

THE WIREMOLD COMPANY: THE FIELD SALES ORGANIZATION

TEACHING NOTE

This teaching note was prepared by Martha C. Fransson and Robin Chase, of Rensselaer Polytechnic Institute, and Edward B. Miller and Scott M. Bartosch, of The Wiremold Company. Presented to and accepted by the *Business Case Journal*.

CASE OVERVIEW

Ed Miller, Vice President for Marketing, and Scott Bartosch, Vice President for Sales of The Wiremold Company (the company) were considering how to adapt their sales force to work more effectively with the global companies who might specify the company's system solutions for the management of cables carrying electrical power, and voice and data communications in their buildings. In these situations, Miller and Bartosch knew that it was necessary to be in contact with both the customer company's primary architect as well as with the architect for a particular project location. This appeared to require a field sales force free to work outside their traditional territorial restrictions. At the end of the case, students are asked to consider the issues involved in releasing some sales associates from their territorial restrictions.

Art Byrne, President and CEO of Wiremold®¹ had converted the company to Lean (also known as Just-In-Time or JIT) business practices. Byrne believed that Lean didn't stop at the factory door but could be extended throughout the company, to and including the company's marketing and sales functions, by using kaizen. The case describes the changes to the organization of the field sales associates, the introduction of team selling, new compensation arrangements, and increasing professional requirements, all of which were consistent with the company's Lean practices.

This case study is intended primarily for a graduate level Marketing Strategy course with additional applications in undergraduate Business-to-Business and Sales Management marketing courses.

Appendix A to this Teaching Note contains an unpublished note "A Brief History of Lean Production" by Edward D. Arnheiter, PhD. It may be photocopied and distributed to students.

There is an Epilogue available to adopters of the case. It may be obtained from the senior author. Under the terms of the permission granted by Wiremold, it may be read aloud to students in class, but may not be photocopied or distributed. It provides a brief summary of the outcome of the company's decision-making process concerning global account management.

OTHER WIREMOLD CASES

This case is part of a three case set. The other two cases in the set are: *The Wiremold Company: Listening to the Voice of the Customer* and *The Wiremold Company: Wiremold Distributor Incentive Program*. The three cases have the same lead author, but differ in their co-authors.

Listening to the Voice of the Customer provides a detailed descriptive account of Wiremold's Quality Function Deployment (QFD) system for product development. QFD was a stage-gate or toll-gate system that required an integrated multi-functional product development team. QFD also required that all members of the team participate in field market research. The case provides an in depth account of the types of field market research employed, with particular

emphasis on job site visits and the use of the KJ Affinity Method to analyze the data obtained from market research initiatives. The case includes a detailed description of how to construct a House of Quality, provides partial data in the First House, and concludes with a description of new product launch activities. The Teaching Note maps the market research methods and results obtained by two teams for two different products against three more conventional research methods: surveys, focus groups and depth interviews. Intended for use in a graduate level new product development course or in the module about new product development in a graduate level marketing strategy course.

Wiremold Distributor Incentive Program provides a detailed history of the development and terms of the company's distribution system and the incentives that could be earned by distributors. The case describes the ways in which Wiremold's agreements with distributors differed from those of its competitors: terms of payment, breadth of Wiremold product line to be carried, weekly deliveries of product reducing the amount or inventory to be carried, a one-price-to-all policy, and a no-volume-discount policy. Students must decide what to do when competitors change the loyalty incentives to their distributors and increase discounts for large volume purchases. Should Wiremold revise its incentive system? If so, how? The Teaching Note provides a Game Theory analysis of the effects of Wiremold's differing rules for distributors and sample illustrations of possible outcomes if Wiremold were to adopt the industry standard terms for distributor incentives. Intended for use in the distribution module of a graduate level marketing strategy course.

The cases were intended to be used separately in different courses. However, the overlap between them is minimal, so that if more than one is used in a single course, we recommend that they be used according to the instructor's sequence of topics relating to new product development/market research, distribution, and sales management in the course. At the time of this writing, some of the authors were using the following overall sequence in a single graduate level course: *Listening to the Voice of the Customer*; *The Field Sales Organization*; *Distributor Incentive Program*.

LEARNING OBJECTIVES

1. To apply the concept of a buying center to a decision-making unit (DMU) where the members work for different organizations.
2. To analyze the effects of key company policies on the company's sales force.
3. To critique the company's decisions with respect to the field sales organization.
4. To consider the issues involved in releasing some sales associates from their territorial restrictions.

RESEARCH METHODS

In 1999 The Wiremold Company received the Shingo Prize² for Excellence in Manufacturing. At the inception of the research process, it was anticipated that there would be a book prepared for the corporate audience and that cases would be prepared for educational use. The research team was co-led by Professor Mario Emiliani (for the book) and Associate Professor Martha C. Fransson (for the cases). Team members conducted in-depth interviews with 13 members of Wiremold's management team. As company officers, Ed Miller and Scott Bartosch were among those interviewed and quoted in the book. The completed transcripts of over 60 hours of taped

interviews totaled approximately 900 pages. The research led to the preparation of a book (Emiliani, Bob et al, 2003) and to three case studies of which this case is one. None of the authors of this case are authors of or contributing authors to the book.

After the end of the initial research process, Scott Bartosch and Ed Miller agreed to co-author a case about the company's field sales organization. The authors conducted additional interviews, obtained additional quantitative data, and obtained copies of sales presentations to prepare this case study. It is therefore a completely independent original work based on primary field research data. It was Wiremold's policy not to release financial information.

SUGGESTED READINGS AND REFERENCES

Lean and Kaizen

The authors believe that some background knowledge about Lean and Kaizen may be helpful to instructors and students who may be unfamiliar with these processes. Accordingly, we suggest that instructors review the following references and consider making them available (perhaps through Library Reserve) as required or optional reading.

Arnheiter, Edward D., "A Brief History of Lean Production," Appendix A, to this Teaching Note.

Emiliani, Bob et al, *Better Thinking, Better Results: Using the Power of Lean as a Total Business Solution*, The Center for Lean Business Management, Kensington, CT, 2003. (Winner of a Shingo Prize in 2003 in the Research and Professional Publication category.)

Larson, Melissa, "Five days to a better process: Are you ready for Kaizen?", *Quality*, Wheaton, June 1998. (A very short account of what happens in a kaizen, written from the perspective of a first-time kaizen participant.)

Stalk, George Jr. and Thomas M. Hout, *Competing Against Time: How Time-Based Competition is Reshaping Global Markets*, The Free Press, New York, NY, 1990. (Strategic assessment of the impact of Just-In-Time competitors on their industries.)

Womack, James P. and Daniel T. Jones, *Lean Thinking*, New York, Simon and Schuster, 1996. (An early work on Lean. Contains a chapter on Wiremold that predates much of the information in this case.)

Commercial Construction and Electrical Distribution Industries

Students will also probably be unaware of the size and depth of the commercial construction and electrical distribution industries. Because Wiremold was unwilling to provide information about its competitors, placing the following articles on Library Reserve may be helpful to students seeking additional background materials.

Dixon, Janice I., "Today's Construction Teams Have Many Players, but One Leader", *ENR*, New York, October 30, 2000. (Background on large construction projects.)

Dolan, Robert J., "Note on Distribution Policy," Harvard Business School Publishing, 9-585-045. (Broad and complete introduction to basic distribution arrangements for many industries.)

Lucy, Jim, "A who's who walk-through", *Electrical Wholesaling*, Chicago, December 2002. (Background on electrical distributors.)

Rangan, V. Kasturi, Note "Reorienting Channels of Distribution," Harvard Business School Publishing, 9-594-118. (Presents a model of hybrid distribution channels and the growth of mega-distributors with master distribution agreements.)

Managing the Field Sales Organization

For an overview of the role that the field sales organization plays in an organization or for an overview of managing sales people we recommend any of the following references as a companion reading, depending on the instructor's intended focus of the class session. All are still current despite the dates of original publication.

