The Wiremold Company: Ensuring shareholder commitment

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ABSTRACT

After a period of stagnant sales growth, declining profits, and a failed attempt to implement just-in-time (JIT) production, The Wiremold Company hired Art Byrne as their President and CEO to implement JIT effect a corporate turnaround. Art Byrne's plan for Wiremold went well beyond implementing JIT. He wanted to turn the company into a lean organization in every respect. One year into the transformation, Wiremold's sales and profitability had significantly improved, but the lean transformation had just begun. Vice President of Finance, Orest Fiume, and Byrne were concerned the many of the shareholders of this family-owned business would seize this initial improvement as an opportunity to sell their illiquid company shares. If they sold now, the lean transformation was likely to be stopped dead in its tracks. How could Wiremold's management convince the shareholders to stay the course?

The case provides students with an introduction to lean management and lean production concepts and it describes the early stages of a comprehensive lean transformation of a conventionally managed company. Adopting the position Wiremold's management, students can develop a plan to convince the shareholders to stay invested in Wiremold. Students decide what information to include, and how to present that information to shareholders. Students should recognize the limitations of financial reports to reveal the future prospects of a company.

Instructors can get a teaching note for this case by contacting the author at l.grasso@ccsu.edu.

Keywords: lean management, lean production, lean transformation, managerial communication, managerial reporting.

INTRODUCTION

On September 23rd, 1992, Art Byrne celebrated his first anniversary as President and Chief Executive Officer of The Wiremold Company (Wiremold, hereafter). He could look back on his first year with a certain amount of satisfaction. He could point to visible, dramatic process improvements Wiremold associates had achieved through the kaizen process. The potential for further improvement was enormous and the company had only begun to scratch the surface. Still, the visible gains were converting the associates into believers in the time-based competitive strategy and the lean business philosophy Art had initiated when took the helm. In addition, financial performance was on the upswing. There was a long road ahead, but The Wiremold Company was building momentum in the right direction.

Orest "Orry" Fiume, Vice President of Finance and Administration, was also pleased with the progress. He was concerned, however, about how some of the shareholders might react to the improved results. In 1991, Wiremold stopped a steady, four-year decline in profitability that left the company barely above breakeven in 1990. 1992 would mark their second year of profit improvement (see Exhibit 1, Appendix). Although Wiremold was a family-owned company, none of the family were currently involved in managing the day-to-day operations. Relying only on the financial statements, the shareholders might decide the time was ripe to sell the company, using the proceeds to diversify their investments in the rising stock market. Although Wiremold's financial performance was improving, Orry knew the financial results lagged the operational improvement that had already taken place. Art and Orry both felt that although the current financial statements showed a turnaround in profitability, they did not reflect the tremendous potential for Wiremold's growth and profitability if Art Byrne's strategy was fully implemented. Selling now, the family owners would be passing up the opportunity for tremendous gains over the next five to ten years. Wiremold's financial position was not strong enough to use a leveraged buyout, and there was no guarantee new ownership would keep the current management team and allow Art Byrne and his team to implement their strategy. Wiremold's employees would miss out on the career opportunities that would be afforded if Art Byrne's strategy succeeded.

How could Art Byrne, Orry Fiume and their management team convince the family shareholders they would be much better off staying with Wiremold?

BACKGROUND

In 1919, the owners of Safety Armorite Company, a manufacturer of electrical conduit based in Pittsburgh, Pennsylvania, ran into financial difficulties. Daniel Hayes Murphy, whose father had founded a company that had merged with Safety Armorite, purchased the company, and moved it to Hartford, Connecticut (Smith, 2000). In 1929 the company, renamed The Wiremold Company, moved to a new facility in West Hartford, Connecticut (Smith, 2000). The company was run by Daniel H. Murphy, and later, by his sons John and Robert Murphy. The company grew steadily during the 1960's and 1970's. In 1979, Wiremold Company hired Warren Packard as President and CEO (Smith, 2000). For the first time in the sixty years since Daniel H. Murphy had purchased the company, Wiremold had a President and CEO who was not a member of the Murphy family. John and Robert Murphy continued to be on the Board of Directors, but after 1979, no members of the Murphy family were involved in the day-to-day management of Wiremold (Emiliani et al., 2007).

