

Has talent, needs customers

An engineering lab profits from its first strategy experiments

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This coatings lab and job shop with a talent for innovation has been operating for more than a decade without a marketing strategy. Short of cash, it must now quickly invent and implement a customer-focused strategy if it is to survive. This case study highlights how strategy and proactive leadership work together in small, flexible and fast-moving organizations. But the case also has a universal lesson: the work of discovery, communication, and implementation of strategic direction is a messy process in the tactical world. This case looks at how Millis created its business plan, the tactics it implemented and the business practices it adopted. Success quickly exceeded expectations. The company became highly profitable by growing quickly from \$500,000 to more than \$3 million in gross sales per year with little increase in expenses.

Millis Research, a 14-year-old Boston area coatings lab and job shop with a talent for innovation, provided custom coated, bonded and patterned materials for a wide range of customers (see sidebar: "Millis' key technical competencies"). But the Millis engineering team did not have a market identity and they needed to transform themselves into a manufacturing company, yet retain their ability to customize their work for high-tech clients.

Even though the Millis Research engineers had a long history of providing innovative technical solutions to prestigious clients such as NASA and other space technology companies, it was always difficult to explain its

Millis' key technical competencies

- (1) Apply coatings to semiconductor standards:
 - uniform coatings over large areas;
 - strong bonds or adhesion;
 - broad assortment of coating materials.
- (2) Create patterns on flat and curved surfaces.
- (3) Create strong bonds between incompatible materials.
- (4) Flexible engineering team can solve a variety of problems.
- (5) Engineers can build unique equipment to fabricate customized products.

capabilities to new customers. The president, Dr William Gasko, knew that in order to grow the company, he had to change its focus. He wanted to find a better way of communicating the company's strengths to the marketplace.

"Bill" Gasko, however, was also busy being the company's top physicist. Engineers and customers often came to him for suggestions about difficult problems. There were always great demands on his time. Gasko said he



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wanted to better understand the company's core competencies and why they were important to the customers, but he never made it a priority. He wanted to increase sales, but he also knew he did not have the time to manage marketing.

The engineers at Millis Research did not do their research in an ivory tower. Located in an aging former radio transmitter facility in Millis, MA, they worked with production equipment that had been well used by other companies prior to finding a home at Millis Research. A large, well-inventoried collection of parts was stored in seven trailers in the woods behind the labs. Frequently, engineers would rummage through piles of obsolete high-tech treasures to find one they would then recycle for a prototype order.

From its long history of solving problems and conducting experiments, Millis Research had amassed a broad technology knowledge base. However, this resulted in high fixed costs, and sales were undependable. To find a way out of this ongoing cash flow crunch Gasko hired a director of marketing. The new director needed to come up with a strategic marketing plan fast, but there seemed little likelihood of achieving a sudden surge of growth. Fortunately, Millis Research had little debt, but since they constantly struggled to survive, there was no budget for traditional marketing and never enough time to plan.

A plan evolves

The new director of marketing began by dedicating six months to crafting a strategy and implementation plans, which would culminate in Millis' participation in a microwave industry trade show in California. Gasko, however, viewed the marketing director primarily as a salesman. When asked to contribute ideas toward creating a new vision for Millis the president replied, "I don't care what you do, just get sales!" In response to a suggestion that the company identify its core competencies Gasko's anxiety was apparent, "We don't have any customers! Don't waste time on planning, just get customers!" The harsh realities of under-capitalization, and the constant concern this caused senior management of this small company, would not permit the development of strategy or execution by standard methods. The planning continued however, and new tactics were introduced gradually, building incremental successes along the way.

As the marketing director continued his assessment of company strengths, a key question remained unanswered. Could the company be something besides a research laboratory providing services to only the local high-tech companies? With input from members of the engineering team and top management, a vision began to emerge of a company selling a line of standard products to customers across North America. The stretch goal: accomplish this within six months. To achieve this vision, the company would have to reinvent its core business, and alter how employees and customers viewed Millis Research.

Adapting new business assumptions

One of the first steps was to get agreement on two assumptions that would affect corporate identity:

- (1) the company's name had to change;
- (2) standard products needed to be defined.

Justification for adopting these assumptions was based on the case histories of two other small companies faced with remarkably similar situations. The value of renaming a high-tech R&D boutique was demonstrated by the case of Burr Brown Research in Tucson, Arizona. After this research firm shortened its name to Burr Brown, and let their customers know they were going after larger orders instead of just small research projects, their customers reacted favorably. As expected, the larger orders they gained were significantly more profitable. The other company model, Hybrid Systems of Bedford, Massachusetts, designed a standard product line and encouraged their customers to place larger production orders. After familiarizing himself with these two success stories, the president approved the concept and the search for a name that would reflect a new vision was on.