Cespedes, Frank V., Note: "Managing Sales Interfaces: An Introduction," Harvard Business School Publishing, 1992, 9-592-068. (A classic that provides a conceptual framework for the relationships that a sales person must manage between self and persons both inside-the-company and inside-the-customer. Introduces the concept of the boundary employee.)

Cespedes, Frank V., Note: "Managing Selling and the Salesperson," Harvard Business School Publishing, 1990, 9-590-043. (A classic that summarizes the task of the sales manager.)

If the case is to be used in a more focused context, we suggest that the instructor consider selecting some of the following articles for companion readings to the case. Most of these were available through ProQuest at the time of this writing (2004), and electronically through XanEdu. The following list of articles has been organized by topic.

The Sales Task and Types of Selling Positions

Bund Jackson, Barbara, "Build Customer Relationships that Last," *Harvard Business Review*, Nov.-Dec. 1985. (For an overview of the difference between transaction and relationship selling.)

Goodman, Peter S., "Is the Web Killing the Salesman?; Not Necessarily, but His Role Is Likely to Change to Selling Expertise", *The Washington Post*,

Washington, April 5, 2000. (The changing role of the salesperson in an e-commerce economy.)

McCrea, Bridget, “21st century sellers”, *Industrial Distribution*, New York, February 2001. (How sales representatives add value to their customers.)

Moncrief III, William C., “Selling Activity and Sales Position Taxonomies for Industrial Salesforces”, *Journal of Marketing Research*, August 1986. (A research report that proposes a classification system for selling positions based on an analysis of the time allocated to various activities by sales people in various types of sales jobs.)

Shapiro, Benson P. and Stephen X. Doyle, “Make the Sales Task Clear”, *Harvard Business Review*, Nov-Dec 1983. (Shows that task clarity is more important than other determinants of sales success.)

Sinclair, Richard, “Reps and manufacturers – finding each other”, *Agency Sales*, Irvine, April 2002. (The author is a manufacturer’s representative.)

Srikonda, Susan L.P., “A rep’s balancing act”, *Industrial Distribution*, New York, February 2001. (Six industry professionals reflect on the effectiveness of manufacturer’s representatives.)

Zoltners, Andris A. and Sally E. Lorrimer, “Sales territory alignment: An overlooked productivity tool”, *The Journal of Personal Selling and Sales Management*, New York, Summer 2000. (Territorial alignment has an important influence on productivity and how sales people actually spend their time.)

The Sales Personality

Chang, Julia, “Born to sell?”, *Sales and Marketing Management*, New York, July 2003. (Addresses the perennial question of whether successful sales people are born or trained.)

Gilbert, Jennifer, “What motivates me”, *Sales and Marketing Management*, New York, February 2003. (Collection of mini-interviews with field sale people reveals a surprising range of motivators – it’s not just the money.)

Pettijohn, Charles E., Linda S. Pettijohn and A.J. Taylor, “The influence of salesperson skill, motivation, and training on the practice of customer-oriented selling”, *Psychology & Marketing*, New York, September 2002. (Results of a survey of retail salespeople designed to uncover relationships between effective consultative selling and salesperson orientation towards customers, job satisfaction, training, skills, and commitment to the organization. Appropriate for graduate-level students and advanced undergraduates with the necessary background in psychology.)

Weilbaker, Dan C., “The Identification of Selling Abilities Needed for Missionary Type Sales”, *The Journal of Personal Selling and Sales Management*, New York, Summer 1990. (Missionary selling defined as typically (but not always) stimulating demand for a product (usually sold through middlemen) through education and information and building goodwill for the company. Missionary sales persons rarely complete a transaction or book a sale themselves. This research report provides a taxonomy of sales positions (Appendix A) and reports survey results concerning 14 abilities presumed required for missionary selling. Advanced graduate level students only.)

Sales Compensation

Neuborne, Ellen, “A compensation plan checkup”, *Sales and Marketing Management*, New York, May 2003. (Four important dimensions of the sales compensation plan.)

Sales Training

Creter, Christine and Dow Summey, “Training for peak performance”, *Pharmaceutical Executive*, Eugene, May 2003. (Best practice in training missionary salespeople in the pharmaceutical industry.)

Roman, Sergio, Salvador Ruiz, and Jose Luis Munuera, “The effects of sales training on sales force activity”, *European Journal of Marketing*, Bradford, 2002. (Recent empirical study on the effects of sales training; suitable for advanced graduate level students only.)

Pettijohn, Charles E., Linda S. Pettijohn and A.J. Taylor, “The influence of salesperson skill, motivation, and training on the practice of customer-oriented selling”, *Psychology & Marketing*, New York, September 2002. (See description under sales personality.)

Weilbaker, Dan C., “The Identification of Selling Abilities Needed for Missionary Type Sales”, *The Journal of Personal Selling and Sales Management*, New York, Summer 1990. (See description under sales personality.)

Sales Teams

Bonoma, Thomas V., “Major Sales: Who Really Does the Buying?” *Harvard Business Review*, May-June 1982. (For the concept of the Buying Center and the consequent need for integrated teams of sales persons to sell to multidisciplinary groups of people who will make the purchase decision (decision-making-unit or DMU).)

Cespedes, Frank V., Stephen X. Doyle and Robert J. Freedman, “Teamwork for Today’s Selling”, *Harvard Business Review*, March-April 1989. (Introduction to team selling for executives.)

Creter, Christine and Dow Summey, "Training for peak performance", *Pharmaceutical Executive*, Eugene, May 2003. (See description under sales training.)

O'Grady, Garry, "Every rep a star", *Pharmaceutical Executive*, Eugene, May 2003. (Article about the effect of membership in a sales team on individual performance.)

Rasmussen, Erika, "Reason to achieve", *Pharmaceutical Executive*, Eugene, May 2003. (Sales teams can aid an individual member's motivation.)

Stewart, Christopher, "Desperate Measures", *Sales and Marketing Management*, New York, Sept 2003. (Why sales teams are important.)

QUESTIONS

1. How did Wiremold create demand for its products? Consider the articles listed under the heading "Commercial Construction and Electrical Distribution Industries" in the Suggested Readings and References section of this Teaching Note.
2. Why is Lean relevant to analyzing the company's field sales organization?
3. Did the Wiremold sales associates really apply Bonoma's concept of the Buying Center described in the "Major Sales: Who Really Does the Buying?" article?
4. How did the compensation plan affect the behavior of the sales associates? Specifically consider the lack of a quota system and the company's practice of paying incentives on a territorial, rather than individual, basis. Is the plan 'good' based on Neuborne's article "A compensation plan checkup"?
5. Are sales people born or made? What is the difference between 'trade sellers' and 'missionary' salespeople? Which kind did Wiremold hire? Please consider the articles listed under the headings "The Sales Task and Types of Selling Positions", "The Sales Personality", and "Sales Training" in the Suggested Readings and References section of this Teaching Note.
6. Was the professional growth ladder (Case Figure 8) a good way to manage the sales associates?
7. Was kaizen a good tool for managing change in the field sales organization? Consider the books and articles listed under the heading "Lean and Kaizen" in the Suggested Readings References section of this Teaching Note, and in particular, the Larson article entitled "Five days to a better process: Are you ready for Kaizen?" and the Arnheiter article entitled "A Brief History of Lean Production," Appendix A, to this Teaching Note.
8. How do you evaluate the quality of the company's field sales management practices? Specifically consider the effect of changes to compensation, goal setting, staffing and training. Consider the article entitled "Teamwork for Today's Selling", by Cespedes, Doyle and Freedman listed under the heading "Sales Teams" in the Suggested Readings and References section of this Teaching Note.
9. What issues ought Miller and Bartosch to consider if Wiremold were to assign some of the field sales associates to serving certain national and international companies without being bound by territorial restrictions? Ought they to use kaizen? Consider the following articles: Dixon, "Today's Construction Teams Have Many Players, but One Leader"; Zoltners and Lorrimer, "Sales territory alignment: An overlooked productivity tool"; and

Goodman, “Is the Web Killing the Salesman?; Not Necessarily, but His Role Is Likely to Change to Selling Expertise”.

