

# View From a Small Company

*Small, high-technology company has many opportunities for technology transfer; a number are cited.*

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My subject is licensing from the perspective of a small, high-technology company. Specifically, I will address the question of whether or under what circumstances that sort of company should license its patents and its technology. Within this context, I am using the term licensing rather narrowly to mean granting to another the right to make, use and sell your invention or to use your technology. In covering the subject, I'd like to note the reasons for licensing, some of the negatives in licensing, why these negatives can be overwhelming to a smaller company, and some alternate means of technology transfer that can often accomplish the beneficial results of the license.

Turning first to the reasons for licensing, there are of course many benefits to any technology owner by licensing another, with a fully developed product, one that can be manufactured and marketed immediately. These can include such things as expanding the market because we all know that market acceptance of the truly innovative product takes considerable time, it is simply difficult to get people to change the way that they do things. I think all of this is known to us and is being increasingly and more systematically described today by communication scientists in the field of adoption theory and diffusion of innovation.

With a truly innovative product it can be far better to license a competitor to help pioneer the way rather than to struggle along investing heavily in promotion and seeing slow market penetration. Companies with strong credibility in the marketplace often will be the technology owners' stronger competitors and can be particularly attractive to licensees when this is the motivation.

## Expanding Market

Another reason for licensing is to meet the needs of a rapidly expanding market. Here, the patent owner is simply unable to increase capacity fast enough to meet demands and rather than driving competitors to in-

fringe on his patents, and face costly litigation, or design around the innovation, it can be far better to license them and to receive royalty income. This is often a difficult decision for the smaller company to make because its management correctly perceives that the proprietary rights represent the only competitive advantage. Such companies are usually reluctant to allow competitors into the market. Certainly the decision is not one to be made cavalierly. But under the right circumstances it can work, and work well. This was the approach followed by Fairchild in its early days with its innovative technology in semi-conductors. Fairchild licensed its competitors and received a substantial, a very substantial, royalty income for many years. Everyone benefited.

Meeting customer requirements for a second source can often be a driving force for licensing. Many large companies, and the federal government as well, are reluctant to rely on a single source supply for an important product or component. Licensing a competitor can be required under these circumstances. Answering new markets can be aided through licensing. Examples may include situations where an innovation has application in fields not traditionally served by the licensor; where local presence is required; or where a local policy excludes importation either through direct prohibitions as we see in many Latin countries, or through tariff barriers, or simply through a lack of foreign currency.

## Undeveloped Technology

With undeveloped technology the reasons for licensing are quite different, but they can be equally compelling because the licensor is looking for someone with the needed resources and expertise to make a high-risk investment in perfecting the technology and bringing it to the marketplace. This is often the case with university inventions, those from smaller companies or with fallout R&D from major companies' R&D programs. In addition to looking for royalty income, the licensor is motivated by the desire to secure development capital, further research, product and process development, testing both performance testing and increasingly today, safety evaluation, economic evaluation, market research, market development, regulatory approval, plant design and construction, and sales and marketing channels.

There have been many notably successful licenses in this category. These include some major innovations such as polyester fibers developed by the smallish Bradfordize Association in the forties and licensed to

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DuPont, who spent \$50 million — and spent that money at a time when that was a lot of money — bringing the product to the market. Seplo Sporen Antibiotics, today a \$700-million business, reached the market through licensing. The Forrester Patents on the Magnetic Core Memory were licensed out of MIT and represent the base of the modern computer industry.

### Uncertainty

There are many benefits to be gained from licensing and there have been many successes, so why the issue at all? As Oliver Wendell Holmes said, and this is a statement I always remember, "Certainty is generally an illusion." In licensing there is a great deal of uncertainty for the smaller company and there are also very substantial costs in licensing. Licensing is costly both in money and in time.

Preparing the license offer and presenting it to prospective licensees is a time-consuming matter as is preparing a license package, the technical documentation, commercial documentation and obtaining the necessary base of industrial property rights all are costly.

Negotiating the agreement, paying the fees of advisors, lawyers, accountants and technical consultants, and the time of managements and technical staffs in securing the licensing and making the relationship work also can be a heavy burden. And these costs can mount up quickly, and travel and professional fees all too rapidly can become significant budget items. And the cost of taking key personnel away from other activities, while difficult to measure, is a substantial burden, particularly on smaller companies that can afford little bend strength.

But still more formidable than these costs are other inherent disadvantages of licensing. Underlying many of these issues is a premise of the antitrust laws that it is the licensee who is the weaker party and requires the law's protection. From this dubious assumption proven wrong time and time again but seemingly able to rise like the Phoenix from its ashes — comes the licensor's principal dilemma that there is no way today to protect himself from having his patents attacked by his licensee. And this risk can be far greater when the licensee is the larger company and has the financial resources to finance litigation which today can cost six and seven figures. If the licensee loses he is going to pay the bargained-for royalty. If he prevails he has the business free and clear.

This risk-reward ratio provided to the licensee by the antitrust laws represents an opportunity that is found irresistible by far too many managements. Now, certainly one can lessen this risk by choosing the right licensee. The paradigms of the good licensee was the Japanese companies of the postwar years, because for these companies, acquiring technology was a key factor in their corporate development. It saved them time, it reduced their risk and it increased their probability of success.

To do this their reputation as licensees was essential and as a result they honored their agreements, they paid fair royalties and they behaved reasonably and responsibly in the marketplace. Some of our domestic industries, such as the ethical drug industry, depended

similarly on licensing-in of new products. They behaved in the same manner.