Under Warren Packard's leadership, Wiremold's sales and profits continued to grow in the early 1980's (Emiliani et al., 2007). Sales growth stalled after 1987. As the market for their core product, wire raceway, matured, Wiremold turned to acquisitions for growth, diversifying its product line (Emiliani et al, 2007). However, the diverse product line was turning into a liability. Wiremold traditional production system relied on large amounts inventory, and they held large quantities of finished goods to support sales. As product lines and sales expanded, inventories grew, and customer service levels declined. Wiremold was unable to respond to changes in the marketplace led by more flexible competitors.

Wiremold's management tried to adopt total quality management and Just-in-Time (JIT) production to become more agile and efficient. Unfortunately, nobody at Wiremold had any experience implementing JIT production (Emiliani et al. 2007). As Wiremold reduced inventory, they encountered production and delivery problems they could not solve. On-time deliveries and customer service fell. In 1990, fearing loss of customers and market share, Wiremold's management abandoned their initial attempt at JIT (Emiliani et al. 2007). They rebuilt inventories to improve customer service. Despite their failed attempt, Wiremold's senior managers continued to believe that JIT production would improve Wiremold's performance if only they could implement it successfully.

When Warren Packard announced his retirement in February 1991, the company began a search for a new President. Convinced that JIT would be critical to their future, the search committee looked for a candidate with experience successfully implementing the Just-in-Time production method. Art Byrne was the candidate that satisfied that criterion.

Art Byrne was one of two Group Executives of the Danaher Corporation. He was responsible for the day-to-day operations for eight of Danaher's thirteen business units. Over the previous six years, Art had helped lead the systematic conversion of all thirteen of Danaher's businesses units to lean business practices, including JIT (Emiliani et al. 2007). Wiremold's search committee offered Art Byrne the position. He accepted their offer, and on September 23, 1991, Art Byrne became President and CEO of Wiremold (Emiliani et al. 2007).

As Art Byrne began his tenure, Wiremold had 1,000 employees at five plants (four in the U.S., and one in Canada) and three warehouses (all in the U.S.). They manufactured over 1,400 wire management and power conditioning products, and projected sales for the 1991 calendar year would be approximately $100 million.

An overview of the overall wire management market is presented in Exhibit 2 (Appendix). Despite the large number of products they carried, Wiremold served a fairly narrow range of the overall market. In addition, their dominant market positions were in the slowest growing market segments. Wiremold was primarily supplying steel products through electrical distributors to serve power needs in commercial and industrial building renovation. The growth area of the wire management market was plastic products for data and telecommunications applications. For example, Wiremold had a 46% share of the market for single compartment raceway, largely because it had a 93% share of the market for single compartment steel raceway! The overall demand for single compartment raceway was growing by 10% per year, but the demand for single compartment steel raceway was only growing by 1% per year.

Wiremold Company was taking 2-3 years to design a new product and bring it to market (Emiliani et al. 2007). They had a particular tendency to overanalyze products outside their traditional focus. As a result, their rate of new product introduction was very low, especially for products serving areas outside their traditional focus.

ART BYRNE'S STRATEGY FOR THE WIREMOLD COMPANY

Art Byrne's first exposure to the Toyota Production System (later known more generally as "Lean Production," hereafter referred to as "lean"), the overall management system that included JIT, was in the early 1980's when he was general manager of General Electric's High Intensity and Quartz Lamp Division. He implemented a kanban system between his division and a supplying division within GE and was very impressed with the results (Emiliani et al. 2007). Inventory levels were greatly reduced, but this did not lead to production and delivery delays. Instead, quality, reliability, efficiency, and throughput times were all significantly improved.

