The game is just beginning and people don’t know what’s coming.
—John Webley, Founder and Chairman, Turin Networks

In early March 2000, John Webley, founder, president, and CEO of Turin Networks, Inc. (Turin) returned to his home in Sonoma County, California, jet-lagged and haggard after a ten-day trip to China. Webley needed to reassure his anxious board of directors that product development was on track; he was facing an increasing shortage of skilled technical talent in Sonoma County, and he was involved in current and prospective lawsuits over intellectual property.

In late February 2000, Webley had flown to China in an attempt to settle a lawsuit over proprietary computer technology. A venture that he had previously cofounded, Advanced Fibre Communications, Inc. (AFC), alleged that its next-generation technology had been pirated and cloned by a Chinese telecommunications equipment maker. Webley’s original purpose in going to China had been to give depositions to lawyers representing both sides of the lawsuit. Unexpectedly, he and his lawyer found themselves moving from hotel to hotel, on the run from gun-toting Chinese undercover agents. At one point, his lawyer had thrown a briefcase out of the hotel window before the agents could get in. “It was like a spy novel,” Webley recalled, “because the Chinese agents were trying to get me to talk to them before I could talk to the lawyers.” Although he was no longer working for AFC, Webley had hoped to learn something from his experience in China to prevent the future theft of valuable trade secrets, or at least how to make them somewhat irrelevant if they were stolen.

Webley had left AFC six months earlier to develop a concept for a next-generation product. This product was a computer-controlled device that would allow for the orderly transmission and switching of packets of data over fiber optic cable. Because it was based on fiber optics technology, the product would allow telecommunications service companies to offer their customers greater bandwidth and higher speed of data communications than previous generation systems based on copper wire. AFC, whose flagship product was based on the copper wire technology, had passed on the opportunity to develop Webley’s product concept. Late in July 1999, seven years after cofounding AFC with two other engineers, he sold his entire holdings of AFC stock and quit his job as the company’s vice president of marketing. After a month’s retirement, in September 1999, Webley then became founder, president, and CEO of a new telecommunications equipment start-up venture: Turin Networks, Inc. (Turin). He commented on his expectations for Turin:

The trouble is, I don’t know how long Turin is going to last. If we are successful and we IPO in 3 years, then I will be 45. If you run a major corporation, then it could be another five years that you have to be at the helm. My strategy is to become so big
so fast that I acquire AFC. For me the game is: get damn big, damn fast just like Cerent did so that the game is played the other way ‘round. Will I be running AFC in five years? That is my target.

Arriving at his Petaluma office drenched from a cloudburst of winter rain, Webley retrieved several troubling voicemail and e-mail messages. Turin’s first-round investors and board members had become extremely concerned that Webley and his team were burning up their $12 million first-stage venture capital funds at a rate of nearly a million dollars a month. No product prototype was on the drawing boards yet to show investors for the money already spent, even though an initial product launch had already been scheduled for early 2001. Webley planned to grow Turin’s 61 current staff to 70 by July, and to 100 by the end of 2000.

**Telecom Valley’s Evolution**

It all began in 1969 when one man, Don Green, founded one company, Digital Telephone Systems, in San Rafael, California, about 25 miles north of San Francisco. By 2000, “Telecom Valley” had dozens of companies in the Highway 101 corridor that stretched 50 miles north of the Golden Gate Bridge, from Novato to Santa Rosa. Due to its high quality of life, weather, and location in the Sonoma wine country, Telecom Valley began to attract major telephone companies (telecoms), venture capitalists, and droves of highly skilled people, not to mention the attention of Wall Street (see Figure 1 for the bloodlines of the companies and Table 1 for a list of telecommunications equipment manufacturers in Telecom Valley).

Green, chairman of Advanced Fibre Communications, had founded DTS, which Harris Corporation bought in the late 1970s. His next move anchored Telecom Valley’s growth in Petaluma, California. Venture capitalists persuaded him to start Optilink in 1987, and he brought several DTS veterans with him. Other DTS employees founded their own telecom companies: Walt Noller started Noller Communications, and David Norton founded Telenetworks.

