

After founding Sigma Motion and overseeing its growth for the past 25 years, Ron Burton was planning to pass the reins over to his two sons, Bob and Michael. Sigma Motion was well positioned in the market and on its way to planning for family-business succession; the company had a board of advisors, a strategic plan, and next-generation members who had been active in the management of the business. The question in everyone's mind was, "When will the torch be passed, and how?" Ron Burton was now 70, and both sons were in their 30s. The youngest, Michael, wrote this letter to the CEO soon after returning from a European sales trip.

*March 30, 2001*

*Mr. Ron Burton, CEO/Chairman*

*Sigma Motion, Inc.*

*4950 E. 49th St.*

*Pittsburgh, PA 15201*

*Dear Ron,*

*It saddens me to be writing you this letter because my love for this business grew out of our shared excitement and vision for Sigma. Without getting into great detail, I feel that it would be in the best interest of the business for me to redirect my efforts elsewhere. At points over the past several months I considered the possibility of staying and fighting for the leadership position of the company, but I have now realized that a battle of that sort would do more damage than just simply leaving the company.*

*My commitments to customers, reps, trade shows, and training extend through May 24. The scheduled travel with reps will be completed May 8. My experience with John, whom I recommend as my replacement, tells me that he will rise to this occasion and will carry the Sigma Motion flag proudly. He will certainly need your support as he works with manufacturing.*

*I have not talked about my plans to leave the business with anyone. I will let you choose the appropriate time to share the news. While I realize that this will certainly disrupt the operation internally and throughout the market, it is my feeling that my departure at this time rather than years from now will minimize the effects. Please let me know what I can do to ensure that this is a smooth transition. I expect that you will not share this letter with anyone.*

*Sincerely,*

*Michael Burton*

*Vice President, Sales & Marketing*

Research associates Charlie Braun, Jeff Chaney, Chris Hetz, and Todd Silverman assisted in the preparation of this case, under the supervision of Professor Ernesto Poza, to provide a basis for class discussion rather than to illustrate either effective or ineffective handling of a family-business situation. Note that while the case is factually and historically accurate, the names have been changed to protect the privacy of the family. For permission to publish this case, grateful acknowledgment is made to the chairman of the company.

## THE EARLY YEARS

Ron Burton became interested in sales and distribution while growing up, watching his father run a wholesale automotive parts distributorship. After high school, he attended college and then returned to Pittsburgh to work at an auto dealership. His hopes were to someday run his own business, as his father did. Ron spent 2 years at that dealership. He left when he realized that there was little chance of buying out the current owner. His next stop was his father's business, which he felt could be expanded significantly. When his father refused to agree to his growth plans, Ron, with his father's encouragement, became a manufacturing representative. He decided this was not a bad way to get closer to his dream of someday working for himself.

For the next 10 years, he represented a variety of product lines for several industrial products manufacturers. At the time he started his business, he had little money, a strong work ethic, a great deal of credit, and a lot of ideas. By 1967, Ron Burton was one of the top salespeople in the country for Erie Products Corporation.

Two years later, Erie Products was sold, and Ron founded The Screw Supply Company, a distributorship for Erie Products. He soon realized that he could add more value by getting into the final stages of manufacturing. In 1970, he added "end machining" capabilities to his company.

His close relationship with Erie Products enabled Ron and his organization to acquire expertise in the field of linear motion, which is responsible for producing movement along one dimension. Products that accomplish such motion include conveyor belts and "screws," which are actually rods with threads that fix the dimension of the movement and a nut that travels back and forth along the threaded rod; Ron focused on the screw technology.

In 1975, he decided to expand product offerings into Acme screws. Adopting a new company name, Sigma Motion, Inc., he trademarked product names and began to add manufacturing capabilities. In 1978, a new division was established to tap the jack/worm gear screw market. Jacks produce vertical movement, lifting or lowering platforms.

The company continued to grow throughout the late 1970s and early 1980s, with Ron at the helm. Sales came from a wide variety of sources, but the focus was always on precision motion and superior engineering. In 1982, the company secured orders from television networks for satellite dish actuators—the first of a number of television network contracts. When "the best" was needed, Ron wanted customers to know that Sigma Motion was the answer.