At Danaher, Art Byrne was in a position to spearhead the adoption of lean business practices throughout the company. He was able to enlist the help of the Shingijutsu Consulting Company[1] in making the transition to Lean, persuading Shingijutsu to accept Danaher as their first U.S. client (Emiliani et al. 2007). Through his studies of the lean business philosophies and practices, his experience at GE, and his work with Shingijutsu and experiences at Danaher, Art Byrne realized that lean principles and practices could be applied to any business and any business process. Lean was not merely an inventory reduction system or a means to improve manufacturing operations. The same principles and tools could also be used to improve service and support functions. Art Byrne viewed lean business practices as having strategic implications for Wiremold. Lean was the means by which a company could execute a time-based competitive strategy (Emiliani et al. 2007). Art planned to adopt just such a strategy at Wiremold.

Early in 1992, Art Byrne presented the following strategic objectives to Wiremold's employees at an all-employee meeting and to the board of directors and shareholders at the annual meeting (Emiliani et al. 2007, p. 26).

- Strengthen existing operations.
- Profitably double the business over the next five years.
- Become one of the premiere time-based competitors in the USA with world class manufacturing and product development skills.

The three strategic objectives are interrelated. Wiremold Company could not become a premiere time-based competitor if it did not strengthen existing operations. Sales growth was the means of capitalizing on the time-based competitive advantage in product development and in getting new products to market. Art Byrne believed sales growth was also necessary for a successful lean implementation. Employees would not work to achieve continuous improvement if they believed the results would be layoffs. Sales growth would allow Wiremold to profitably re-deploy employees as efficiency increased.

Art Byrne presented a set of goals and performance measures related to the objective of strengthening business operations (Emiliani et al. 2003, p. 27).

- 100% customer service (as measured by on-time deliveries on an item-by-item basis).
- 50% annual reduction in defects.
- 20% annual increase in productivity (as measured by sales per employee).
- Annual inventory turnover equal to twenty times.
- Establish visual control and the 5C's.[2]

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[1] Shingijutsu was a consulting company created in 1987 by three Toyota engineer/managers who had played a major role in implementing and refining Taiichi Ohno's Toyota Production System (Emiliani et al. 2007).
[2] The 5C's are Wiremold's version of 5S, shorthand for the five components of workplace organization, a key component of the Toyota Production System (Dennis, 2015). The 5S's (in Japanese and English) along with their

By any standards, these goals were ambitious. Wiremold's 1990 on-time delivery rate was just over 60% and inventory was turning over less than four times annually. Art Byrne deliberately used stretch goals for three reasons. First, lean was a completely different way of thinking about and doing business. Art wanted it to be clear that the company could not reach its goals simply by working harder at business as usual. Second, lean was a journey of continuous improvement, not a destination. Achieving a challenging goal would mean setting a new, more challenging goal, not stopping and saying, "we've arrived" and working to maintain the status quo. Third, Art knew from prior experience that dramatic results could be achieved rather quickly if lean business practices were successfully implemented.

For sales growth, Art Byrne set equally challenging goals. Despite its recent troubles, Wiremold Company was still the market share leader in a mature product market. Most of the sales growth would have to be driven by new products internally generated and products acquired through selective acquisitions. Art Byrne set a goal of 3-6 months for new product development time, compared to the 2-3 years the company was taking at the beginning of 1991. In addition to increasing the speed at which new products were developed, Byrne felt that Wiremold needed a steady stream of new products, with new product rollouts occurring every calendar quarter.

PROGRESS DURING THE FIRST YEAR

Art Byrne began the transition to lean by reorganizing the company. Like most companies, Wiremold had a traditional hierarchical structure and a functional orientation (Exhibit 3, Appendix). The functional orientation extended to the factory floor, where machines and the employees who operated and serviced them were organized by machine function. The new organizational structure focused on product families (see Exhibit 4, Appendix). Leaders for each of the six product families led cross-functional teams responsible for the entire production process, purchasing, inventory management, quality, and customer service for all the products in their family.