Texas-based DSC Communications acquired Optilink in 1990 and put DTS and Optilink veteran David Ehreth in charge. Eighteen months later, needing an experienced manager to head their new company, ex-DSC engineers John Webley and Jim Hoeck brought Green out of retirement to found AFC. Green recalled:

I met a couple of engineers—James Hoeck and John Webley—in the parking lot as I was leaving DSC for the last time. There was a gap in the market, and these engineers had developed a product that filled this needed gap. They had succeeded in designing advanced technology to serve smaller markets with fewer subscribers, such as suburban and rural areas. They showed me that they had a variation of the DSC digital loop that they wanted to manufacture. The new product was larger, yet cost the same as the old product. They wanted me to join them because they needed management assistance. That’s how AFC was born.

In 1999, *Inc.* magazine named AFC as the fastest-growing start-up company in the United States in the five years from 1993 to 1998, as AFC had grown from zero to $313 million in revenues over the period. AFC completed an initial public offering on October 1, 1996, and a secondary offering on February 12, 1997. AFC ended 1998 with a market capitalization of about $3.5 billion. Green guided AFC from inception until his third retirement in 1998, then returned nine months later as interim CEO. With the loss of some
major international customer accounts in 1999, AFC’s revenues dropped 6.7 percent to $291.6 million. AFC’s stock price also nose dived from $42 to $18 per share due to a lowered earnings forecast for 1999, whereupon Green’s replacement as CEO left suddenly. Green kept the position until John Schofield was hired as CEO, then was retained as board chairman through the end of his term in 2002.

Meanwhile, other DSC alumni started their own companies. In 1994, Tom Eames and Pete Keeler set up Next Level Communications, which was acquired by General Instrument. The next year, George Hawley and Chet Stephens founded Diamond Lane Communications; two years later, Ajaib Bhadare started Fiberlane Communications which became Cerent Corporation. Ehreth went on to found Westwave Communications in mid-1998. As the startups attracted talent, funding, and the attention of telecom giants, Telecom Valley started forming a critical mass. In 1998, Alcatel bought DSC, and in 1999,
### Teleco Valley Firms

<table>
<thead>
<tr>
<th>Company (ticker symbol)</th>
<th>Location</th>
<th>Founded</th>
<th>Recent Sales</th>
<th>Total</th>
<th>Local</th>
<th>Product</th>
<th>Venture Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Fibre Communications (AFCI)</td>
<td>Petaluma</td>
<td>1992</td>
<td>$296 million (1999)</td>
<td>900</td>
<td>700</td>
<td>UMC 1000 multiservice access solution</td>
<td></td>
</tr>
<tr>
<td>Advanced TelCom Group</td>
<td>Santa Rosa</td>
<td>1998</td>
<td>$23.4 million</td>
<td>600</td>
<td>170</td>
<td>Integrated communications service provider</td>
<td>$560 million in debt and equity</td>
</tr>
<tr>
<td>Alcatel USA (ALA)</td>
<td>Petaluma</td>
<td>1987</td>
<td>$23 billion</td>
<td>15,000</td>
<td>500</td>
<td>Lifespan digital loop carrier</td>
<td></td>
</tr>
<tr>
<td>Wireline Access Division</td>
<td>(Optilink)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Communication Technologies International</td>
<td>Rohnert Park</td>
<td>1997</td>
<td>$2 million</td>
<td>25</td>
<td>25</td>
<td>IP data transport solutions</td>
<td>N/A</td>
</tr>
<tr>
<td>BroadLink Communications</td>
<td>Santa Rosa</td>
<td>1995</td>
<td>N/A</td>
<td>64</td>
<td>60</td>
<td>High-speed wireless broadband access networks</td>
<td>$15 million</td>
</tr>
<tr>
<td>Calix Networks</td>
<td>Petaluma</td>
<td>1999</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Optical networking solutions</td>
<td>N/A</td>
</tr>
<tr>
<td>Sierra Photonics</td>
<td>Santa Rosa</td>
<td>2000</td>
<td>N/A</td>
<td>42</td>
<td>41</td>
<td>Optical components derived from wafer scale integration</td>
<td>$10.7 million</td>
</tr>
<tr>
<td>Cisco Systems (CSCO)</td>
<td>Petaluma</td>
<td>1997</td>
<td>$12.2 billion</td>
<td>34,000</td>
<td>15,000</td>
<td>Telecommunications networks</td>
<td></td>
</tr>
<tr>
<td>[acq. Fibex &amp; Fiber Lane Communications/Cerent]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gluon Networks</td>
<td>Petaluma</td>
<td>1999</td>
<td>N/A</td>
<td>50</td>
<td>45</td>
<td>Multiservice access gateway</td>
<td>$14 million</td>
</tr>
<tr>
<td>Mahi Networks</td>
<td>Petaluma</td>
<td>1999</td>
<td>N/A</td>
<td>150</td>
<td>138</td>
<td>Broadband optical networking equipment</td>
<td>$70+ million</td>
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<tr>
<td>Mariposa Technology</td>
<td>Petaluma</td>
<td>1997</td>
<td>N/A</td>
<td>60</td>
<td>55</td>
<td>Integrated access devices</td>
<td>Minority investor: Ericsson</td>
</tr>
<tr>
<td>Microsource</td>
<td>Santa Rosa</td>
<td>1980</td>
<td>$15 million</td>
<td>100</td>
<td>100</td>
<td>Oscillators, filters, and frequency synthesizers</td>
<td>Giga-tronics</td>
</tr>
</tbody>
</table>
### Table 1