In meetings with the president, engineering, manufacturing, sales, and quality control everyone had a chance to offer suggestions for the new name. After looking at some possibilities it became clear that the new name should reflect the new strategic positioning. So it was important to have agreement on what the distinctive competencies were, and why they were important to the customers, before the new identity was designed.

Discovering distinctive competencies, and translating them into deliverables

Millis' engineers were anything but prima donnas even though they frequently fabricated prototypes or a small set of parts for some world-class clients. Obviously they were talented, but identifying their unique strengths was difficult. The problem was that, for more than 14 years, they had done anything and everything for anyone. Typical orders specified a couple of parts to be used as prototypes, or a dozen units for space applications in satellites or on the NASA space shuttle. Engineering's motto seemed to be "Find something that someone needs that nobody else can or wants to build, get the order, and we will figure out how to make it."

The marketing director reviewed recent invoices hoping to find any buyer preference trends. At first glance there was no evidence that Millis' customers wanted standard products. Most orders specified small quantities at high quality standards. It was also found that customers usually ordered only coating or only patterning, but not both. However, reasoned the marketing director, if the customers could be persuaded to buy both coating and patterning on the same order, then considerable value would be added to each order. Why not solicit customers for repeat orders too?

When the engineering manager was asked about the potential of this idea he pointed out, "Those orders are

usually for prototypes only.” But why were those companies not coming back to Millis for production requirements? The assumption was that larger companies have their own production facilities and the smaller shops did not think that Millis could deliver in sufficient volume. When asked, “Isn’t it possible that none of the companies think Millis can deliver in quantity?” he conceded that this idea was probably widely held.

The invoices also showed that some orders were for precision and uniform thin film coatings over large areas – which customers knew meant high volume production. This appeared to be a unique selling proposition and hidden distinctive competency, because it represented discipline and technology associated more with the high volume semiconductor industry than with the low volume microwave or microelectronics industries. It was likely, reasoned the marketing director, that buyers would prefer product built to semiconductor industry standards to product that was not.

The question was, “Is it possible to offer a line of standard substrates, coated and patterned, for the microwave and microelectronic markets?” The head engineer seemed surprised. “I don’t know. I don’t think it has ever been done here.” The director of marketing asked, “Can we at least come up with standard sizes, and then talk to some customers to find out what coatings they are using in volume?” Over the next few days a dozen buyers from potential volume customers were called and asked what coated substrates they purchased. This small survey showed usage was limited to two resistor materials and several coatings.

Searching for a new identity

Meanwhile, the search for a new company name continued. Suggestions were gathered and delivered to the president. After reviewing them he expressed concern. “If we change the name, will our present customers know who we are?” The solution: get rid of the part of the present name that implies the company only does prototypes and unique inventions, just as Burr Brown did. “I like that,” he said. “All we have to do is to lose the word ‘Research.’” At this same meeting a report was also made on the product development progress. In a few weeks, with the help of engineering, a matrix of standard products was built with a part numbering system that made it easier for buyers to order.

Standardizing deliverables: building urgency with public relations

It was time to do some marketing. But the marketing director had no budget for direct mail or media advertising. Instead he suggested, “Maybe if we send out a PR story on our standard products we will get some orders. All we have to do is write the story, take some photographs of the products, and send the story out to trade magazine editors. Our only expenses will be for the photos and stationery, and we can

put our new name on the letterhead for the PR stories.” There was no money available to hire an ad agency so the president asked one of his friends who was a photographer to take the publicity pictures.

So the next step was finding the right content for the publicity releases. What was newsworthy about what Millis did? When a lead engineer was asked, “What do you think we should feature in a news release?” He said, “I don’t know. Just tell them that we coat substrates.” However, the marketing director knew that trade magazine editors would want specifications and pricing. The engineer had a suggestion. “Let’s take something that we already make for a customer and use those specifications.” They decided to choose an example that combined both coating with patterning, a potentially high-profit offering. They took the product photos, and the first PR story was written, authorized and mailed out to the magazines. While that was being done, the marketing director mocked up some designs for new product literature on his computer. There still was no budget.

So the makeshift marketing program was now at a threshold. Thinking ahead, the marketing director asked the president, “What do you want to send to potential customers when they respond to the PR stories asking for more information? If the stories we sent to the trade magazines generate sales leads we do not have any marketing material to send them.” The president was not accustomed to having to deal with customer requests for information about “standard products.” His first question was, “Are you sure the magazines are writing about us?”

The marketing director had already answered calls from several trade magazine editors responding to the publicity releases so he could tell the president with confidence, “At least two publications have agreed to profile us in their next issue.” So they reviewed the draft product literature. “I like it,” the president said. “Let’s do it.”