The new structure also included a JIT Promotion Office to train employees in the *kaizen* improvement process, organize improvement events, and follow-up on previous improvement events. Kaizen is a Japanese term for continuous improvement, which in lean is part of daily work for all employees. Art Byrne also used the term to refer to an improvement event – an intense, structured processes, where a cross-functional team examines and documents an existing operation and designs, tests, and implements improvements in the operation. The *kaizen* team typically devotes three to five days to the event.[3] The kaizen team is expected to achieve dramatic improvement (examples of typical kaizen objectives are provided in Exhibit 5 (Appendix). By October 31, 1991, the new structure was in place, and Art Byrne himself led the first *kaizen* training session with team leaders and the President's staff team. The entire workforce would eventually complete the two-day *kaizen* training session.

At the same time, Art instituted the Kaizen News. The Kaizen News was essentially a letter from Art Byrne to all company associates written in newsletter format. He used the newsletter to report on the results achieved on the most recent *kaizens*, and to announce the focus

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Wiremold equivalents are: seiri, sort, categorize; seiton, straighten, clear; seiso, scrub, clean; seiketsu, systematize, consistent; shitsuke, self-discipline, continuous coaching and discipline (Emiliani et al. 2007, p. 34).

[3] Known as kaikak*u* in Japan, in the U.S. kaizen events are sometimes called breakthrough kaizens or kaizen blitzes to distinguish these concentrated efforts from daily continuous improvement activity.

of upcoming kaizens (Emiliani et al., 2007). Successes were celebrated, and Byrne explained how improvements on specific Kaizens were connected to achieving the company's goals and objectives. The Kaizen News was issued roughly every two to four weeks following its November 5, 1991 debut (Emiliani et al., 2007).

By the end of 1991, a few pilot kaizens had been conducted to begin the improvement process, and to provide employees with a visible demonstration of the process and the results that could be achieved.

Art Byrne was convinced that Wiremold had twice as many employees as it would need once lean business practices were in place, and he was worried that the company would not be able to grow sales fast enough to profitably employ the extra workers. In December 1991, Wiremold offered early retirement to both hourly and salaried employees with sufficient tenure. Many of the eligible hourly employees accepted the offer, but involuntary staff reductions were made on January 31, 1992 because too few salaried employees accepted the early retirement offer (Emiliani et al., 2007). Immediately following the staff reductions, the remaining employees were promised that no one would ever lose their job as a result of productivity improvements achieved through kaizen (Emiliani et al., 2007). With employment at levels that could be absorbed with increased sales and with the employment guarantee in effect, the kaizen process could proceed in earnest.

The Wiremold Company's production involved machine-intensive processes, with many products sharing the same machines. Reducing machine set-up times was critical for achieving one-piece flow. Almost two-thirds of the *kaizens* during the first year focused on reducing setup times. Sample setup time reductions Wiremold achieved in kaizens during Art Byrne's first year are presented in Exhibit 6 (Appendix).

However, lean business practices did not apply only to the factory floor. To fully realize the benefits of lean in executing a time-based competitive strategy, all business processes must be subject to a lean transformation through *kaizen*. In fact, the first *kaizen* Art Byrne led at The Wiremold Company focused on the order entry process. Sample results from support function *kaizens* are presented in Exhibit 7 (Appendix).

As a batch processor, Wiremold had scheduled production runs for most of its products only once every four to six weeks. As a result, Wiremold needed to hold large amounts of inventory to avoid stockouts of the products during the time between production runs. As machine setup times were greatly reduced, Wiremold could produce more products more frequently. They divided their products into three categories based on demand. High volume "A" products were produced in the amount demanded every day. Medium volume "B" products were produced in the amount demanded every other day. Low volume "C" products were produced every two to four weeks (Emiliani et al., 2007). Throughput times for most products were down to 1-3 days, and Wiremold could avoid stockouts while carrying only a few days worth of finished goods inventory for their higher volume category A and B products. Wiremold's goal was to enable every product to be considered a category A product.