Continued

<table>
<thead>
<tr>
<th>Company (ticker symbol)</th>
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<th>Local</th>
<th>Product</th>
<th>Venture Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Photonics</td>
<td>Santa Rosa</td>
<td>1999</td>
<td>N/A</td>
<td>65</td>
<td>15</td>
<td>All-optical networking systems</td>
<td>$10 million</td>
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<tr>
<td>Next Level Communications (NXTV)</td>
<td>Rohnert Park</td>
<td>1994</td>
<td>$57 million</td>
<td>428</td>
<td>350</td>
<td>VDSL broadband system</td>
<td></td>
</tr>
<tr>
<td>Nokia (NOK)</td>
<td>Petaluma</td>
<td>1995</td>
<td>$19.9 billion</td>
<td>60,000</td>
<td>300</td>
<td>Wireless and wireline telecommunications</td>
<td></td>
</tr>
<tr>
<td>Broadband Systems Division (Diamond Lane)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SpectraSwitch</td>
<td>Santa Rosa</td>
<td>1996</td>
<td>N/A</td>
<td>75</td>
<td>75</td>
<td>WaveWalker liquid crystal optical components</td>
<td>$22+ million</td>
</tr>
<tr>
<td>Terawave Communications</td>
<td>Petaluma</td>
<td>1998</td>
<td>N/A</td>
<td>180</td>
<td>15</td>
<td>Optical access networking equipment</td>
<td>$60 million</td>
</tr>
<tr>
<td>Texas Instruments (TXN)</td>
<td>Santa Rosa</td>
<td>1997</td>
<td>$10.6 billion</td>
<td>40,000</td>
<td>40</td>
<td>Integrated circuits for high-speed digital</td>
<td></td>
</tr>
<tr>
<td>[acq. Alantro in 1999]</td>
<td>(Alantro)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>transmission systems</td>
<td></td>
</tr>
<tr>
<td>Turin Networks</td>
<td>Petaluma</td>
<td>1999</td>
<td>N/A</td>
<td>61</td>
<td>61</td>
<td>Multiservice optical networking products</td>
<td>$12 million</td>
</tr>
<tr>
<td>[spun off from Microsource]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zhone Technologies</td>
<td>Rohnert Park</td>
<td>1999</td>
<td>N/A</td>
<td>540</td>
<td>25</td>
<td>Infrastructure products for local access</td>
<td>$500 million</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>networks</td>
<td></td>
</tr>
</tbody>
</table>

_N/A = Not available or development stage company_

*Source:* Table compiled from individual company reports in *North Bay Business Journal*, Telecom Valley Supplement, October 2, 2000
Nokia acquired Diamond Lane; Cisco Systems picked up Fibex Systems and Cerent; and JDS Uniphase scooped up Optical Coating Laboratory.