Throughout the 1980s, Sigma Motion continued to expand its product line. Gradually, previously contracted operations were brought in-house in order to ensure quality and to respond more quickly to customer needs for prototypes and quick delivery.

By 1987, the company had 55 employees and two physical locations. Over the next 10 years, great change took place in the organization. Bob Burton, Ron's eldest son, joined the company in 1989 and began work at the gear division in the manufacturing department. That same year, the company opened another manufacturing facility. In 1994, the company again expanded, opening a West Coast manufacturing facility.

This growth came at a price, and by 1994 the company was in serious financial trouble. The gear company acquisition never generated the synergies that Ron had hoped for, and the debt assumed for the acquisition of expensive gear-grinding

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By 1997, the company had a 120,000-square-foot facility that Michael, Ron and The movement to central Bob, who was operating manufacturing and operations who were running the company were replaced internally

To help propel Sigma professional top-management advisory board.

## PRODUCT L

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Each of the products emphasis on quality and hydraulic and/or pneumatic systems. In general, the solutions is that the drive multiple screws much more

Sigma Motion produced and communications in innumerable types of markets four product lines follow

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*Ball screws:* Ball screw the screw and the advantages of this type exponentially less friction typical application for

*Jacks/worm gear screws:* Sigma Motion is a jack. Rotates through an interlocking "worm gear" (Figure airport jetways, and the bottom of the customer designed jacks on the product, something

equipment became a serious burden to the company. An old friend agreed to invest in the company and helped save the business.

By 1997, the company was back on its feet again and had consolidated operations in a 120,000-square-foot facility located in Pittsburgh, Pennsylvania. This was also the year that Michael, Ron's younger son, joined the company in the sales department. The movement to centralize brought with it a change in the organizational structure. Bob, who was operations manager at the gear division, became vice president of manufacturing and operations for all of Sigma Motion, Inc. The two plant managers who were running the Acme and Ball screw facilities both left the organization and were replaced internally by promoting group managers.

To help propel Sigma Motion into the 21st century, Ron Burton put together a professional top-management team, developed a strategic plan, and launched an advisory board.

## PRODUCT LINES

Sigma Motion produced four distinct product lines, all based on linear motion. The company's focus turned to expanding these existing product lines and increasing sales within each, as opposed to developing entirely new products. One of the initiatives was to develop metric versions of existing product lines, thereby opening up the large European and Asian markets.

Each of the products was positioned at the high end of the segment, with heavy emphasis on quality and precision. The company's products competed primarily with hydraulic and/or pneumatic systems, as well as other manufacturers' screw-based systems. In general, the advantage of a screw system over hydraulic or pneumatic solutions is that the drive motor can be much smaller, and one motor can drive multiple screws much more easily.

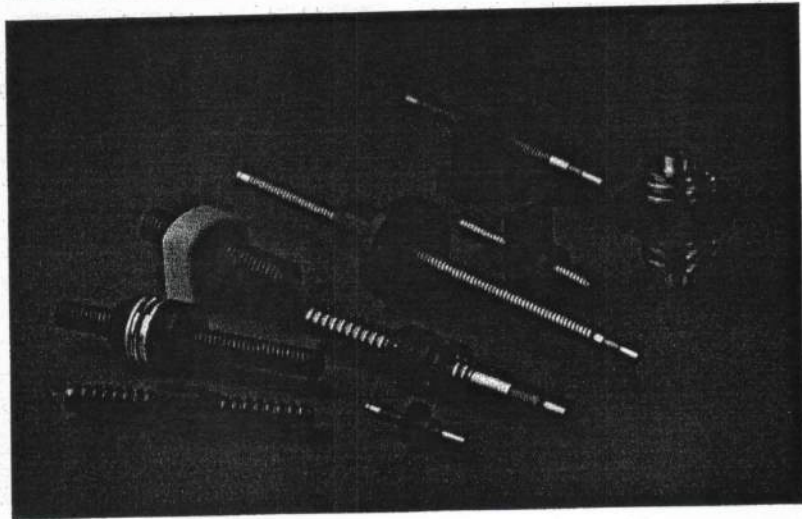
Sigma Motion products were used by the medical, airline, timber, transportation, and communications industries. They also constituted component parts for innumerable types of manufacturing and machine-tool equipment. Descriptions of its four product lines follow.