Just one year into their lean transformation, Wiremold had impressive results. Over 70 kaizens had been completed, and over 60 percent of the associates had participated in at least one kaizen. When Art Byrne joined the company, Wiremold had been exploring the option of leasing an additional 100,000 square foot warehouse to store inventory. With lean, Wiremold, was not only able to cancel its plans to acquire more warehouse space, it freed up 40% of the total floor space in its main factory in West Hartford. Wiremold also freed up 50% of the floor space in its Philadelphia factory and 45% in its Chicago plant, eliminating the need for one entire building in

Chicago. Inventory turnover had increased from 3.8 to 6.5, and Wiremold's cash flow from operations increased as excess inventories were used or sold.[4] Wiremold was generating 10% more sales with 20% fewer employees than they were before Art Byrne became President, and profits were growing in absolute terms and as a percentage of sales.

The use of the Quality Function Deployment (QFD) process by the product teams was already improving performance on new product development. For example, the development of a new product family involving three wire raceways and 29 fittings had taken 7 months, compared with more than two years to develop a similar product in the past. In addition, the new product required only $200,000 in tooling cost, compared with more than $800,000 for tooling costs on similar products in the past.

Wiremold Company had 41 new products in development scheduled for rollout during 1993 and 1994, with at least three new product introductions scheduled for each quarter. In total, the market potential for the new products was estimated to be $40-$96 million dollars.

THE NEED FOR SHAREHOLDER COMMITMENT

In 1992, The Wiremold Company was a privately held corporation. Some stock was held in trust for the benefit of the employees under the company's 401K plan, but members of the Murphy family held the vast majority of the stock. In the early 1970s, the largest shareholders were Daniel H Murphy's five children, John, Robert, and their three sisters. John and Robert were planning for their retirement. They and their sisters had seen too many family-owned businesses fail because later generation family members lacked the inclination or the talent to ensure the continued prosperity and growth of the business. The family decided that John and Robert would be the last family members to manage the company. Professional managers would be hired to run the company after they retired. As a result, no family members had been active in management since John and Robert retired in 1979. In September 1992, there were over 100 family shareholders of Wiremold. John, Robert, and their two surviving sisters remained the largest shareholders.

Orry Fiume felt that The Wiremold Company needed continued commitment from the family shareholders in to fully realize the company's goals. He shared his concerns with Art Byrne:

> John and Bob and their sisters look upon their Wiremold stock kind of as a family heirloom. The next generation, their children, are now in their 40s and 50s. They have some affinity towards the company, but they don't have that same connection, they don't look at The Wiremold Company as a family heirloom. For the generations after that, The Wiremold Company is purely an investment. So, we have a growing population of shareholders who have a piece of paper that, except for Wiremold's willingness to buy stock back when people need to sell it, is illiquid. There is no market for it. There's an increasing chance that the younger generation shareholders will want to cash out and invest in assets with more liquidity.
>
> Whenever somebody wants to sell some shares to send a kid to college or buy a summer home or something like that, Wiremold has always stood ready to buy back their stock. We've also promised that if John, Bob or their sisters die,

[4] The Wiremold Company measured inventory turns using 12 month rolling average first-in, first out (FIFO) inventory values.

> and all are now in their eighties, we would be willing to buy back enough of their stock holding of Wiremold to pay the estate taxes on the stock, and the remaining stock will be in the hands of family members with less of a commitment to The Wiremold Company.

Art Byrne's strategy involved selective acquisitions as well as internal growth. The Wiremold Company needed to continue its trend of growing profits before they would be able to obtain financing for a significant acquisition. If the company had to buy out a significant portion of the family shareholder interests, they would be unable to pursue their acquisition strategy. If the family put the entire company up for sale, the management team might lose control of the company, and a leveraged buyout by Byrne and his management team, even if successful, would not leave them with capital to pursue strategic acquisitions.