As a result, Telecom Valley start-up companies began to attract serious funding. Advanced TelCom Group, a telecom service provider, garnered $260 million in debt and equity financing between late 1998 and the middle of 1999, while Cerent picked up $53 million in early 1999 through its fourth-round financing. In August 1999, the unprecedented $6.9 billion buyout of Cerent by Cisco Systems led to a new crop of young telecommunications companies being sown in Sonoma County. Cerent was acquired by Cisco Systems during the “quiet period,” just prior to going public. Hundreds of young telecommunications engineers in Sonoma County became overnight millionaires due to the acquisition of Sonoma county startups; Nokia estimated that 150 new local millionaires had been created following its acquisition of Diamond Lane.

Joining Turin Networks in the race to grab the region’s top engineering talent were rival local startups such as Next Level Communications, Westwave, Calix Networks (Calix), Gluon Networks, and Mahi Networks. Like Webley and Peters, many of the engineers joining these fledgling companies were known to be working on products to enhance telecommunications systems for the “local loop” between telephone service users and public telephone networks worldwide. AFC had pioneered a single platform that supported any network, any transport, and any service.

**Startup Phase**

Webley accelerated his plans to start Turin after the Cerent deal. “What Cerent’s success has done is spawn a bunch of startups. In order to get the talent, we had to move quickly,” Webley said. “People are going after the same talent.”

Webley’s founding team included Richard Stanfield and Phillip Yim. Stanfield, vice president of global sales, had previously served for five years as AFC’s vice president of North American sales. Yim, vice president of product planning, had headed AFC’s product planning group before leaving in July 1999. (See Figure 2 for a list of Turin’s founding team.) Turin planned to double its work force by the end of 1999, and expand to 100 employees by the end of 2000. To accommodate its growth plans, Turin rented a 60,000-square-foot office next door to AFC in a brand-new office park.

Webley explained some of the events leading up to his departure from AFC:

I was pushed. I left AFC because there was a lot of change going on. They brought in a new CEO, John Schofield, in April of ’99. It was apparent to me that he was going to bring in his own management group, which he did. At that point in time I asked the CFO and the VP of Sales, “What do you want to do?” and they said, “We want to start a new company. Why don’t you start one, John, and we will come with you?” There was no point staying around AFC—it is best to leave on friendly terms before it gets unfriendly. I was 42. I didn’t need to work again, so I asked my wife, Jenny, “Do you want me to retire, or do you want me to continue with life?” She preferred that I start another company. She didn’t want me sitting home right then. At that point my hours at AFC had gone way down, so I was home a lot more with our four children (ages 4–14). I went to Schofield and said, “I am leaving to start another company. I would like you guys to invest. I would like to go ahead and do the next generation product.” A good CEO recognizes that you have to allow people to leave. You can’t hold on to everybody. So, Schofield said, “That sounds good, John. We will back you.”
In late August 1999, Webley asked Phillip Yim, his new VP of product planning, to write a business plan.

We literally had about two weeks to write a business plan. So, we wrote a 10-page business plan. Yes, our business plan to this day is only 15 to 20 pages. If you looked at it you would be shocked because it is completely gutted, just in case it falls into the wrong hands. Most people looking through my business plan say, “This isn’t a business plan, this is a joke.” Really what we were doing was trading on our name. For instance, when we went to Sequoia for venture capital funding, we presented the management team, told Sequoia what space we were playing in, and they said, “You’re funded.” The 40 viewgraphs we had on the project? They were not interested in those. So, they funded me and told me, “Get out, you’re funded. Work on the Term Sheet with the business development guys.” They were not interested in the product; they fund people and then people and then people.