But the past is not always a sure guide to the future and corporate policies can change along with corporate managements. Today, this change is accelerated and it is accelerating with the rather frenetic pace of corporate mergers and acquisitions and as this happens one can expect to increasingly hear the question, "Why are we paying these royalties today?" This happened with a remarkably successful innovation, the soft contact lens — an invention made in Czechoslovakia, patent rights acquired by a new U.S. company, licensed out to a major U.S. company which paid the development cost and continued to invest in the product for the seven years it took to receive approval by the Food and Drug Administration. The product once approved became a success far greater than anyone had anticipated. The licensee decided that perhaps the royalties were too high. Litigation ensued, and the case was eventually settled.

In another case in which I have just testified as an expert witness the parties bargained for a seemingly high royalty, in excess of 15%. They operated successfully under the license agreement for several years, when to everyone's surprise sales of the licensed product quadrupled in a single year. It held at that level and made the arrangement far more profitable for the licensee than it ever could have expected, but not as profitable as if there were no patent at all. The licensor is now in court defending the declaratory judgment action asserting patent invalidity. The legal costs are putting its entire business in jeopardy. Before addressing ways to cope with this dilemma I want to share with you one of my favorite quotations. It's from the oldest known writing in existence and it's dated 4000 B.C. It goes "Alas, the times are not what they used to be."

Now, I shall turn to other means of technology transfer which can secure some of these benefits but reduce the risk by strengthening the position of the technology owner. While they arise from some of my experiences in the pharmaceutical and specialty chemical industries, I think they should be applicable to other fields as well. We know that smaller companies remain fertile sources of new inventions and new technologies. But for these innovations to reach the public often requires the complementary and far greater resources in product development, process development, marketing and regulatory expertise that larger organizations possess. We see today that larger companies are devoting more and more of their research budget to improving current products, improving the efficiencies of their processes and meeting an ever-increasing regulatory burden. With this happening, larger companies are today increasingly receptive to licensing-in new technology.

### Main Limitation

The main limitation that I see in licensing is that the licensee has a going business. He's making and selling something. The licensor has a weakened contractual right to receive royalties. We have found that one way to reduce this imbalance is to make a marketing agreement rather than a license. To identify a key compo-

ment or key ingredient in utilizing the technology and for the licensor to retain control over the manufacture of that component. To make it and to sell it to his marketing partner.

Smaller companies can obtain the benefits of licensing through these arrangements. They can obtain financing, development capabilities and marketing channels. And in many instances the financial returns can be far greater than with licenses particularly with the psychological barrier to paying royalties above a certain amount.

This approach was used by Syntex Corporation when it was a small Mexican bulk chemical producer and was developing the oral contraceptive. Enormous financial resources were required for that product to succeed. It required broad scientific and development skills, strong marketing and, most importantly, an established reputation with physicians. Syntex had none of these. It sought a partner for its program.

Syntex had great difficulty in finding a partner. The arrangement was turned down by most of the major companies in the U.S. pharmaceutical industry because their market research showed that doctors would not prescribe, nor would women use, a potent hormonal drug for something as trivial as contraception. They finally entered into an arrangement with Ortho Pharmaceuticals, a division of Johnson and Johnson, which undertook the development. When the product was marketed Syntex sold to Ortho the active drug involved. Ortho converted it into finished dosage forms which it resold to the public. Ortho paid Syntex a substantial percentage of its resale price. Initially, it was 30% of the price for the bulk drug.

There was an additional benefit to Syntex. It was able to supply the bulk drug through a tax-free base in Panama so not only did it receive substantial participation in the market and the profits that were made but it received those profits essentially tax free. Both firms profited enormously from the arrangement which lasted until the Syntex patent expired a few years ago. Through it Ortho held its market share position in the contraceptive field. Syntex became a major company, and the relationship between men and women was changed in ways that no one dreamt of at the time.

### New Technology

We have also found that new-technology customers may be prepared to finance the development costs and often are prepared to finance these development costs for far smaller participation than would a competitor. After all, a major customer with an important position in the market should be the main beneficiary on the

advance in the field. If it can secure lead time against its competitors we have found in several instances that the customer will be prepared to pay the development costs.

Joint ventures can also be useful. The technology owner only receives an ownership interest in exchange for the transfer of proprietary rights. Its partner can be expected to put up the capital and have the required development expertise, and even manufacturing and marketing capabilities.

At Dynapol we have used many of these approaches to develop a new technology of broad applicability. Our technical strength enables us to tailor new chemical compounds having active groups whether they be dyes, antioxidants, UV absorbers, or drugs. To tailor the compounds in such a way that the active groups can be attached to the carbon backbones of high polymers and with 85 people and 20 Phd's working in the field we have the technology to tailor the compounds to meet desired characteristics. We have used a variety of techniques other than licensing to develop this technology and bring it forward. In some instances, such as in the creation of a new food preservative that is not absorbed into the body, we have worked with our own funds. In another, we have made an arrangement with the leading manufacturer and marketer of traditional food colors which is paying our development costs for three years against a marketing right to the product. When the product is approved we will manufacture it. They, with their sales force and existing customer relationships, will handle the marketing in this country.

In a third program, the development of a new non-nutritive sweetener, the full cost of our research is being paid by a major soft-drink company. That company is financing this research in return for preferred rights as a customer. It received an option to buy all of the output of the product for the first four years of sales.

These are cases in which both the technology and product concept was ours. In other instances companies came to us with specifications of certain desired performance characteristics of the end compound. They agreed to pay the full cost of the research and development against a right to buy the product from us when the research succeeds. We look forward to being the supplier of the key ingredients. We have found that this approach is applicable in fields as diverse as pharmaceuticals and personal-care products and office equipment and analytical instrumentation. We believe that such arrangements prove that smaller high-technology companies can be a fertile source of new technology and that arrangements analagous to but different than licensing can be to the benefit of both parties.