John and Robert Murphy remained on the board of directors and understood the lean transformation under way at Wiremold. Some other family members who resided in Connecticut learned about the lean transformation at the annual shareholders' meeting. However, many other family members had moved to the mid-west and to the west coast, and they had very little awareness or understanding of the changes taking place. Orry felt that management had an obligation to inform the geographically distant family shareholders of the changes taking place at Wiremold.

From a management perspective, it was also important to convince these shareholders that their interest in Wiremold was a solid investment for the long-term. If these family members were not convinced of the benefits of holding their Wiremold stock, there would almost certainly be increased pressure in the next few years to sell the entire company or have Wiremold Company buy back a substantial portion of its stock to allow the investors to diversify their portfolios.

Orry and Art had to find a way to explain the changes taking place at Wiremold to the distant family shareholders and convince them it would be in their best interest over the long-term to keep their investment in The Wiremold Company.

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APPENDIX

Exhibit 1. Wiremold Financial Performance

	1987	1988	1989	1990	1991
Operating profit margin	17.4%	8.7%	3.4%	3.2%	5.0%

The Wiremold Company Comparative Income Statement for the calendar year	Projected* 1992	Actual* 1991	Actual* 1990
Net sales	$108,000	$100,000	$95,000
Cost of goods sold	68,000	63,000	59,000
Gross profit on sales	40,000	37,000	36,000
Selling & administrative costs	31,000	32,000	33,000
Operating income	9,000	5,000	3,000
Interest and taxes	4,000	3,000	2,000
Net Income	$5,000	$2,000	$1,000

The Wiremold Company Comparative Balance Sheet December 31	Projected* 1992	Actual* 1991	Actual* 1990
Assets			
Cash	$19,000	$14,000	$7,000
Accounts receivable	10,000	10,000	12,000
Inventories	5,000	7,500	10,000
Total current assets	34,000	31,500	29,000
Property, plant & equipment, net	24,000	24,000	25,000
Other assets	3,000	3,000	4,000
Total assets	$61,000	$58,500	$58,000
Liabilities and equity			
Accounts payable	$6,000	$4,000	$10,000
Other current liabilities	2,000	3,500	1,000
Total current liabilities	8,000	7,500	11,000
Long term debt	15,000	17,000	12,000
Stockholders' equity	38,000	34,000	35,000
Total liabilities and equity	$61,000	$58,500	$58,000