Webley then began working on the Term Sheet (see Figure 3 for highlights of the deal with Sequoia Capital), an evaluation of what he thought Turin was worth.

That’s interesting because what are you worth as a team? I had no product, no engineers, and sort of a hazy concept of the space where I wanted to play. Just writing up the Term Sheet alone was an interesting exercise. It turns out I actually shot too low. I shot for a lot higher than other startups because most of the startups these days are based on a team of guys coming together with a speculative business plan and an idea to get funded to the tune of $5 to $7 million in the first round. I just walked in with a team of executives and no engineers, and we were funded $12 million in the seed round. But it turns out I could have gotten more like $15 or $18 million,
which I should have gotten. What we did was to value the company at $25 million. As a group of people with an idea we are worth $25 million. They basically gave us 46 percent of that which is $12 million. Then I took that $12 million and said that is divided up roughly $7 million to the lead VC, that was Sequoia; AFC came in for about $2 million; and then angels each gave a million.

AFC invested roughly $2.5 million in Turin, acquiring a 7 percent ownership stake. John Schofield, 51, AFC’s president and chief executive, was invited to sit on Turin’s board of directors.

Webley commented on having a potential competitor like Schofield on Turin’s board:

One of my dilemmas is that AFC is represented on my board. John Schofield needed to see my business plan as well in order to commit his investment. This product will ultimately supercede AFC’s product. Initially, our product doesn’t compete; it sits on
the edge of the AFC product, and he’s happy with that. But the vision we have long term is that it will ultimately supercede his product and he is aware of that long-term goal. The market and technology are going to go far more optical and they [AFC] are all copper. They would like to do fiber optics and they are trying to form partnerships and acquisitions. So, he’s aware that at some point I will become competitive, and his strategy is to acquire me before I become too big.

AFC had been an early investor in another telecom startup, Cerent, betting less than $5 million on its future. When the Cerent buyout was completed by Cisco Systems in November 1999, AFC planned to collect $380 million in Cisco stock. Flush with cash after the sale of Cerent to Cisco Systems, AFC hoped its luck would repeat with Turin. Jeff Finn, AFC’s Director of Investor Relations, affirmed this to the local press:

That is always the hope. Nothing is guaranteed in this business, but Webley is an inventor, a visionary who understands the changing telecommunications market. Webley is a proven performer. It is likely that anything he touches will have positive results. He really knows the industries and technologies, and he has a great reputation.

Don Green, another early investor in Turin, offered a similar appraisal. Green, 68, was AFC’s cofounder, current chairman of the board, and past CEO:

My view of John [Webley] has developed to the point where I think he is probably one of the most creative engineers I have ever met. That he has the ability to understand the technology coupled with the understanding of what the market needs is pretty outstanding. Highly technical people can perform, but John has an awareness that is kind of unique, he absorbs the technology with really no effort, and he can figure out what compromise he needs to make to satisfy the market place. After all, if you are living in Sonoma County and you are working for AFC and you are unhappy, you only have a couple of choices. One is you take a job somewhere else, which is more likely to be outside of the area, or you start a new company—and there is plenty of venture capital to help you with that. Once you get started, it is relatively easy to build a Telecom Valley company.

B.J. Cassin, an early investor in AFC, and Sequoia Capital, a venture capital firm that had backed both Cisco Systems and Yahoo!, completed the investment group. Chris Rust from Sequoia took the fifth board seat. Altogether, outside investors provided $12 million to Turin, which was expected to finance the startup for about a year.

Having secured the startup money, Turin commenced the initial phases of developing a new product that would allow telephone companies to manage voice, data, video, and wireless services provided over different networks. “We police and manage bandwidth. The race is on. We’re going for the gold,” Webley told the Santa Rosa Press-Democrat in the new company’s first press conference. Webley described the product as a “multi-protocol gateway product” that would manage an array of different services—local and long-distance telephone, Internet, cable TV, and cellular telephone—offered over different networks. Telephone companies would purchase and install the device in their central offices. It would allow telephone companies to dole out bandwidth to individual customers, based on the package of services a customer desired.