*Acme screws:* Acme screws are very similar to the nuts and bolts available in hardware stores. Sigma Motion focused on applications in which very precise positioning is required, such as in the device that adjusts an electric car seat (Figure F).

*Ball screws:* Ball screws differ from Acme screws in both the shape of the groove in the screw and the fact that the nut rides on ball bearings (Figure G). The advantages of this type of screw over Acme screws are a much longer life and exponentially less friction and heat (i.e., less energy loss and heat distortion). A typical application for a ball screw would be in the wing flaps of an airplane.

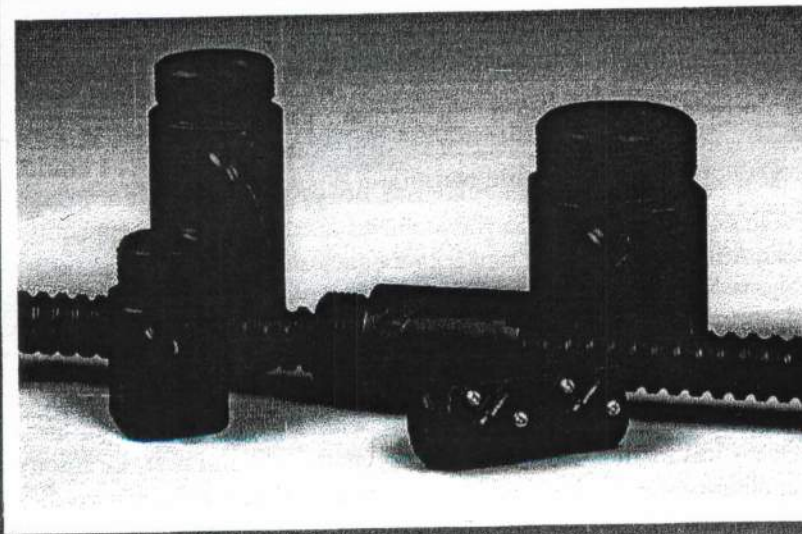
*Jacks/worm gear screws:* These days, the most promising product line at Sigma Motion is a jack. Rotational motion from a drive motor is translated 90 degrees through an interlocking gear to a rotating screw; the translation gear is called "worm gear" (Figure H). Uses for this unique jack design include leveling tables, airport jetways, and raising Billy Joel and his band out of a pit and up through the bottom of the custom-made concert stage. Sigma Motion has one of the best-designed jacks on the market and has introduced a 5-year guarantee on the product, something that had been unheard of in the industry.

Figure F Acme Screws



Courtesy of Chris Nook

Figure G Ball Screws



Courtesy of Chris Nook

*Linear bearings and shafting:* The closest thing that Sigma Motion had to a commodity product was their line of linear bearings and shafting, which are cylindrical rods of steel on which sleeves full of ball bearings move back and forth (Figure I).

