Spin-Off of Technology

How one high-technology company transfers technology to spin-off companies; all benefit

BY TOM LONG*

I shall outline for you the Tektronix approach to technology spin-offs, The Tektronix Development Company (TCD).

Tek, as the company is often called, is located in Beaverton, Oregon, near Portland. The company was founded in 1946 to develop instruments to test, measure, and design electrical equipment for the electrical and electronic engineer. As you might expect, such test instruments must be highly reliable and possess technology that in most cases is more advanced than the instrument it is required to test or design. In other words, Tektronix is a "high-technology" company. Our customers are sophisticated users in all areas of the electronic industry from chips to computers. The company has over 20,000 employees worldwide.

Tek's annual sales now total slightly more than $1.4 billion. While some may suggest that the company's sales growth is good considering the economic conditions of the times, it certainly does not reflect what we think it should be. In particular, I would like to focus on 1982-1983. With essentially no growth, this was a particularly critical period for the company. I will come back to this point in a moment.

As with any high-technology company, R&D investment is essential to maintain Tek's preeminent position in its markets. Tek's investment in R&D has been growing dramatically both in absolute terms and as a percent of sales. In fiscal 1985, for example, it was over 13% of sales. This is an enormous investment in technology that may not bear fruit in the marketplace for as many as five to six years in the future. And, of course, your competitor is not standing still either in the United States or Japan. If you do not win in this environment, losing is most expensive.

Tek's earnings reflect in many ways its sales. Although it appears that 1985 was a "down" year, 1984 reflects an extraordinary event that if removed shows a more positive trend since 1983. However, in looking at that 1982-1983 period as we did in sales, the trend is less than positive.

Now, I would like to read between the lines with you relative to Tek's financial performance. First, during the 1982-1983 period the company was not performing financially to anyone's expectations as I have already discussed. Second, our traditional markets and customer base began to change. New markets in the electronic industry required new approaches, while technological advances forced lower profit margins. Third, with venture-capital money plentiful, many of Tek's brightest and best people were leaving at an alarming rate to go after the golden ring of the start-up. The large corporation like Tek just did not offer the truly creative and entrepreneurial employee enough to offset the allure of the Ferrari in every driveway. And last, our competitors were changing. Instead of our historical competitors of comparable size, we began to see smaller emerging competitors who nibbled away at our markets from all directions. Like the piranha that nibbles at its prey until it is easily devoured in its weakened state, the start-ups in the electronics industry were having a negative effect on the company.

Fortunately, Tek has taken a number of steps to combat these issues. And clearly, our recent financial numbers support the results. However, I want to focus on just one of the steps the company took in 1983. In that year the Tektronix Development Company (TDC) was formed as a wholly-owned subsidiary of Tektronix. Its seven-member board was elected by the Tektronix Board of Directors and consisted of a cross-section of senior executives of the company. Its purpose, with $10 million available, was to invest in employees who may wish to take Tektronix technology that was not being pursued and spin-off to form a new company to exploit that technology for growth and profit. As Gifford Pinchot has coined, TDC was created to give the "intrapreneur" a home at Tek.

Corporate Culture

Some of you know the meaning of corporate culture. It is the personality of a company. Tektronix has a well defined culture and the objectives of TDC must develop within that framework. To the Tek employee who is creative and entrepreneurial and who wants to remain within the Tek "family," TDC represents one alternative to leaving the company. It is a place that is outside the "process." Individuals or groups, as often happens, know that Tektronix recognizes their value and hence both sides benefit. TDC represents Tek's commitment to seek out and expand a large company's capabilities.

Recall the level of expenditure on R&D that Tek must make to compete. Clearly, not every R&D effort will result in solidly positive results. Many times the technical objectives are met, but the market for that technology does not fit Tek's corporate objectives. Through the TDC, that technology has a conduit to the outside world which could return to Tek the cost of its development many times over. This leverage becomes another alternative to

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shelving the efforts of many man-years of effort. IBM made the concept of the "skunkworks" real through the development of the personal computer. At Tektronix, we have our version of the "skunkworks" known as Strategic Program Units or SPUs. We use the small unstructured-team approach to see if we can spawn a new business that could become a part of Tektronix' operating divisions. However, just as in technology, the potential business may diverge from Tek's and rather than abandon the effort, it could be folded under TDC. There, the business and the technology are incubated such that at some future date it may be spun-out into a new business.

Although primarily interested in internally generated opportunities, TDC may on occasion make investments in outside companies much as a traditional venture capitalists would. This effort is based on a rather specific rationale that I will discuss shortly.