Turin hoped to position itself to ride a trend known as “convergence,” which was driving telecommunications companies to bundle telephone, wireless, TV, and Internet services into a single package. Convergence was a major reason that long distance telephone giant AT&T Corp. had acquired cable television powerhouse TeleCommunications
Inc. (TCI) in March 1999. “Once AT&T and TCI got together, it changed the dynamics of the market,” Webley said.

Industry and Competition

Telecommunications equipment manufacturers produced hardware that was used by service providers like telecoms and cable operators, as well as by corporations and individuals. This hardware—ranging from cellular phones to circuit switches and satellites—was the backbone of the ever-expanding growth of telecommunications.

All industries depended on telecommunications and information technology. Several factors were driving the telecommunications industry to create a fertile field for startups. Consumer demand for increased connectivity and mobility was rising. Workplace changes—such as telecommuting, virtual manufacturing, and “just-in-time” data analysis—placed a heavy demand on communications technology, and telecoms could lose the competitive edge if new technologies were unavailable.

While it was not too many years ago that the industry had depended almost exclusively on voice communication, by 1999 voice communication could be easily translated to data. During the 1980s and 1990s, the computer and cable television, which also communicated by data, increased their penetration into businesses and households. The rapid diffusion of the Internet during the late 1990s was a result of the need to meld communications and the computer. By the end of 1999, an estimated 30 million personal computers were connected to the Internet, mostly with traditional dial-up modem technology. As the number of computers connected to the Internet approached 50 million in North America, some industry participants believed that the limitations associated with the existing infrastructure would become manifest and severely limit the growth and functionality of the network.

The telecommunications equipment industry at the beginning of the twenty-first century began to experience rapidly changing technological and market conditions. According to Green:

Today, the telecommunications industry is in the process of revolution and change. It is changing from what is called circuit switching to packet switching. Circuit switching is when you have a dedicated facility between two points, which communicate with each other. “Dedicated” can mean a time slot or a frequency, or it can be a wired connection. That is the way the world was and mostly still is. It is changing now, in that information and data are put into packets and sent over the network in a variety of different ways, and then the packets are reassembled so the voice or data come together again at the other end. That packet revolution has opened up a number of opportunities for creative people to figure out how to design products to make that revolution happen. Turin is a pure play of that packet concept. It is developing a switch that has very attractive characteristics. The successful design will be as successful or more successful than AFC. The demand is much higher, it is speeding up, the hero today is DSL, but all it can provide is packet and switch networks. Telephone companies—which are traditionally slow moving—are finally moving at a pace that may satisfy their subscribers.

The economic life cycle for most telecommunications equipment had dropped from the 40-year estimated life for depreciation purposes to perhaps 10 to 15 years. Because buyers spent millions of dollars building or expanding their existing telecommunications networks, they were generally reluctant to replace their equipment frequently, even if a new product was technologically superior. Lucent Technologies estimated that the global
telecommunications equipment market, including semiconductors and integrated circuits, was worth $480 billion in 1999, and predicted that it would grow to $815 billion by 2003. Standard and Poor’s Communications Equipment Industry Survey (December 23, 1999) forecasted real market growth in the telecommunications equipment industry at about 14 to 15 percent annually to 2003.

Growing market demand for high bandwidth services using Digital Subscriber Lines (DSL) was forcing telecom providers to reevaluate their former network planning models and create new ones. Network planners and engineers responsible for this emerging network faced a complex problem: how to effectively implement a network that optimized diverse services in current use, such as voice, video, and data, while building the design requirements for tomorrow’s network.

The cost of new optical equipment remained prohibitive for all but the largest telecoms. To lower development costs, new entrants like Turin, Calix, and Mahi were known to be forming strategic supplier relationships with subcontractors who had invested in microprocessor-controlled switching equipment manufacturing and in improved production technologies. Lower costs and increased efficiency in subcontract manufacturing were expected to be passed along to purchasers of equipment, resulting in increasing price competition. This in turn could reduce the cost of replacing old systems and deploying new systems to more affordable levels for smaller telecom service providers. Gradual replacement of copper wire networks with fiber-optical networks in developed countries in North America and Europe, coupled with accelerated growth of telecommunications infrastructure in developing countries in Eastern Europe and the Pacific Rim, only heightened the competition among equipment developers to be selected as the industry standard.