Figure H Ball Screw

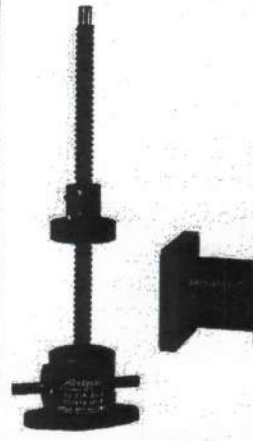


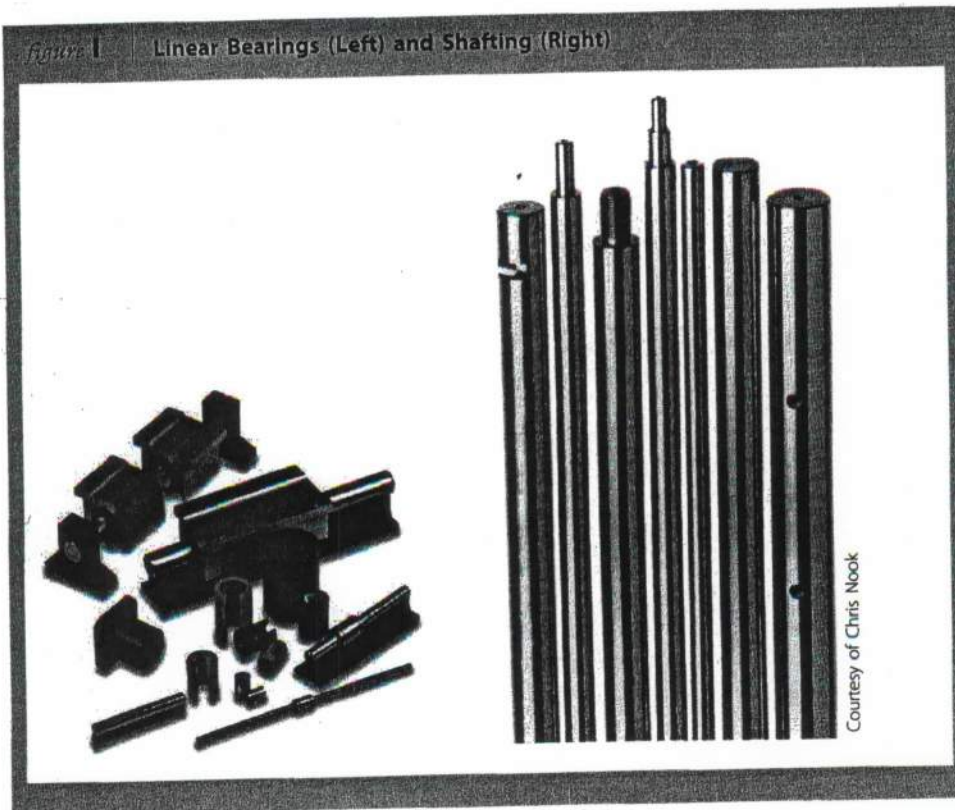
Figure I Linear Bear



Figure H Ball Screw Jack (Left) and Machine Screw Jack (Right)



Figure I Linear Bearings (Left) and Shafting (Right)



## MANUFACTURING

Sigma Motion's mission statement is as follows:

*Sigma Motion's mission is to be an innovative and responsive organization whose linear motion products are engineered, manufactured, and delivered to meet or exceed our customers' specifications and expectations.*

Manufacturing was central to the success of Sigma Motion. Since the company's reputation was built on quality and precision, the company had taken the road of continuously upgrading its manufacturing equipment and demanding more and more from its suppliers.

Sigma Motion bought raw steel, bearings, and roughly cast housings and worm gears for jacks. Then the company took over the process and did everything from engineering components and complete systems to machining the dies necessary to form grooves in the bar and using computer-aided machines to finish the housings and gears. Sigma Motion controlled anywhere from 70 to 90 percent of the manufacturing process, more than any of its competitors. Although this resulted in significant overhead costs, the company felt that the advantages in quality control and turnaround time were worth the price. Sigma Motion could provide a customer a prototype product within 2 weeks of the request, a feat unmatched by any of its competitors.

One particular technology that set Sigma apart from some of its competitors was its expertise in "rolling," or cold-forming, grooves onto a bar to make the screws. In cold-forming, the rolling dies (cylindrical shapes about 16 inches in diameter with the mirror groove cut in them) actually displace the steel through brute force from the round rod shape into a grooved screw. The result is a very strong, very precise grooved rod with minimal waste—in one pass through the equipment. The machinery required to do this is very specialized, and Sigma Motion owns the largest rolling machine in the world, which can roll bars up to 15 inches in diameter.

Sigma Motion had also been improving its internal documentation for processes and procedures. Some customers had requested that Sigma Motion become ISO 9001-certified, so the company began work on certification in 1998.

## SALES AND DISTRIBUTION

Sigma Motion sold through six in-house sales representatives. They were employees of Sigma Motion and serviced corporate accounts with which they had developed relationships over time. They sold Sigma Motion's products in addition to other related manufactured goods.

Michael, who was vice president of sales, wanted to gradually move away from the manufacturer-representative channel because of customers' perceptions that these reps add a questionable amount of value to Sigma's products. Still, some of the manufacturer reps derived 25 percent of their total commissions from Sigma. Sigma Motion also solicited direct sales from manufacturers that needed linear-motion solutions. This was a growing part of the business and included customers such as the U.S. government and some automotive component suppliers.

Sigma Motion also worked with a number of large manufacturing distributors. Although most products were highly customized, there were a few standard products in the lineup. The company had both a paper and an Internet catalog.