In a few weeks when the newly printed product literature arrived, the marketing director distributed copies to all of the employees. While the promotional literature was in the draft stage, many people from different areas had been consulted for their opinions and suggestions, so it was natural for them to be proud of it and to think of it as their own work product. In a small company like this it was easy for the marketing director to personally reinforce the new literature’s key promotional message – customers should be encouraged to order both coating and patterning on the same order.

Creating awareness in the marketplace

Only two months remained before the company’s “standard line” made its debut at a trade show in California. The marketing director called the largest microwave sales firm in Southern California to find out if they were interested in selling the company’s products in their display area. After they reviewed Millis’ sales literature they agreed to share ten feet of their 30-foot booth. The president approved the deal

and the next step was to draw up a contract. By taking such steps, Millis Research had begun to evolve into Millis Corporation, maker of standardized products for the microelectronic and microwave industries.

When the contract was signed, Millis was committed to going to the trade show and to selling to the rapidly expanding west coast marketplace. Because the largest sales firm of microwave components in Southern California had agreed to represent Millis, the company could now convince additional firms to come on board. Millis' sales coverage was soon broadened to include the Northwest, Southwest, Midwest, South Atlantic and Mid-Atlantic states.

A full-page advertising campaign was placed in the microwave magazine sponsoring the trade show. After the show, the market began to respond gradually, but mostly in a couple of geographical hot spots. The ads, the public relations and the visibility all helped to jump-start the sales force. Now that the marketing effort had expanded from a regional to a national focus much more time was being spent supporting the new representatives and their customers.

The auditors were impressed that the new orders were much more profitable than the prototype products. The new focus on production provided the company with the credibility that it needed to obtain even larger orders. The transition from regional to national occurred when customers from many states began to place larger orders for both standard and non-standard products with coating and patterning. This diversified the product offerings and increased profits. Business was so strong that Millis acquired a firm in the Bay Area of Northern California to broaden market coverage. Millis achieved radical growth by changing the direction of its core business, defining its distinctive competencies, specifying the deliverables and then creating awareness.

When Millis Research was managed opportunistically, decisions were made impulsively, at times contradicting previous policy. In those days, most employees thought transforming Millis Research was hopeless. Six of these obstacles to strategic change were prevalent at Millis Research and are pervasive in many other small businesses:

- (1) Customer needs are not well understood.
- (2) Management is accomplished by interference.
- (3) Processes are unique and errors are discovered in later stages instead of earlier ones.
- (4) Communications are unclear.
- (5) Too many projects and products are supported by too few resources.
- (6) Talented employees frequently suffer burnout.

At Millis, a new corporate identity helped integrate the new vision into the culture (see sidebar: "Why the Millis case has significance for larger companies"). However, the reinvention effort did not immediately allay widespread anxiety. Yes, employees could see new opportunities emerging, but the

Why the Millis case has significance for larger companies

In a recent trend that has dramatically affected the fate of strategic management and the business planning function, most organizations have flattened their structures. Their original intention was to make processes, responsibilities and communications more evenly and horizontally distributed. It is a concept that took hold during the time when reengineering was popular, and is now a fact of life at most companies.

While this trend may improve efficiencies and speed up processes, it does not necessarily increase, build or sustain competitive advantage over the long run. Whether it has helped or hurt the planning function is a matter of debate. But the fact is that increasingly strategy has been driven down into the business units, where middle managers, not corporate strategic planners, are now responsible for defining and achieving strategic directives. Or for not defining them, as was the case at Millis before it began to craft a new strategy.

These more flattened organizations are likely to be more decentralized, forcing the planning function out of the ivory tower, and closer to the tactical echelon directed by the business unit manager. That may be good news. But business unit managers are encumbered by a host of everyday, tactical issues, all of which demand their immediate attention. And they rarely have access to the resources necessary to execute strategy in effective ways. So the bad news is that management in these new, flatter companies is at risk of becoming less strategic and more tactical.

How in fact are strategic decisions being made and executed in these more distributed organizations? They use informal methods whenever possible because they cannot afford the time or the resources to acquire all the facts, and then to develop and execute formal plans. They have to base their decisions on less information, and must be able to move quickly to alternative scenarios if necessary. The less-is-more style of strategy making practiced by both presidents of successful small companies and thriving business units has one key advantage – intimacy with market opportunities and offering experiments. But it makes for a messy process.

shortage of cash remained a constant threat. Only after marketing achieved many small successes did the idea that the company could successfully adopt a new business model begin to take hold.

Each success bred more contacts and more orders. The new customers began to order larger volumes of both standard and non-standard products. Millis Corporation had arrived! The orders showed that the market was beginning to understand and appreciate the unique strengths of the company, and the employees began to focus on how to anticipate market needs. ■