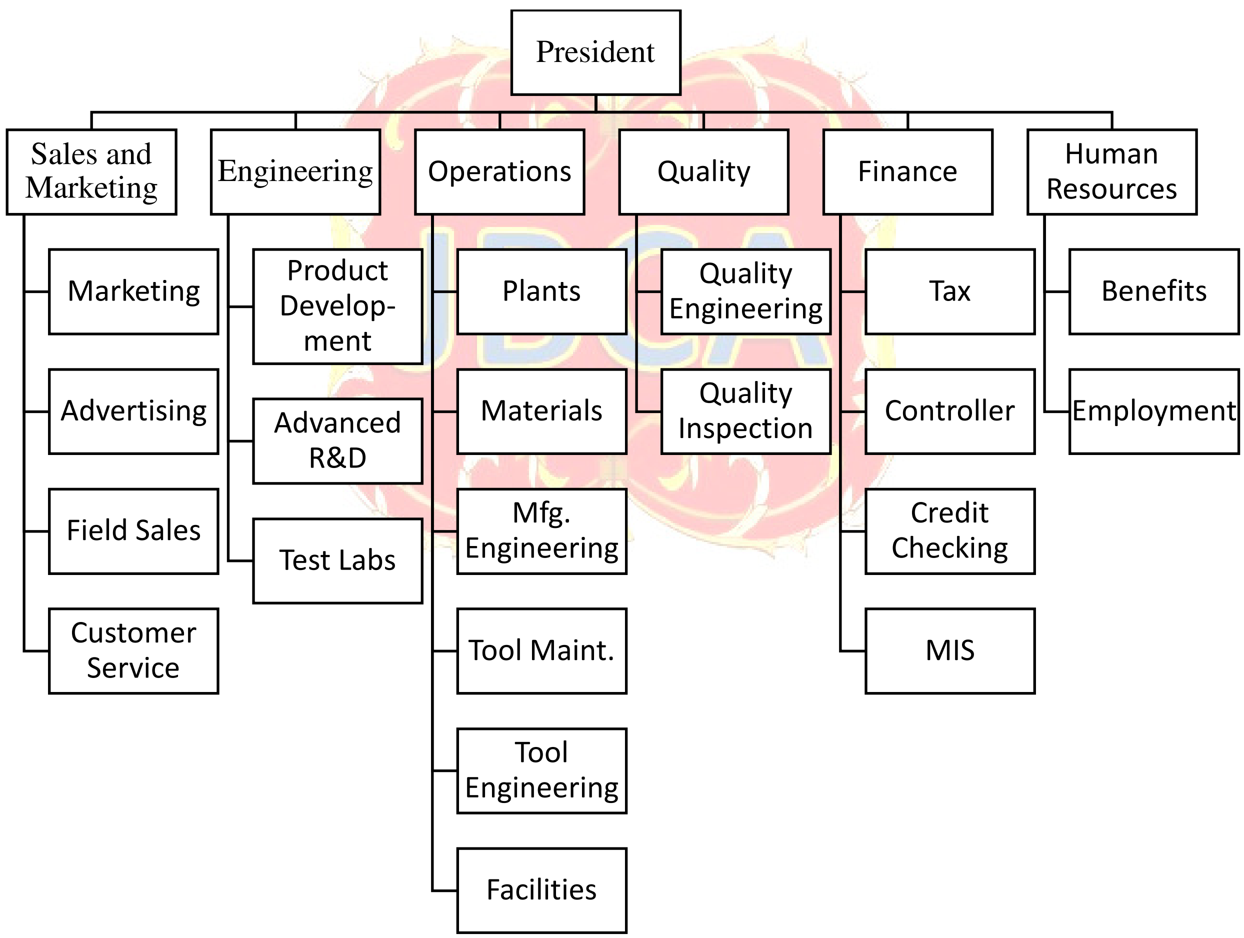
* The statements have been altered from the actual amounts at the request of The Wiremold Company, but the trends depicted reflect the financial performance as it actually occurred. Numbers are in thousands of dollars. Source: Company records.

Exhibit 2. Overall wire management market overview.

Markets	Industrial and Commercial			Residential	
Type of construction	Renovation			New Construction	
Wiring needs	Power	Video	Telecommunications	Data (Computer networks)	
Type of material	Steel	Plastic			Aluminum
Distribution channel	Electrical	Catalog	Telecommunications	Electronics	Home Centers