ANSWERS TO QUESTIONS

1. How did Wiremold create demand for its products? Consider the articles listed under the heading “Commercial Construction and Electrical Distribution Industries” in the Suggested Readings and References section of this Teaching Note.

Wiremold sold its products to distributors who in turn sold them to electrical and telecommunications contractors who used the products to install electrical, communications and data infrastructure in buildings (both new construction and renovation projects). While the contractors ordered and paid the distributor for the product, often other parties identified the products that would be needed and told the contractor what their preferred brand (if any) was. The contractor might or might not be required to follow the instructions, depending on whether these preferences had been expressed orally, or in writing, or in a binding set of construction specifications. Only licensed architects and consulting engineers prepared binding construction specifications. (See Dixon, 2000 for an overview of the players in a large construction project. However, the use of an Owner’s Representative was not yet widespread at the time of writing this Teaching Note.) There were some projects (typically renovations) for which building owners or interior designers might prepare or approve written construction specifications. Therefore, we may say that there were, in general, three types of construction or renovation projects: those in which the contractor made the final selection of what products to use; those in which the architect or consulting engineer prepared binding construction specifications; and those in which the building owner or an interior designer (often representing a tenant) would designate in writing which products to use.

Because of this complexity, Wiremold personnel used the term *specifier* to mean any entity that influenced the decision about what products to order from the distributor. Sometimes, the contractor was the specifier. In other instances, architects, consulting engineers, building owners and tenants consulted with one another and made a selection decision that all agreed to. Such a situation would be an example of a complex decision-making unit (DMU). In other instances, there might be a DMU with only two parties, and in still other situations, there might be a single entity making the product selection decision and communicating that decision to the contractor. Thus, the end user (who ultimately created revenue for Wiremold) might or might not be a specifier. The distributor was never a specifier. All influencers in the DMU might be specifiers, or they might not, depending on the project. For these reasons, Wiremold personnel did not speak of customers and end customers. Instead, they spoke about the people who were essential to generating revenue for Wiremold: contractors, specifiers and distributors.

To create demand for Wiremold® products, the company used a field sales organization whose selling tasks were: to persuade contractors to choose Wiremold; to persuade specifiers to write specifications that Wiremold products would fulfill better than other brands; and to persuade distributors to carry Wiremold products according to the company’s terms and conditions.

Traditionally, the electrical distribution industry sold to contractors using a combination of price, promotions, and availability. (Lucy, 2002) Accordingly, the electrical distributors had a great deal of power in their relationships with manufacturers,

and a great deal of time and energy was spent by both parties in negotiating prices and inventory levels. Wiremold set out to change the basis of competition between manufacturers from the traditional method to the Lean method. (See Case Table 2.) This fundamental change affected the company's relationships with its distributors and provided an opportunity to generate demand from specifiers. Accordingly, the field sales associates had to change and the methods and policies affecting them had to change. The case describes these changes in the sections entitled "Background" through "Professional Growth". The introductory and "Next Steps" sections of the case present a final opportunity to generate demand, which is discussed in the answer to question 11 of this Teaching Note.

At the start of the case, the company used a single sales force to sell to distributors and to specifiers. These sales representatives were company employees, working in assigned territories and compensated with base salary and incentive payments. During the period of time covered by the case, the field sales force underwent two major shocks: the absorption of the manufacturers representatives who represented Walker Systems®, and a division into two types of specialists: Distribution Specialists and Specification Specialists.

The job of the Distribution Specialists was to communicate the advantages of doing business with Wiremold to the distributors who undertook the primary tasks of distribution: ordering and receiving goods into inventory, selling over the counter to contractors, and physical delivery to job sites. In addition, distributors were responsible for placing special orders for contractors for all of the components of wire management systems specified for a particular job. Distributors needed help in managing their inventories; in scheduling phased deliveries to job sites; and in improving their own profitability. A key advantage enjoyed by the Distribution Specialists was that Wiremold's Lean business practices made it possible for the distributors to use the company's Cycle Trucks to serve their customers (the contractors) better, with complete orders and less damage to goods. All of these advantages helped the distributors to increase their profitability measured by GMROI (Gross Margin Return on Investment). As distributors became more profitable, it is reasonable to assume that they became more loyal to Wiremold® products, and steered contractors towards selecting the Wiremold® line. This was important because 60-70% of the company's sales came from over-the-counter pick-up or will-call purchases by contractors.

The job of the Specification Specialists was to communicate the advantages of specifying Wiremold® products to specifiers (building owners, architects, interior designers, and engineering consultants) who all had a say in the selection of a wire management system. The Specification Specialists were responsible for helping specifiers to write specifications for a wire and cable management system that Wiremold could easily fulfill and that would be more problematic if other manufacturers' products were used. A key advantage enjoyed by the Specification Specialists was that the company manufactured over 60,000 SKUs, and that at least three other manufacturers were required to match 85% of the company's product line. Specifiers also needed access to information about the latest products in wire management to meet their needs, which included: aesthetically attractive products; system solutions that provided ease of installation, flexibility for later moves and changes; low costs for installation and later moves and changes; and on-time damage-free delivery to large job sites. All of these

advantages helped to persuade specifiers to select Wiremold® systems, leading to increased demand for the company's products and reduced opportunity for the product selection decision to be made over-the-counter during negotiations between the contractor and distributor over price, in-stock availability, and materials storage issues.

2. Why is Lean relevant to analyzing the company's field sales organization?

Wiremold was well-known throughout manufacturing circles for its commitment to and exemplary implementation of Lean as evidenced by the award of the Shingo Prize in 1999 and the chapter devoted to its operations in *Lean Thinking* (Womack and Jones 1996). Within its industry, the company promoted itself as a Lean company, committed to quality, kaizen, its people and its customers. (See Case Figure 1.) The company also clearly communicated its strategic plan in its public presentations and clearly positioned the company as practicing Lean techniques and achieving Lean goals (high inventory turns, JIT, defect reductions, customer service improvements, visual controls and the 5 C's). (See Case Figure 2.)

Bartosch knew that the transition of the company to Lean was going to “drive the sales force crazy”. This was because sales people selling for companies using traditional mass production techniques (batch and queue) were often compensated based on the volume of sales, which could easily be increased by concentrating on selling items that were being specially promoted at any given time. In a Lean environment, a company wouldn't make more inventory than the market was taking up (takt time³) (Arnheiter), so there would be fewer, if any, promotions. Lean might be perceived by sales representatives as a threat to their incomes. Further, Bartosch may have been concerned that the sales associates would be using company presentations and trying to explain Lean to distributors and specifiers, without really understanding it.

So, the cure for these problems was to involve the sales force immediately with the company's transition to Lean. This was accomplished by having all members of the field sales force participate in *kaizen*⁴ events so that they would learn the method, be able to apply it to their own activities, and be able to explain it to customers, distributors, and specifiers with conviction arising from first hand experience. Accordingly, all sales associates participated in a kaizen event at the company's headquarters in the first year of the transition, and about 36 sales associates participated in the six regional trunk kaizens described in Case Table 1. (Approximately six people participated in each of six kaizen events and one person from each region went to a national kaizen on how to improve the organization of the sales person's trunk.)

Further, as a Lean company, Wiremold would henceforth use kaizen events to improve its operations, and Byrne believed that “operations” did not end at the factory door. The company intended to focus on its operations to increase its wealth, and said so publicly, and expected the sales associates to support the message. (See Case Figure 3.) Interestingly, as a result of the trunk kaizen, the sales associates identified a number of other problems that they could use some help with: obtaining leads, scheduling their sales calls, and wondering if they really needed all those samples anyway. In addition, kaizen principles were used to refine the job description of the sales associate and to formulate field sales training programs. Later, the kaizen process was used to redesign the process for a distributor sales call. (See Case Figure 5.)

As a co-author, Bartosch commented informally that, in his opinion, Lean is really a culture, not just a bundle of tools and techniques to manage productivity. As a culture, Lean can be seen as providing a way of thinking about and solving problems. If one thinks about Lean as a culture, all of a sudden, it becomes relevant to managing the field sales organization and to helping the field sales associates accomplish their goals.

