin Gump is a 600-lawyer firm providing comprehensive legal services to worldwide clients through 10 offices on 2 continents. In the context of a vigorous intellectual property law practice, it has taken a leadership role by providing conception-to-market counseling to creators, inventors, developers, and manufacturers of products as diverse as pharmaceuticals, microprocessor-controlled instruments, medical implants and devices, and rolled steel bar stock. Because optimal forms of legal protection vary considerably, Akin Gump tailors and periodically reviews a strategic plan for each client to highlight available national and international protection options.

Should arbitration or litigation become necessary, Akin Gump counselors can call on a broad range of significant experience with intellectual property matters. That experience includes prosecution of patent infringement (Litton Systems against Honeywell: $1 billion District Court judgment), trade secret defense (General Motors against Volkswagen: $100 million cash settlement), and the landmark Supreme Court case extending protection for product appearance or trade dress (Taco Cabana against Two Pesos).

Dr. Mildred Hastbacka

Dr. Mildred Hastbacka is a Senior Manager in the Technology and Product Development business at Arthur D. Little (ADL). She has more than 18 years of industrial experience in product and process research and development, manufacturing technical support, marketing, commercial development, and business planning.

At ADL, Dr. Hastbacka has developed widely-used approaches toward assessing technologies prior to commitment of resources, as well as methods for directly valuing technologies. She has also led or been a significant contributor to cases involving specialty chemicals and polymer process, product, and formulation technologies; and new commercial applications of proprietary technologies. Her work has focused on assessment, valuation, and commercialization of technologies.

Prior to joining ADL, Dr. Hastbacka was at Morton International, formerly Morton Thiokol, where she held progressively responsible positions in technical marketing, including strategic business planning and new business development, for the Specialty Chemicals group. Previously, Dr. Hastbacka spent 10 years with Uniroyal, Inc., in corporate R&D, operating division R&D, and product management.

Dr. Hastbacka received her B.S. in Chemistry from the Massachusetts Institute of Technology and her Ph.D. in Chemistry from Brown University. Her professional affiliations include the Licensing Executives' Society, Committee on Valuation, and the Commercial Development Association.

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