Implementation

With such a broad perspective, one must set a course for implementation. TDC is not so structured as to eliminate any possibility from consideration. However, investment in Tek-developed technologies gives Tek many of the advantages that we seek. Also, if the technology was developed outside of Tektronix, it needs to be related to the areas of interest of the corporation. In some cases, TDC seeks a "window" on technology that would help to shape future directions. Further, one could spend a lot of money on market research and never really know if that market is suitable for Tek to exploit. Through investment in companies in that market, TDC gains the insights that one could only get by being there. Lastly, with the large sums of money to be spent today on technology for future benefit, the downside of "backing the wrong horse" is substantial. Through TDC, investment may be made in a company that has potentially competing technology. Should it prove to be more viable, at least Tek has hedged its bets and alternatives are then available to protect its markets.

TDCs activities may be divided into three parts: internal start-ups, spin-offs, and external investments. First, we support internal start-ups, the SPUs, to define their business and ultimately to spin-out of Tektronix as a stand-alone entity. In some cases they will be wholly-owned by TDC, while in other cases, TDC would be a shareholder with other corporate or venture partners. We will transfer the technology, patents, and whatever else is needed so that the other investors know the value of their investment from a technology sense. In some cases, parts of the technology may still be important to other groups within Tek. In those instances, a license or limited-use transfer may be needed. Within the TDC environment, we challenge the managers of the SPU to understand what it is like to start and run a new emerging business. And you can be sure that corporate withdrawal is very painful for these people. However, during the time the SPU is still a part of TDC, we can evaluate the commercial potential of the new venture.

In the case of spin-offs, individuals or groups of individuals within Tek may wish to take technology outside the company. These intrapreneurs may be funded in whole or in part by the TDC through some combination of technology transfer and cash such that although leaving Tek, they would still remain a part of the Tek family. In addition, Tek's own use of their product or service may be small enough that by establishing their own separate presence, external customers may use them. This gives Tek the benefit of economies of scale.

And lastly, the external investments are made when there is a strategic interest on Tek's part as a "window" on technology or an interest in new markets or as a technology hedge. Clearly, TDC is seeking the favorable return on invested capital that is consistent with the risks involved.

Just to give you a feel for the level of activity we experience within TDC, three to five internal proposals and 10 to 20 external proposals are received each month. We would like to see more internal proposals, and over time we expect to see improvement.

Evaluation

There is no set procedure to evaluate internal proposals. In fact, you can imagine the frustration our engineers experience when they talk to TDC about their project and find no rules to guide them along the path to funding. This is done by design to see how structured engineers respond to an unstructured environment. From this, we can see just how creative they might be as well as how they deal with the types of uncertainties that they will face in the "real" world. During the conceptual discussion, however, we seek to feel their commitment, the "fire in the belly," that they will need to overcome the many obstacles they will face.

They must prepare a business plan just as any venture seeking funding must do. This business plan is not just a hoop to jump through, but represents their best understanding of what the new venture is to be. It must be a living document that is not shelved after funding is achieved.

In TDC we assess the capital alternatives. TDC may only be prepared to fund a part of the needs of this venture. Hence, we will help them find additional funding or creative financing mechanisms to reduce the capital required.

Finally, a presentation is made in which I evaluate the viability of the people, the plan, and the business opportunity. Then the proposal is submitted to the TDC board for action along with a recommended level of support. Once approved, we hand the intrapreneurs their plan back, perhaps a check, rights to technology, and a new company is formed.

Of course, this is a people-intensive approach. And, in TDC, a lot of time is spent solving problems. Among them are the transitions from the large corporation to the small start-up. It is essential that they have the technology in a form that is needed for their success. Substantial issues in the incentive and benefit area must be solved. Not only for the spin-out, but within Tektronix as well. Issues exist when Tek managers lose some of their key people to these new ventures and their interests (Tek's interests) must be respected. Once spun-out, TDCs participation on their board must balance benign neglect with overt interference to preserve our investment interest. Indeed, the loss of all the support services that they once had within Tek becomes a sobering reality. On the other hand, the reality for TDC is that not all of our efforts will be glowing successes. One does not plan to fail, but failure of a few of these ventures should not be to fault the effort.

Well, what is our record? As of August 1985 TDC has invested in six companies. ANTHRO, founded by Tek intrapreneurs, sells technology furniture. Although no patents were involved here, designs were transferred. ATEQ is an external investment made for strategic purposes. MIKROS, located on the East Coast, is another strategic investment that has current working relationships with a Tektronix operating division. Planar Systems was founded by former Tek employees. In this case patents and other technologies were transferred to them. They have attracted substantial external investment from the venture capital community as a result. Sequent is another external investment from whom Tek is buying products. Triquint was an SPU within Tek until March of this year. Substantial technology has been transferred to Triquint and we are currently seeking corporate investors. Presently, TDC administers one SPU engaged in liquid crystal color shutter technology. This SPU is perhaps another candidate for future spin-out.

I hope that I have given you a broad look at what we are doing at Tektronix that demonstrates the need to transfer technology to spin-offs. The not-invented-here syndrome that traditionally is the bane of large corporations is not to be taken lightly. The Tektronix Development Company may prove to be a valuable contributor to Tektronix' improved financial performance.