When Michael joined few of the competitors' Sigma's, the competitors design weaknesses. It too difference; ultimately, the quarter of 1999, most co

## CORE COMPETITIVE ADVANTAGES

Sigma Motion's core components and linear-motion solutions in which straight-line several key competitive a

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- 2. Customization:** Sig processes required to size, the vertical in product quickly to
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- 6. Management team:** that was extremely c thinking was found i and the company's I

## FINANCE

Financially speaking, Sigma 30 years, it nearly went out At the time of this writing,

When Michael joined the company in 1997, one of the first things he did was buy a few of the competitors' jacks and have the engineers take them apart. Compared to Sigma's, the competitors' products used inferior materials across the board and also had design weaknesses. It took some time to come up with a way to exploit this favorable difference; ultimately, the company began drafting a 5-year guarantee. In the fourth quarter of 1999, most company advertising was focused on the 5-year guarantee.

## CORE COMPETENCY AND COMPETITIVE ADVANTAGES

Sigma Motion's core competency was designing and manufacturing linear-motion components and linear-motion systems, which were used in a wide range of applications in which straight-line, controlled movement was required. Sigma Motion had several key competitive advantages that allowed it to excel in its core business:

1. **Small size:** The fact that Sigma Motion was a small company (approximately \$20 million in annual revenues) gave it the ability to rapidly adjust to changing market conditions and changing customer needs. Its primary competitor was a company with over \$100 million in annual revenues.
2. **Customization:** Sigma Motion was unique in that it controlled 90 percent of the processes required to bring its products to market. In conjunction with its small size, the vertical integration gave Sigma the ability to customize or change a product quickly to meet a customer's need.
3. **Strong applications-engineering team:** Sigma Motion's strong engineering team gave it a competitive advantage in two areas: (1) It helped the company accomplish its mission of introducing new and innovative products in the linear-motion marketplace. (2) It gave Sigma the ability to answer tough technical questions much more quickly than the competition could, and this translated into increased sales.
4. **High quality:** Sigma Motion was perceived by its customers as the "Rolls Royce" of linear-motion products. The company's products consistently outlasted those of the competition. The company offered a 5-year warranty on some of its products because of this competitive advantage.
5. **Depth of product line:** Sigma Motion had a product portfolio that covered all linear-motion products and most sizes. Many of its competitors could compete only in the small sizes or the large sizes, while Sigma Motion owned equipment that allowed it to manufacture both, giving Sigma an advantage when taking on complicated and integrated products.
6. **Management team:** Ron Burton had put in place a senior-management team that was extremely competent and forward-thinking. Evidence of this forward-thinking was found in the financial control systems that had been implemented and the company's Internet strategy.

## FINANCE

Financially speaking, Sigma Motion had its share of ups and downs. Over the course of 30 years, it nearly went out of business entirely because of the lack of financial controls. At the time of this writing, Sigma Motion, a C corporation, has about \$20 million in

annual revenues and enjoys a healthy net profit margin after tax. As a manufacturing company with approximately 10,000 products, Sigma Motion has invested heavily in assets, including equipment, inventory, and accounts receivable.

"Flash Reports" send red flags concerning overtime, waste/scrap, and other month-to-date numbers to help management keep its finger on the pulse of the operation. Other reports on daily shipments and orders are posted in the employee lunchroom for all to see.

The following financial goals were part of the company's strategic plan:

1. Achieve 10 percent growth in volume each year for the next 5 years.
2. Install an electronic labor-collecting barcode system. This will save time running payroll for 160 employees and will provide valuable management information by allocating each employee's time by job function every day.
3. Implement a shop-floor reporting system that will tie into an Enterprise Resource Planning (ERP) program accounting for all costs, direct and indirect, and measure variances against standards in time, setup, overhead, efficiency, scrap, etc.
4. Develop product-line-specific income statements, using activity-based costing.
5. Become debt-free. Ron Burton wanted to turn the company over to his sons with zero debt.

Ron Burton wanted to make sure that the business was endowed with the capacity to continue to grow and succeed, regardless of the decisions his two sons would ultimately make about running the business. Both Bob and Michael were well known by the advisory board members and were considered capable successors, even though they were both still growing into leadership positions.

## FAMILY, OWNERSHIP, AND MANAGEMENT

### FAMILY

The Burton family consists of Ron Burton, age 70; his wife, Mary; Bob, age 34; and Michael, age 32. The Burtons all live in the Pittsburgh area. Family gatherings are fairly regular for holidays, birthdays, and family weddings. In addition to the more formal events, they see each other informally at least once a month.