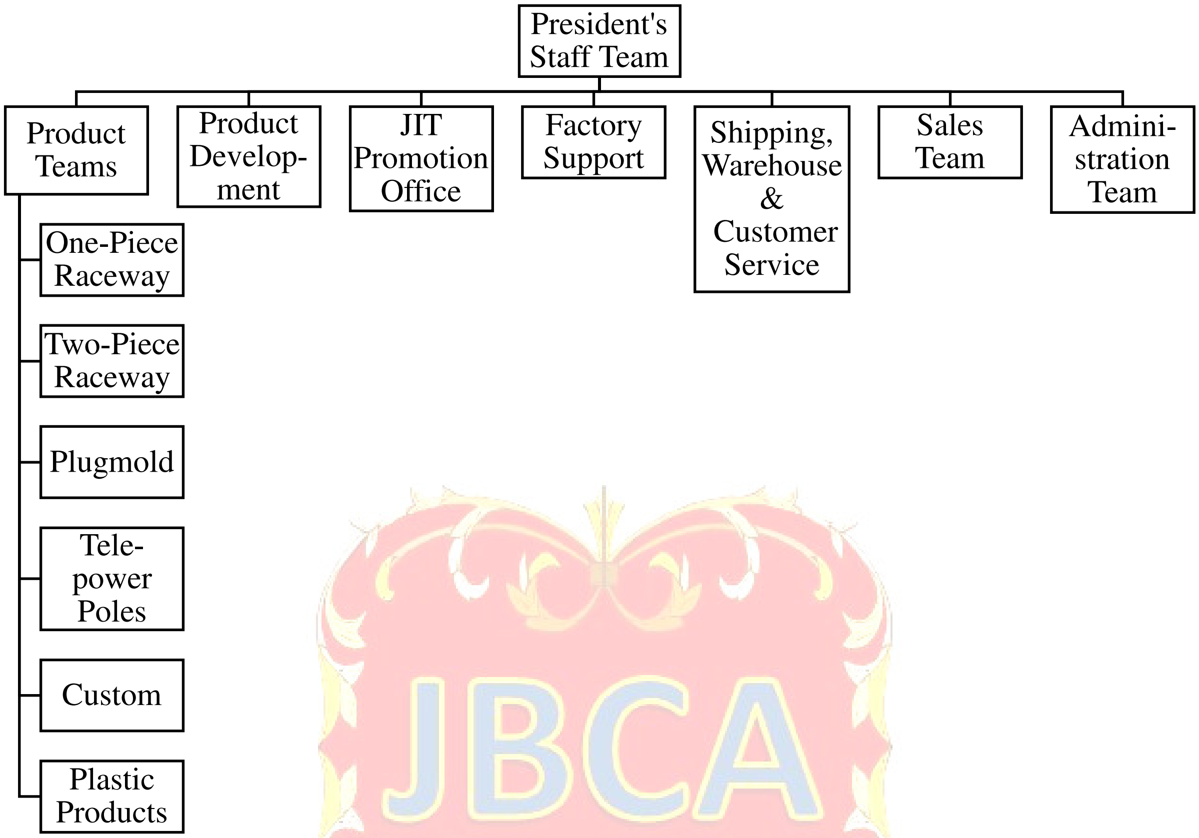
Gray shading shows the market segments primarily served by Wiremold. Source: Company records)

Exhibit 3. Old Wiremold Organization



Source: Womack & Jones, 1996, p. 132.

Exhibit 4. New Wiremold Organization



Source: Womack & Jones, 1996, p. 133 and company records.

Exhibit 5. Typical Kaizen Objectives at Wiremold.

1. For an assembly operation
   - Reduce staffing from 5 to 2 people
   - Reduce space occupied by 60%
   - Reduce inventory by 90%
   - Cut defects by 70%
   - Establish visual control
2. For a setup reduction
   - Reduce setup time by 90%
   - Reduce space occupied by 40%
   - Build die and storage handling system
   - Establish visual control and kanban system

Source: Interviews with company management.

Exhibit 6. Machine Setup Time (in minutes), Before and After Kaizen

Machine	Time Before Kaizen	Time After Kaizen	Percentage Reduction
2 1/2" Extruder	180	19	89%
150 Ton Press	90	5	94%
Hole Cut on Mill 1228	64	5	92%
Injection Molder	120	15	88%
P.M. Punch Press	52	5	90%
Rolling Mill	720	34	95%

Source: Emiliani et al., 2007, p. 54 and company records.

Exhibit 7. Some Results of Kaizens on Support Processes

Accounts Payable Processing

- Conversion from batch processing to one-piece flow.
- Staffing reduced by 50%.
- Most invoices processed within 24 hours of receipt.
- Backlog down 64% despite 32% greater invoice volume.

Accounting

- Month-end financial closing time reduced by 25%.

Mailing

- Staff reduced from 4 to 2.
- Space occupied reduced from 5,220 square feet to 837 square feet.
- Time spent filling supply orders reduced 66%.
- Time spent on UPS shipping reduced 42%.
- Added internal mail delivery service.

Source: Emiliani et al., 2007, p. 54-55 and company records.