The market had changed from 1992, when Webley had started AFC with two other engineers. Back then, AFC had identified one new competitor and perhaps a half dozen “old world” players competing in telecommunications networking equipment. Time was then on Webley’s side. It had taken AFC two to three years to build and ship its first product in volume. Webley figured he now had as many as ten potential competitors:

AFC and Turin have the same competitors. The next evolution will involve expanding the AFC box to make it better for the next generation. Now, how do you go from a few subscribers with low Internet speed to all subscribers with high speed and beyond? Everyone’s belief is that we are going to move to DSL. DSL is going to become a commodity, literally its price point is going to plummet to the point where your Nintendo game is going to have it, your set top box is going to have DSL built in, and all of your computers are going to get it on the motherboard. DSL is no longer going to be an option; it is going to be free when you buy the computer—or any other home appliance. The new refrigerators at the consumer electronics shows now have bar code scanners that can scan your milk when you are out and it automatically goes to a web van that will deliver it to you. Your dishwasher will run by itself for you at night and reorder when it is out of soap. Your water heater will be energy managed to shut down at night so that you can save electricity.

The lines between old and new companies had become more ill defined as acquisitions gave some of the more established players access to the same technologies that Turin was developing.

New Litigation Threats
On that dreary March morning, Webley had also received an urgent message from a former AFC colleague, Greg Peters. Peters’s job as vice president for international
operations at AFC had been one of the casualties of hiring Schofield as CEO in April 1999. During the summer, Peters had declined Webley’s invitation to join Turin. He instead became founder, president, and CEO of another Petaluma-based high technology startup, Mahi Networks. In late December 1999, Mahi received $8 million in venture capital to develop its own next-generation broadband optical networking equipment for telecommunications companies. In a hot venture capital market Mahi had won over investors with a vague description of its ultimate networking product; like Turin, it had not yet released detailed information about this product to the public.

Peters informed Webley that Calix had just been sued by Alcatel. Alcatel, the French telecommunications equipment giant, had purchased Optilink. Calix, another local telecom startup composed of ex-AFC engineers, was working on optical networking products that put it in direct competition with both Turin and Mahi. Alcatel’s lawsuit alleged that Calix’s hardware director and 15 other former employees had broken proprietary information agreements, unlawfully poached talent from its ranks of engineers, and planned to compete unfairly against two of Alcatel’s premier products. Mahi and Turin could be next in line for lawsuits.

Webley told Peters,

Whenever you spin off, the jealousy sets in, Greg. Those who left early got away with it but those who were trapped behind are jealous because they can’t leave. Calix is a group of guys from AFC and Cerent. Yours is essentially an AFC shop. Now that Calix has been served, I am telling you and anyone else who wants to listen, “No more hiring out of this Valley, we are done.” We will now hire exclusively in the South Bay or other parts of the U.S. or, if necessary, from outside of the country.

Like other Sonoma County high-technology firms, Turin, Mahi, and Calix faced a shortage of engineers that threatened to impede their progress toward realizing products. The average home price in Sonoma County had risen in 1999 to $260,900, placing the area’s housing costs among the least affordable in the United States (edged out by San Francisco and Silicon Valley).

The Board Meets

In preparation for his meeting with Turin’s board, Webley drove to Green’s house later that afternoon for some fatherly advice. Green reminded Webley of some lessons he had learned about successful entrepreneurship during his career at DTS, Optilink, and AFC:

The first lesson of entrepreneurship, John, is understand your customer. Have a strategy that recognizes the characteristics of customers. Probably the most important lesson I’ve learned was not to develop a product whose benefits could only be sold to large Bell operating companies.¹

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¹. Seven Regional Bell Operating Companies (RBOCs) were created as a result of the breakup of AT&T in 1983. The original seven “baby bells” were Ameritech, Bell Atlantic, Bell South, NYNEX, Pacific Telesis, Southwestern Bell or SBC, and US West. By the end of 1999 only four RBOCs remained, due to the acquisitions of Ameritech and Pacific Telesis by SBC, and the merger between Bell Atlantic and NYNEX, now known as Verizon.
They will not buy important products from startups. They are very nervous buyers: they do want more financial resources or more stability than a small company can offer them. You want to avoid compounding risk. If you buy a very important product or service from a company that has not demonstrated stability, then you are adding to the risk of your own business.