3. Did the Wiremold sales associates really apply Bonoma's concept of the Buying Center described in the "Major Sales: Who Really Does the Buying?" article?

Bonoma's construct of a buying center includes a Champion, a Decider, Gatekeepers(s), Influencers, Users, and a Purchasing Department that processes paperwork. (Bonoma) Wiremold had identified the contractor, distributor, architect, engineering consultants, interior designers, building owner, and (sometimes) lead tenant as people who might be involved in various decision-making processes concerning the wire and cable management system for a building. As Wiremold moved from selling parts and pieces to wire and cable management systems and solutions made up of many integrated components (a shift made possible through product development and acquisitions), the company wanted to get the system specification established early in the construction process. (See Case Figure 6.) Thus, the sales associates had to sell to a buying center, not a solo decision maker.

Students may assume that each situation might be somewhat different from others (a point made by Bonoma), and that sales associates would have to figure out how best to approach the buying center to win the business. The case says that Wiremold's sales associates had long been receiving incentive compensation based on the results achieved in their territory as a whole, not based on individual sales. The compensation system had for some time tended to foster co-operation between the sales associates in a territory. With the introduction of many new products from acquisitions, and some new sales associates who came with the acquisitions, the sales associates formed themselves into a territorial team and consulted among themselves as to the best way to contact the decision-makers. Informally, the sales associates had implemented another of the buying center principles: use a team to sell to a complex decision making unit (DMU) whose members would collaborate in making a purchase decision.

Bonoma suggests that it is necessary to understand the technical, financial, social and personal needs of each member of the buying center as well as their decision-making power. Architects and interior designers would probably be more concerned with aesthetics, flexibility, and compatibility with other structural plans. Consulting engineers would probably be more concerned with carrying capacities, UL certifications, and the maintenance of and future upgrades to the system. Contractors would probably be more concerned with the cost of, ease of, and time needed for installation. Distributors would probably be more concerned with availability, shipment, storage, and lead-time needed for the order. Owners and tenants would probably be more concerned with cost and functionality, and perhaps aesthetics. All or several of these groups would be involved in most projects. The sales associates needed to figure out the complexity and power structure of each buying center and how to meet their needs most effectively and speedily. Thus, the sales associates had co-operatively evolved from solo to team-based selling in accord with the requirements of selling to a buying center.

4. How did the compensation plan affect the behavior of the sales associates? Specifically consider the lack of a quota system and the company's practice of paying incentives on a territorial, rather than individual, basis. Is the plan 'good' based on Neuborne's article "A compensation plan checkup"?

Many sales compensation plans are a combination of base salary plus incentive compensation. The proportion of base to incentive is known to drive field sales representative behavior. Incentive compensation of less than 10% of total compensation communicates a message that the incentive portion of the job is not really worth bothering about; what's more important is doing the prescribed portion of the job for which the representative is paid a salary. When incentive payments are set to be between 10% to 25% of total pay, the rep pays significantly more attention to the tasks for which he can earn the incentives. When incentive payouts total between 25% and 50% of the total, reps report that they focus on earning the incentives and perform only the key elements of the tasks for which they are paid salary. When incentive payouts exceed 50% of their total earnings, reps report that they feel that they have to make quota or quit. (Cespedes, 1990)

Wiremold set the expected balance between salary and commission at 60% to 40% for new hires, but that senior sales reps often earned over 50% of their total compensation in commission. Accordingly, we can say that the company was providing strong incentives for its field sales associates to sell its products. However, when the company desired to spur growth of its new product introductions, it reduced commissions on some older product lines and increased commission rates on new innovative product lines. This was expected to have the effect of motivating sales associates to sell the new products, and not rely on a dependable stream of replacement sales. In this way, the company used the commission rates paid on various parts of the product line to modify the behavior of the sales associates.

The company was ahead of its time in paying commissions on a territory instead of an individual basis. This had been company policy for 40 years. Every sales associate received a commission on every dollar of product sold into the territory, whether or not he or she had actually been involved with the sale. Commission was paid monthly and there was no cap. This meant that there was no quota system in place at all, and therefore no incentive to move a transaction from one reporting period to the next to even out seasonal swings in sales volume (and therefore commission income). These are two additional important issues for students to consider with respect to the commission plan. The first is the lack of a quota system and the second is the motivation for team selling.

Many companies use a quota system with minimums and caps to provide an indication to the sales reps as to how hard they have to work to earn their base salaries and what they have to do to earn commission. Selling above the quota is considered exceptional performance and often earns an extra bonus, in effect increasing the company's costs for the extra sales. There are some implications to the quota system. First, it encourages reps to "game the system" and shoot for extra large orders at the end of a reporting period to earn the bonus. Second, it can encourage reps to "move" orders from one reporting period to the next to earn the bonus. Both of these effects are anathema to a Lean company because of their effects on the production system. An artificial bunching up of orders distorts calculations of takt time and therefore overloads

the factory with large orders that the customers don't need, but the salesman wants to ship to earn his bonus. Case Table 2 "The Traditional Way of Doing Business" provides an illustration of what happens to the customers and to the company when they are forced by sales people (or incentivized by large discounts which also cut into the company's profitability) to manufacture and deliver larger orders than the customers really need.

The section of Case Table 2 entitled "The Lean Way of Doing Business" describes how Wiremold's use of Lean solved all of the old problems, leading to lower costs, less waste, and more reliable on-time availability of undamaged goods delivered when needed. Thus, the company retained the traditional policy of a no-quota incentive system when it converted to Lean. Further, the company developed a "story" in the form of the two parts of the illustration contained in Case Table 2 to use to explain to all of the members of the buying center (or DMU) what benefits they would receive as a result of doing business with a Lean company. The illustration also provided assurance that Wiremold was a Lean company. All of the sales associates were trained in how to sell Lean as a benefit to the customers using the illustration contained in Case Table 2.⁵

Many companies pay incentives based on individual performance alone. This can have two unfortunate effects: backstabbing and devoting resources to attributing specific orders to individuals. The company eliminated the need to devote resources to attributing specific orders to specific individuals when it paid commission to every sales associate based on total sales in the territory. This was an unusual aspect of the company's traditional compensation plan; it was also consistent with Lean and therefore continued. Competition between sales reps for specific orders can lead to fighting over leads, overt secrecy about deals in the pipeline, backstabbing colleagues who might otherwise help make the sale, and, in a worst case scenario, running bogus sales through accounting. (Stewart) All of these phenomena can seriously impair sales force effectiveness.

By paying incentives on a territorial basis, and paying each associate a commission on all sales in the territory, the company encouraged the sales associates to communicate with one another about leads, figure out who would collaborate to reach the members of a prospective DMU, coordinate the messages to be given to the buying center members, and present one solution that met all of the needs expressed by the influencers and specifiers. In effect, the pay system was structured in a way to encourage the concept of Team Selling. The company sales associates formed territory teams that met regularly and shared information on the market and possible job opportunities. They coordinated their coverage of the entire buying chain to win a job. Since everyone was paid on the same sale without any reduction in commission within the territory, everyone was encouraged and rewarded to work together. Manufacturers Reps (agents) saw this as added people selling that they didn't have to pay for.

When the manufacturers representatives that had been working with Walker Systems joined the Wiremold field sales organization, these company policies provided an environment into which the Walker reps could be absorbed. The Walker reps became part of the informal team-based structure of field sales at Wiremold.

To evaluate a compensation plan and determine whether or not change might be helpful, there are four important questions to ask. These are: Is the plan sufficiently flexible? Is the plan consistent with corporate culture? Are the sales people happy? Is the program simple and easy to administer? (Neuborne) Having reviewed how the company's compensation system worked, students can be asked to address the four

questions. It is the authors' opinion that the company earned high marks for its compensation plan.

It was *flexible*: Bartosch and Miller changed the percentage payouts on different parts of the product line.

It was *consistent with corporate culture*: It was team-based and it supported the company's Lean business practices and the company's strategy of time-based competition. If Bartosch is right and that Lean is a culture, it clearly was consistent with the company's culture.