Mary married Ron in 1966, and shortly afterward she married Sigma Motion. Mary said, "Sigma Motion is Ron's baby, life, and livelihood, all in one. I don't think he'll ever retire completely."

On the whole, communication was good between family members, although the spouses were generally spared conversations regarding the business. Even during Sigma Motion's darkest hour several years ago, Ron did not tell outside family members about the financial problems. However, one spouse recently complained, "I wish I knew what my husband does all day and what kinds of problems or issues the business is facing."

In the absence of formal family meetings to discuss the business, everyone seemed to confide in Mary. Ron would discuss issues regarding their sons, and each son or daughter-in-law confided in Mary when sibling rivalry reared its head at the office.

Mary's job as a mediator was more than happy

### OWNERSHIP

Ron Burton had lived as a civic leader. His career was not like other CEOs to serve the community, family, and the company. Ron began with Sigma Motion. Ron began with Sigma Motion and chartered with other issues of the company. Ron's issues of his children over the years led to him.

### MANAGEMENT

From the Burton family, Ron was the CEO and Michael was the vice president. Michael was in functional areas on payroll for the company. Michael was in other areas at times. Mary was in between the two siblings.

In addition to the family managers, there were nonfamily managers, including a financial officer; Jim C.

The nonfamily managers were all business. June was all business. Mr. Burton and the family managers talked about the business simply because the owners were more and more of the decision maker on some management team. Ron's absence.

The outside manager Goldberg left the *Fortune* everyday work life." Jim's organization as opposed to Sigma Motion strongly about the close relationship by Sigma Motion. Employees when a task was outside Sigma Motion's competitive compensation goals to retain such managers.

Bob, the eldest son, knew how to operate the business. Bob's job relating to the employees was Bob's lack of engineering.



Mary's job as a mediator, listener, and sounding board was an informal one, and she was more than happy to play this role.

## OWNERSHIP

Ron Burton had lived in the Pittsburgh area for a long time and was a well-known civic leader. His connections outside the linear-motion industry enabled him to tap other CEOs to serve on the company's advisory board. This commitment to community, family, and friends was obvious to all and influenced the culture at Sigma Motion. Ron began working on his advisory board in 1998. The board was launched and chartered with overseeing the financial, strategic, and management succession issues of the company. He had gifted a large number of nonvoting shares to each of his children over the years; the rest of the nonvoting and all voting stock belonged to him.

## MANAGEMENT

From the Burton family, only Ron, Bob, and Michael were involved in the business. Ron was the CEO and chairman, Bob was the vice president of operations, and Michael was the vice president of sales. Ron had placed the two sons in separate functional areas on purpose, to best use their unique skills in ways that added value to the company. Michael and Bob generally worked well together, but each frustrated the other at times. Mary was often called on to facilitate and to mediate the differences between the two siblings.

In addition to the family members in management, there were a number of key nonfamily managers, including Chuck Briscoe, president; June Goldberg, chief financial officer; Jim Collins, marketing manager; and Ron Bates, chief engineer.

The nonfamily managers' perspective was that Sigma Motion was one company that was all business. June Goldberg said, "Even though Sigma Motion is a small family business, Mr. Burton runs it as if it were a large corporation." But other nonfamily managers talked about the Burtons owning the place: "Sometimes things are done simply because the owners said so." Last year, though, Ron Burton started to delegate more and more of the responsibility to his management team. While still the ultimate decision maker on some things, he passed day-to-day decision-making authority to his management team. Rarely did he overturn top-management decisions made in his absence.

The outside managers were at Sigma Motion because they wanted to be. June Goldberg left the *Fortune* 500 culture because she "wanted something different in her everyday work life." Jim Collins said, "I wanted to make a difference in a smaller organization as opposed to being a cog in the wheel of a larger organization." They felt strongly about the close-knit family culture. They also preferred the flexibility afforded by Sigma Motion. Employees at all levels were willing to offer their assistance, even when a task was outside their area of responsibility. It was this culture, and the competitive compensation given to nonfamily managers, that had enabled Sigma Motion to retain such managers.