The second lesson of entrepreneurship is, if one idea does not work, see if you can use the technology elsewhere. Driving an idea into the ground after you’ve lost money is probably not the right thing. Also, while it may be obvious to you that you have a great technology, you also need to overcome your prospective customers’ fears.

The third lesson is, choose your venture capitalists carefully. Perform due diligence on them as they would on you. You need to keep in mind the importance of an exit strategy, the importance of the value of money. There is a balance of value interests among your three major stakeholders: (1) investors, who want to see a 20–30 percent annual increase in the value of their investment; (2) customers, who want the best products at value prices; and (3) employees, who place value on good pay and good working conditions. As far as playing the merger and acquisition game with AFC or others is concerned, I guess I learned that acquirers will tend to wait until a company is desperate and “bottom-fed.”

Green’s advice gave Webley added confidence:

When we started, I didn’t know what the product looked like or how it would work or what the exact value was. All I had was an idea—that’s enough these days. We capitalized the company at $1 per share for 25 million shares. Our product was totally vaporware, like the “Shroud of Turin.” When you start a company, in the first six months there is not a lot to report. We had funding; now we are spending it. All they do is look at your burn rate, so we are supposed to give the board the financials every month and to show them technical milestones. I haven’t shown the board a single technical milestone yet. I have managed to keep this whole product thing quiet while we studied it through November, December, January, and February. Think about it, six months after they gave me the money!

Prior to the meeting, Rust, Sequoia Capital’s representative on the board, had warned Webley, “If you don’t present the product at this meeting in March, we have a major problem, so you had better show me what you are doing.”

Webley decided on the following course of action for the next day’s meeting:

This was going to be absolutely the first time I showed them what the product was, for up until then they still had no idea why they had funded me. By the way, the reason I chose March was that was when Schofield was out of the country. Therefore, I only had four out of five people present from the board. They would actually see the full scope of what I was doing, which was the complete architecture that totally enveloped the old AFC product! It was still a schematic. Full slides, vaporware, color slides. I planned to lay out the complete architecture from beginning to end of all the boxes, what they did, what software was inside and how the pieces worked together.
Webley opened the board meeting:

Believe me. We are looking at a market space of about $30 or $40 billion. That’s the market space. We are looking at being the next generation in that next space. So, it can be big, it can be huge. We are going to run really hard at that market space.

As he watched and listened to Webley’s presentation, Rust complained, “This is a far bigger project than you originally told me, John, much larger than what we [Sequoia Capital] had funded you for. We are not happy about that.”

Webley responded: “OK, fine. Chris, I have a whole line of VCs [venture capital funds] offering me $7–$10 a share if they can buy in right now—because of the greed in the marketplace. So, I could value myself at $250 million right now. I would be willing to take your position out of the company, and we will return your money to you.”

As he awaited Rust’s response, Webley debated on how to deal with several challenges: (1) ensuring Turin’s credibility for a second round of venture financing, (2) protecting Turin’s technology to provide it with a first-to-market advantage, and (3) finding talent for Turin in a tight labor market. He needed to reassure his board that they should continue to bet on him to take Turin to the next level.

REFERENCES


Interviews with Donald Green, November 8, 1999 and March 7, 2000.


This case study was prepared by Armand Gilinsky, Jr., Associate Professor of Business at Sonoma State University, as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. The case benefited from the research assistance of Sherry Hinrichs, the generous support of the Small Business Institute at Sonoma State University, and the participation of Don Green and John Webley.