The sales people appeared to be *happy*: The case states that the sales people really liked the traditional sales compensation plan. The revisions made by Bartosch and Miller were entirely consistent with and an extension of the traditional plan.

The program was *simple and easy to administer*: The company did not waste resources tracing orders to specific sales associates or permit sales associates to backstab one another. Sales reports were provided monthly in electronic formats. Sales associates could easily confirm total volume with one another. Whether or not individual commission rates were different based on seniority or some other factor was not addressed in the case. Throughout the research process and as a co-author, Bartosch has consistently stressed the ease of administration of the program and its consistency with Lean management principles.

5. Are sales people born or made? What is the difference between 'trade sellers' and 'missionary' salespeople? Which kind did Wiremold hire? Please consider the articles listed under the headings "The Sales Task and Types of Selling Positions", "The Sales Personality", and "Sales Training" in the Suggested Readings and References Section of this Teaching Note.

There is an extensive literature on the perennial question of whether recruitment (finding the right people) or training (teaching them what to do and how to do it) is more important. There appear to be a cluster of personal attributes that a good sales person possesses and that organizations ought to be careful to select and recruit persons with those attributes. (Weilbaker, 1990; Pettijohn, Pettijohn and Taylor, 2002; Chang, 2003; Gilbert, 2003) On the other hand, the organization appears to affect salesperson activity and performance through training. (Weilbaker, 1990; Pettijohn, Pettijohn and Taylor, 2002; Roman, Ruiz and Munuera, 2002). Further, the desired balance between personality and receptivity to training may be affected by the specific tasks required by the position. (Moncrief, 1986)

The case essentially describes a migration of a field sales force from selling parts and pieces to selling integrated system solutions. In addition, the company-employee sales organization absorbed and integrated a group of independent manufacturer's representatives *who retained their independent status* (italics added for emphasis). Accordingly, the company appears not to have been hiring many new people for sales positions during the period covered by the case. Instead, it started with a group of sales people and apparently limited its recruitment efforts to finding replacements as people retired or left the company. There is no mention in the case of a mass layoff, so students may assume that it did not happen when the company converted to Lean. (The assumption is in fact correct.) The case events describe changes to sales activities as a result of kaizen and training.

The case states that the trunk kaizens had lead to a number of discoveries about what the sales associates were in fact doing in the field and how they were spending their time. Their activities included: making appointments, driving between calls, maintaining distributor inventories of finished goods and distributing samples and literature. They were spending 80% of their time with the distributors and 20% with the specifiers, and they felt that they were spending too much time driving between calls and not enough time planning calls. But they needed help in improving their own efficiency. They viewed improvement in time management (less driving and more productivity through visits offset by more time invested in planning) as essential to improving their own incomes – perhaps by as much as 20%. This data suggests that Wiremold sales people had been hired because they were highly motivated to earn money (40% or more of their incomes were earned from commission) and that they were a traditional group of *trade sellers*.

Trade sellers are defined as those who work primarily with distributors but who are not “shelf stockers” or inventory analysts, and who are less concerned with service. Trade sellers rarely write up orders. Sales people who are trade sellers spend a lot of time preparing bids, establishing customer credit/finance, determining price, and taking potential customers to other customer sites. They spend more time traveling in town and keeping expense accounts than any other type of salesperson. They rarely use promotional materials, except for brochures, which they use extensively. (Weilbaker, 1986)

Salespeople may possess a surprising array of personal characteristics in addition to greed. Shapiro and Doyle (1983) found that successful sales people attributed their success due to a combination of four factors: clarity of task, need to achieve, ability to earn, and quality of management. In their research, ability to earn (structure of the compensation plan) was the least important of the four factors. Sales people appeared to work more for the recognition and self-affirmation that they receive from making a sale (need to achieve) than for the money itself, but the money may in fact be the most visible and tangible measure of success (recognition and self-affirmation). In this view, the compensation plan should be structured to reward success, not merely provide income. Other authors have found the following additional factors in sales person motivation: competitive spirit, autonomy, respect, flexibility, security, fear, recognition from the boss and peers. (Gilbert, 2003) Finally, emotional intelligence, or the ability to use and show empathy and adjust one’s actions, had been found to be a predictor of success in a selling career. (Chang, 2003)

Wiremold clearly faced a situation in which it had a cadre of productivity-oriented sales reps, measuring their success by money, comfortable with people they already knew, probably uncomfortable with the risks of cold calls, probably uncomfortable with selling new products in new situations. Whether or not these people could be developed was a primary question for Bartosch and Miller. After all, Byrne had announced aggressive growth goals and Bartosch knew that new product introductions would be essential to achieving them.

A *missionary salesperson* spends a lot of time traveling (but not out of town), doing “advance” selling, and public relations work. Specifically, the missionary spends a lot of time selecting products for presentation to customers, making sales presentations, calling on potential accounts, overcoming objections, planning selling activities, preparing sales

presentations, introducing new products, identifying the person who will authorize the purchase, searching out leads, using presentation aids, and helping clients. They are also characterized by what they do very little of: work with orders, servicing product or account, closing a sale, preparing a bid, making deliveries, filling out purchase orders, selling to the ultimate consumer. (Moncrief, 1986) Missionary salespeople need to be perceived by their professional clients as having six core selling abilities: ability to learn, communication skill, adaptability, comprehension, skill at asking questions, and enthusiasm. (Weilbaker, 1990) In addition, missionaries (and their managers) perceive themselves as being able to observe accurately, having and using empathy, handling rejection, having perseverance, confidence, and a high ability to organize themselves and the material they present. (Weilbaker, 1990)

Using these descriptors, it would seem that the problem that Bartosch and Miller centered on was how to convert a sales force consisting of trade sellers to one that would include a significant proportion of missionary-type sales people. This is especially true when considering the key dimension of most field sales jobs that the field sales associates at Wiremold *did not perform* (italics added for emphasis): they did not enter any orders, and the company put in place procedures to eliminate order follow-up activities by field sales reps. The company wanted its field sales associates to concentrate on specifiers, who would not themselves place orders. These jobs appear to be very similar to the one performed by pharmaceutical detail reps, well-known as missionary salespeople.⁶

By the end of the case, the Wiremold field sales force consisted of 30% Distribution Specialists and 70% Specification Specialists. The Distribution Specialists still resembled the trade sellers, although they had assumed a much greater consultative role than is traditional for trade sellers. The Specification Specialists had become missionary sales persons. They were working with the specifiers to establish the system spec early for every project; making presentations to industry trade groups; participating in continuing education programs; and they were unable to place an order. The case states that they, like the Distribution Specialists, had laptops and special software to take off and price an order and that the quote could be faxed to the distributor from the laptop. However, only distributors could place orders. Accordingly, we can say that the initial specialist-prepared quote was more like a sales illustration than a preliminary order because it would be reviewed by the distributor and contractor and appropriate specifiers to reach agreement. The case states that the quotation software turned out to eliminate a lot of errors when the order was finally placed, as well as enhancing sales associates' productivity.

Thus, we see that Wiremold had in place a group of sales associates who were hired as (primarily) trade sellers. It seems reasonable to assume that more effort had been placed on recruiting the right people than on training. This is borne out by the case facts: Bartosch and Miller established the first formal training programs and training department, including trainers in the field. The company migrated these folks, and the manufacturer's reps that came with the Walker acquisition into a field sales force that was 70% missionary, and even the trade sellers who remained acquired some missionary characteristics as they sought to sell Lean business practices to the company's distributors. Accordingly, we can conclude that the company believed firmly that sales associates could be made, with the proper training.

When Scott Bartosch came to class to discuss the case, he supported the above analysis by emphasizing the following three phenomena described in the section of the case entitled “Team Selling”. First, all new sales people were hired by the territorial team that they would join. Every member of the team had to agree that a candidate was the right person to hire. This fact suggests that sales people are good at detecting other like themselves (the “born” component). Second, at Wiremold, people were moved back and forth between sales and marketing. Virtually all marketers had been in sales. This fact suggests that what people learn is very important. Presumably, some marketers go back to sales (the made component) and this helps to avoid traditional conflict between marketing and sales. (Cespedes, 1992) Third, the Wiremold sales teams benefited from strong internal communications. Word traveled even faster among the sales teams because of electronic technology, so all sales people could easily learn what was working and what was not.