Bob, the eldest son, had 8 years of experience on the operations side of things. He knew how to operate every piece of equipment in the company and did an excellent job relating to the employees. However, key managers had some concerns regarding Bob's lack of engineering education and outside experience. Nonfamily managers

figure J

## Top-Management Team at Sigma Motion

Ron Burton, CEO  
 Chuck Briscoe, President  
 Bob Burton, Vice President of Operations  
 June Goldberg, Chief Financial Officer  
 Jim Collins, Marketing Manager  
 Ron Bates, Chief Engineer  
 Michael Burton, Vice President of Sales  
 Tom Hubler, Quality Control Manager

thought it would be very helpful for Bob to have an engineering degree or a technical background—some considered it necessary. Bob had shown both maturity and business acumen in the past. In January 1999, Ron Burton offered Bob the job of president, with Briscoe remaining as a senior consultant. Bob calmly declined the offer, stating that he did not think that he was ready, nor did he think the company could afford to hire another top-level manager to replace him as vice president of operations.

Michael had no more formal technical training than Bob did. And he had not spent time on the manufacturing floor as his brother had. Michael did receive his MBA from Case Western Reserve University and had worked outside the family business for 3 years. He had had investment banking and asset-based lending positions with an important regional commercial bank. When he joined the business at a high level—vice president of sales—many in management, including his brother Bob, had difficulty accepting him initially. Over time, he seemed to have garnered much respect.

The company did use titles (see Figure J), but Ron Burton did not care much about formal organizational charts or exact job descriptions; he had always focused on getting results. As long as goals were being met, he thought, the rest took care of itself. The organization included no formal compensation packages. The lack of red tape seemed to lead to a gentler form of politics and a much closer working relationship among coworkers, according to managers. This culture, the career opportunities, and the competitive compensation were credited with the retention of key nonfamily managers.

Both Michael and Bob reported to Chuck Briscoe, the nonfamily president. Occasionally, Briscoe was left out of the loop when one of the sons would go straight to Ron Burton with ideas, issues, or problems. Briscoe served as a bridging president, between the two generations of Burtons. In March 2000, Ron began to develop the first strategic plan for Sigma Motion. Late that year, the team completed the strategic plan, which highlighted the core competencies of the company and stated an overall objective of becoming a \$50 million company by 2009.

## SUCCESSION PLANNING

Sigma Motion did not have a succession plan in place. Since both sons had increased their responsibility in the business, Ron had decided to charge ahead with some estate-planning work. Transfer or sale of the shares that he currently held had not been planned, although it had been discussed with Mary, Bob, and Michael. Verbal

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## SMALL FAMILY

### THE AMBIVAL

Dick Symanski, 55,  
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**Figure K** Successor Development

## Positions held by Michael Burton at Sigma Motion:

- Vice President of Sales

## Positions held by Bob Burton at Sigma Motion:

- Vice President of Operations
- Plant Manager
- Sales Manager
- Quote Estimator
- Inspection Manager
- Gear Cutter
- Thread Mill Operator

agreements existed, and the parties involved had made assumptions. Ron's plans included transferring the voting shares equally to his two sons.

Ron Burton did not want to pick a single next-generation CEO of Sigma Motion. He felt that Bob and Michael would be able to run the company as a sibling team. Bob, with a background in operations, and Michael, with a background in finance and sales, complemented each other and could make a great team (Figure K). But Michael and Bob were not as confident that it would all work out. They felt that they were always competing with each other for voice, for influence, for the limelight. Their goals also appeared to be quite different. Luckily, their roles were also different, and therefore day-to-day conflict was minimized. Still, when it came to leadership style, business strategy, and the company's financial structure and risk propensity, they had very different perceptions of what the future ought to look like.

Sigma Motion had an excellent customer base, a solid balance sheet, and some talented outside management on the team. Succession was inevitable, despite the fact that Ron would never completely "retire" from the business. Given Michael's apparent decision to leave, how could Ron Burton fulfill his dream of having both sons work as a sibling team at Sigma Motion?

**SMALL FAMILY BUSINESS**

CASE

**7****THE AMBIVALENT CEO OF THE CONSTRUCTION COMPANY**

Dick Symanski, 55, owns a construction company in the Northeast. Despite the slowed economy in his part of the country, Dick has been able to maintain his company's substantial profitability as a result of selective bidding, minimal debt, and other good management techniques.