6. Was the professional growth ladder (Case Figure 8) a good way to manage the sales associates?

The case states that the professional growth ladder was put in place after four years of extensive training to help sales associates increase their professionalism. The case states that some of the sales associates had not grown out of their sales technique comfort zone, the manipulative technique, despite the training. Others had grown – into a position of respect from their peers in the industry. This confirms that the company had been hiring “born” sales people, as had the manufacturer’s rep firms, and providing training to everyone. The ladder provided a motivation for personal growth as, for the first time, an associate could see what was expected of him or her. It also provided a systematic means of measuring the growth and for negotiations between the regional sales manager and the sales associate concerning the specific training that each associate needed. The company also required the manufacturer’s rep firms to use the ladder. The case provides considerable information about the training provided by the company.

At the time of the Walker merger, there was a redefinition of the sales job into two types of positions: Specification Specialist and Distribution Specialist. Further, all sales associates and reps had to work together in each territory as a team. The Wiremold associates had expertise in surface and perimeter wire and cable management systems. The Walker reps had expertise in the in-floor systems. Both groups of representatives had to understand the broad and deep product line that had been (and presumably would continue to be) developed by the company through acquisition and internal product development efforts. After the individual sales associates and reps had all been designated either a Specification Specialist or a Distribution Specialist, all participated in training programs for their job responsibilities.

The training programs for the Distribution Specialists included how to work with the distributors, including their top-level managers. The Distribution Specialists learned about the economics and functions of the distribution business. They learned how the distributor could increase its profits by selling Wiremold and Walker products. They learned how to propose the introduction of Lean business practices to distributors and how to persuade distributors to implement Lean using the company’s programs for distributors.⁷ They were now required to meet with the owner or Chief Executive Officer of each distributor and the Chief Financial Officer at least once a year, so the training

probably also included instruction on how to interact with persons whom the sales associates had (probably) not been meeting with. The meetings were also to include other top decision-makers (perhaps including the manager of the distributor's sales force), not just the manager of the distributor's purchasing department. The goal was to increase the distributor's profits from selling the company's products. In addition, there was on-going training in how to use the electronic systems and support mechanisms that the company put in place to support field sales: laptops and how to use them, sales and commission information, project quotation capabilities, monitoring and comparison of distributors, communications about new leads, and the ability to share this information quickly and easily with other members of the territorial team. This last was very important as laptop computers, handheld electronic devices and electronic mail systems have been shown to be important productivity enhancers. (McCrea, 2001)

The training programs for the Specification Specialists included instruction on concept selling, project selling, and how the various specifiers worked together to finalize the specifications on a project. Specification Specialists learned how to use the leads provided by the company, leads provided by Construction Materials Documents (CMD), and how to generate some of their own through networking. Since CMD's information included information about the project owner, the general contractor, and sub-contractors such as the electrical and data contractors, determining who to call on no longer required guessing. The Specification Specialists also learned how to disseminate information about leads to members of other territorial teams when the information from CMD indicated that sales associates from more than one territory should be working together to obtain the business. They attended training sessions provided by the Construction Specifiers Institute (CSI) to learn how to write construction specifications. They attended training sessions provided by Wiremold on how to make a company-developed presentation to members of the American Institute of Architects (AIA), to provide continuing education to their members (architects working in architectural firms) on various aspects of modern construction without being specific to company products. The Specification Specialists joined with the Distribution Specialists in training sessions devoted to how to use the electronic systems and support mechanisms that the company put in place to support field sales: laptops and how to use them, sales and commission information, project quotation capabilities, monitoring and comparison of distributors, communications about new leads, and the ability to share this information quickly and easily with other members of the territorial team.

Specification Specialists who enrolled in CSI programs and completed them earned professional certification (and certificates to prove it). The company paid for training from CSI, and the Specification Specialists found these exceedingly valuable (they increased their territorial sales and commissions). The company then made having at least one certificate a prerequisite for employment (either for continuation of employment or for a new hire).

The company-developed program (not specific to any brand or manufacturer) was very well received by the AIA. Soon, Specification Specialists had made over 250 presentations to AIA groups across the country. The program that Wiremold people provided was accepted by the AIA as providing continuing education credits for their members. (Every AIA member was required to obtain sufficient continuing education credits each year to maintain their license to practice.) By becoming qualified to give

these presentations, and participating in the AIA programs, sales associates were able to continue growing professionally themselves, -- and serve the AIA. The Specification Specialists found their use of CMD leads, certificates from CSI, and work for AIA to be very profitable.

The professional growth ladder served two functions. It rewarded sales associates who had grown (personally, professionally, and financially) and it served to identify sales associates who had not grown from a manipulator selling style to a partnering style that reflected the company's strategy. The growth ladder, when discussed with a specific sales associate also served as a communication tool; it showed the salesperson that the company was serious about their professional development and would support it with training or whatever other tools were necessary.

When he visited a class and discussed the case, Scott Bartosch reflected on his long experience in sales force management. Over the years, he had spent about 80% of his time in the field talking with salespeople, customers, distributors, specifiers, etc. He had done this because he believed it was the only way to manage a sales force: not on paper, but by talking to people. Bartosch also believed that people told you what they needed to do their jobs better. He saw his job as ensuring that people either had the training to grow or were placed in positions that took advantage of their strengths, thereby maximizing their compensation. He found that people who fell behind on the growth ladder usually ended up leaving the company. Otherwise sales associates tended to be extremely loyal to Wiremold – turnover rate of 2-3% annually – because they trusted the company to treat them fairly. Ironically, this low turnover rate turned out to be a problem. Bartosch thought that a turnover rate of 6-8% would be healthier for the company. Higher turnover would bring in new people and new ideas, which he felt were very much needed.

7. Was kaizen a good tool for managing change in the field sales organization? Consider the books and articles listed under the heading “Lean and Kaizen” in the Suggested Readings References section of this Teaching Note, and in particular, the Larson article entitled “Five days to a better process: Are you ready for Kaizen?” and the Arnheiter article entitled “A Brief History of Lean Production,” Appendix A, to this Teaching Note. Kaizen is typically used to enable a team of people (usually six to eight) to work together in a structured problem-solving environment for a three or five day period. Kaizen requires that the team analyze the process being used, consider all of its connections to other processes in the firm, develop specific changes to improve the process, and implement them within the time period of the kaizen event. See Case Figure 4 for a short description of how Kaizen was used at Wiremold.

A kaizen event is very public; usually those conducted in manufacturing facilities attract an audience. The kaizen process (of continuous improvement) purposefully puts pressure on people to implement a better process in five days or less, depending on the period of time that has been assigned to the team. In this way, the team becomes empowered to make change. The process avoids the problem of recommendations from knowledgeable people (those who have studied the problem) becoming bogged down in bureaucratic processes where turf wars can occur. Kaizen improves productivity as teams are given the goal of reducing the resources (time, materials, people, and machine capacity and time) required to perform the process they are improving. Kaizen also improves quality as the team is also expected to find ways to eliminate mistakes and

rework. Kaizen teams cannot always implement all the changes they recommend, but a list of required additional changes to fully make the process changes operational usually presented to another team (in Wiremold's case the JIT Office) at the end of the kaizen. Kaizen drives process improvement and since each kaizen to a process builds on the previous one, kaizen over time drives continuous improvement. (Larson, 1998)

The case states that Art Byrne, the CEO, required that kaizen be used to develop the changes that were needed in the field sales organization and that he also required that the field sales associates themselves be involved. Every field sales associate left the field for a week (stopped selling) and became a member of a kaizen team working in either a manufacturing or an administrative area. In this way, the field sales associates learned that Lean was the driving force for the entire company (including themselves) and they learned the kaizen techniques so that they could apply them to their own area of selling. This was a very unusual approach to treating field sales associates. In effect, the company was saying to the sales people, "We'll give up one week of the sales you normally produce to teach you how to improve the sales operations". For a sales person, that message had great meaning: the company really intended to improve sales operations and productivity. They were serious. Improved sales operations and productivity could lead to higher incomes for sales people. Such a message would get their attention.

The case also gives several examples of kaizen in the field: the trunk kaizen (Case Table 1), the distributor sales visit (Case Figure 5) and the go-to-market kaizens. The trunk kaizen and the distributor sales visit were mentioned in the answer to Question 2 above. The first go-to-market kaizens addressed issues such as: time management (managing the sales person's daily routine, making appointments and managing travel time), the supply process for literature and samples, identifying training needs and implementing the first training program in concept selling. After the Distribution Specialist positions were established, the company conducted a series of kaizens on the best way to conduct a distributor sales call. The goal was to help the salesperson conduct a sales call more efficiently and productively. It would be important to meet with everyone at the distributor who affected the purchase decision and to decide how to allocate the sales associate's time. During each kaizen, the sales call was diagrammed just as a manufacturing process would be. When he came to class, Scott Bartosch discussed Case Figure 5 and said that it provided a good example of how the company's sales associates used kaizen to improve their own sales processes.

Kaizen is a high-involvement process. People who attend a kaizen event are drawn into it. Therefore, using kaizen to stimulate the field sales associates to improve their own processes and productivity was an excellent way to manage the field sales organization. The sales associates benefited from improving their own productivity and incomes and the company benefited from more sales due to improved productivity of the selling efforts. Good practice with kaizen is to commit to the employees that no one will be laid off as a result of kaizen. (Larson, 1998) Wiremold made this commitment to its employees. (Emiliani, 2003)

8. Evaluate the quality of the company's field sales management practices. Specifically consider the effect of changes to compensation, goal setting, staffing and training. Consider the article entitled "Teamwork for Today's Selling", by Cespedes, Doyle and

Freedman listed under the heading “Sales Teams” in the Suggested Readings and References section of this Teaching Note.

The company’s merger with Walker Systems®⁸ provided an immediate need for redefinition of the sales job and the other changes which flowed from that redefinition. Changes to compensation, to goal setting, and to staffing and training would be necessary. Improvement in these areas would lead to greater sales force professionalism and productivity, and were also critical to ensuring teamwork. (Cespedes, Doyle and Freeman, 1989).

A key result of the integration process was a complete review of the sales job description and success measures. The result of that review was recognition that specialization by salespeople had become necessary. This dovetailed with the ongoing shift of some salespeople to a focus on specifiers rather than distributors.

After the new job descriptions were complete, all the salespeople were evaluated and matched to the new job descriptions. One group became Specification Specialists and would work with specifiers and large national contractors in their territory. The other group became Distribution Specialists and would work with distributors and smaller contractors in their territory. Because products would have to be purchased through a distributor, the two groups would have to work together to complete the sale of products. The policies adopted for the company’s employee field sales associates were extended to the manufacturers’ reps working for Walker Systems. The two groups were assigned to the same territories and began to work together in teams very successfully. As discussed in Questions 3 and 4, management was pleased to discover that, over time, the teams became increasingly self-directed as they organized to address each new prospect or lead as it surfaced. Thus we can say that on the dimensions of task clarity (an important part of goal setting) and teamwork, Miller and Bartosch did very well.

The company did not have a quota or bonus system for compensation. There was no cap on commission. The accounting period for commission calculations was a month, with no quarterly or annual incentives. Thus, all sales associates had a strong incentive to make sales volume grow through out the year, and no incentive to shift the booking of an order from one accounting period to another. Compensation also played a role in increasing sales force productivity. Changes to commission rates on specific parts of the product line helped to shift sales associates’ attention to introducing the new products and away from selling bread and butter (old) lines. Thus we can say that on the dimension of compensation, and goal setting (compensation supported the company’s strategic goals), Miller and Bartosch again did very well.

Bartosch’s and Miller’s actions with respect to selecting sales associates, integrating the Walker reps with Wiremold field sales associates, and migrating the field sales associates from a field sales force selling parts and pieces to selling integrated solutions map closely to industry best practices with respect to staffing as discussed in the answer to question 5 in this Teaching Note.

Staffing and training played a crucial role in enhancing the professionalism of the sales force. The sales associates and the manufacturers’ reps both were required to learn how to use the many electronic productivity tools that the company introduced. Those associates who did not adopt the new tools after training left the company. The sales associates using the kaizen process had direct input into the content, length and timing of training as well as the selection of both hardware and software for use in the sales and

marketing group. Interestingly, one test of hardware and software was that Bartosch (with over thirty un-computerized years in field sales) had to be able to use it with no instruction before it could be put in the field. Bartosch led the first training sessions, which was a surprise to the field sales associates. We can say that he exemplified and personally led the change that the company was asking the field sales associates to make. And the fact that they presented him with the “old dog, new tricks” sweatshirt suggests that they appreciated that. There were educational programs for both Distribution Specialists and the Specification Specialists about the distribution business and how to write specifications respectively. Those associates who did not demonstrate an ability to use this training in their jobs left the company. Marketing supported this shift to selling solutions with presentations to specifiers and distributors around the country. A kick-off presentation positioned the company as a solutions company that could “futureproof” the power, communications and data needs of buildings with the company’s flexible products. The Distribution Specialists devoted themselves to helping the distributors improve their businesses and the Specification Specialists both helped architects and consulting engineers write specifications and taught them how to do it. On the issues of enhanced professionalism of the sales associates, Bartosch and Miller win high marks.

The company taught the sales associates how to use kaizen, and as we saw in the answers to Questions 2 and 7, the company used Lean and kaizen to improve its productivity throughout the company, including the field sales organization. Case Figures 2, 3, 4 and 5 and Case Table 2 provide additional evidence supporting this conclusion.

Thus, we can see that the company’s field sales management practices win high marks for attention to compensation, to goal setting, and to staffing and training leading to greater sales force professionalism and productivity, and team work. In this context, it is important to remember Bartosch’s comment when he came to class, that the job of the field sales manager (in his opinion) was to spend most of his time in the field (85%) talking to sales people, customers, and distributors. Miller, as vice president of marketing, and Bartosch, as vice president of sales, worked closely together, and are shown doing so at the beginning and at the conclusion of the case. Teamwork between them helped to avoid delay, battles over territory, and provided positive support to the field sales organization.

Start here

9. What issues ought Miller and Bartosch to consider if Wiremold were to assign some of the field sales associates to serving certain national and international companies without being bound by territorial restrictions? Ought they to use kaizen? Consider the following articles: Dixon, “Today’s Construction Teams Have Many Players, but One Leader”; Zoltners and Lorrimer, “Sales territory alignment: An overlooked productivity tool”; and Goodman, “Is the Web Killing the Salesman?; Not Necessarily, but His Role Is Likely to Change to Selling Expertise”.

For a sales person, territory represents his or her earnings potential. It also represents the travel limits of the position and his or her investment in contacts and area networking. For the company, territorial realignment can be a method of increasing sales force productivity. “When territories are out of balance, too much effort is deployed against low potential customers and too little is deployed against many high potential customers. The result is that companies often leave millions of dollars on the table.” (Zoltners and Lorrimer, 2000) There are four potential benefits to be derived from territorial

realignment: enhanced customer coverage, improved rewards and morale and reduced travel time. (Zoltners and Lorrimer, 2000)

The problem at Wiremold seems to be one of potentially missing opportunities with large global companies that are putting up new buildings around the globe. The question is whether or not the company can serve these global giants effectively with one contact point in lieu of the old system of initiating coverage through the territory where the facility is to be built (as a result of information received from CMD). Further complicating the problem is that CMD appears to cover only the continental U.S., and at least some of these giants are expanding their facilities in other countries and on other continents.

A single global account manager may be the best solution to these problems. He or she could find a senior facilities construction manager within the global company and help the building owner to write the specification for a wire and cable management system, consulting with the other specifiers on an as-needed basis. Offsetting this scenario is the growing use and influence of Owner's representatives, outside firms who specialize in coordinating construction activities. (Dixon, 2000) On the other hand, sometimes the Owner's representative is an inside employee who could be identified by the global account manager. Thus, establishing some Global Account Manager positions could enhance customer coverage.

Therefore, it appears that the company needs to move in the direction of establishing individual goals for these positions. Who will identify the companies to be assigned to the global sales associates? What tasks will the global sales associates perform? Will they be booking orders? Writing specifications? Merely communicating with other sales associates about prospective business? If the account builds or renovates a building in an existing territory, do the local people get commission on the sale as they have in the past? If the local people do not receive commission on global account business in their territories, then the company may experience reduced morale locally. On the other hand, if the global account managers write business in geographic areas that the company does not presently serve, news of far-flung success may become a selling point for Wiremold sales associates and become a morale enhancer. We can therefore say that the sales organization is likely to resist losing commission to the people in the new positions, and the potential for account sabotage exists. It would be better to dedicate the new positions to new business only.

However, alert students will point out that Wiremold had a significant experience in addressing this type of problem. The case stated "Due to the consolidation in the specifier industries (architects, consulting engineers, contractors), if a sales associate in one territory is successful in having the owner, architect or engineer specify Wiremold product, but it ends up being bought in someone else's territory and shipped into a third territory, the commission would be split equally between the three sales associates." At the time Bartosch proposed this change, Byrne, Miller and Fiume were concerned about the risk of a change to the compensation program of this magnitude. They had approved the change when Bartosch developed a plan to support the sales associates financially through the first few months of the new program. Further, total compensation costs for field sales were expected to be about equal to past levels. However, the company was also paying higher commission rates on new products and lower rates on old products at about this time to change the behavior patterns of sales associates and drive sales of

leading-edge products. The combination of these changes had been successful in achieving company objectives.

If the global account managers were to be paid on a salary plus commission basis, and if they were released from territorial restrictions, they would be paid on an individual basis, something that Wiremold has always resisted. Should there be a new incentive structure for them, or ought they to be paid straight salary? How should the salary level be established? This issue relates to the previous one. Assuming that the new positions will be dedicated to acquiring business that the company would otherwise miss, the question becomes, who bears the risk of failure: the global account reps or the company? Failure in this context means that the company doesn't acquire the expected additional business and that the sales personnel suffer a loss in income. The best solution is probably to protect the sales people from failure by paying them a straight salary. By accepting the position, they are accepting some risk to self-esteem and achievement (they may not bring in any business which could be quite damaging to their reputations). Students should be reminded of the sales person's need to achieve discussed in the answer to Question 5. Finally, given that this would be an entirely new position with new tasks and responsibilities, the company should select only highly experienced and professionally qualified sales associates for these posts.

If the change goes ahead, travel time ought to be considered, but not a major factor. If the potential rewards from these jumbo accounts are large, contact can be enhanced via electronic communications to supplement face-to-face communications as the sales associates rely on their professional knowledge as well as selling expertise. (Goodman, 2000)

Experienced company sales associates were used to earning 50% or more of their total compensation in the form of commission. A move to straight salary, while insulating them from some risk, would be a very different form of compensation. They would become truly "employees", more subject to the whims of their superiors than formerly. In the past, what has mattered was teamwork with colleagues, sales growth in the territory, giving professional education for specifiers, writing specs so that Wiremold got the business.

With a straight salary system, reports about daily and account activity become more important. Following up on suggestions from the home office become more important. And there would probably be a worry that Miller or Bartosch or someone else at the home office would start to play "Monday morning quarterback".

Finally, with potentially large rewards for the company, an experiment for a limited period of time seems in order. On the other hand, what would happen if the experiment were not as successful as initially expected? Would they be able to go back to their old jobs? Would they have to change employers? From the sales associate's perspective, there would be a lot of risk in accepting one of these posts.

Should Miller and Bartosch talk these issues over with the Regional Sales Managers? Should they invite a few senior sales associates being considered for these new posts to participate in a kaizen of the problem? Given the company's strong commitment to kaizen, the answer to both questions ought to be absolutely yes. Without consultation on these issues, Miller and Bartosch would run the risk of losing the confidence and loyalty of the field sales organization. Besides, based on past experiences with kaizen, the people who would take these positions and their managers might have

some very good ideas about how to improve Wiremold's position in the global marketplace.

EPILOGUE

At this point in the class, time permitting, the instructor may read the Epilogue which describes the initiatives that Miller and Bartosch undertook. The Epilogue is available from the senior author of the case. The Epilogue may not be photocopied or distributed in class.

TEACHING NOTE ENDNOTES

¹ Wiremold®, SynergySM, Walker®, and Walker Systems® are trademarks and service marks of The Wiremold Company.

² The Shingo Prize, awarded annually, is named after Mr. Shigeo Shingo, a consultant to Toyota. Among his contributions was the development of methods to reduce the amount of time needed to set up production equipment for any particular production run. Mr. Shingo's contributions enabled a cash-short Toyota in post-World War II Japan to make frequent change-overs from one part number to another so as to avoid producing large amounts of parts inventory. Wiremold under Art Byrne essentially adopted and implemented the Toyota Production System in its entirety, except that it was called (initially) Just-in-Time (JIT) or (later) Lean.

³ Takt time is a German word that has been incorporated into the Japanese vocabulary for Lean. The word means the rate at which product is taken up by end purchasers, and is measured in units of time (minutes, days, hours).

⁴ Kaizen is a Japanese word meaning continuous improvement. Kaizen activities are undertaken by teams or people drawn from different areas or disciplines of the company. After initial kaizen training, Wiremold had a policy that any trained employee might be assigned to any kaizen event anywhere in the company. Further, all employees were expected to keep their kaizen skills up to date by participating in at least one kaizen event per year. In Japanese, the word kaizen is used for all references to kaizen. In this Teaching Note we will refer to kaizen events and kaizen teams to distinguish the when and where (the event) and the who (the team) from the process (kaizen).

⁵ During the initial research interviews, the academic authors heard the illustration from every member of the company's management team, beginning with Art Byrne. Often, the story was introduced with words such as, "As Art explains it," or "Art likes to use the analogy of the bread man," or, "As we explain to visitors to the company,". Case Table 2 is therefore a synthesis of all of the versions (which differed very little) of this rather significant piece of company oral tradition.

⁶ Pharmaceutical detail reps sell to physicians who write prescriptions that are purchased by patients (end customers) from retail distributors (retail pharmacies). Much of the research on missionary-type sales has been done on the pharmaceutical industry. See Creter and Summey, 2003; Rasmussen, 2003; O'Grady, 2003.

⁷ For more information about how Wiremold influenced its distributors to adopt Lean, see Fransson, Chase, Miller and Bartosch, "The Wiremold Company: Wiremold® Distributor Incentive Program".

A Brief History of Lean Production¹

Edward D. Arnheiter, PhD
Assistant Professor
Rensselaer Polytechnic Institute

The origin of lean management can be traced to the Toyota production system (TPS); a manufacturing philosophy pioneered by the Japanese engineers Taiichi Ohno and Shigeo Shingo. The TPS is also the birthplace of just-in-time (JIT) production methods, a key element of lean production, and for this reason the Toyota production system remains a model of excellence for lean production advocates.

Just as the basic tools of total quality management (TQM) were developed and practiced at Western Electric in the 1920's, some of the principles of the TPS developed at Ford in the early part of the 20th century. In 1926 Henry Ford boasted, "Our finished inventory is all in transit. So is most of our raw material inventory." He also claimed that Ford could pull iron ore from a mine and produce a finished automobile in 81 hours². Ford's words convey the importance he placed on inventory reduction, short-cycle manufacturing, and, in general, the reduction of waste, all of which are basic aspects of the TPS. It is not surprising that Ohno greatly admired Ford and studied his accomplishments.

John Krafcik originally coined the phrase "lean manufacturing." Krafcik was a member of the research team for the book *The Machine that Changed the World: The Story of Lean Production*³. This book described the advantages that Toyota's manufacturing techniques had over traditional "batch-and-queue" production methods. High production volumes, large batch sizes, low product variation, and long product life characterize batch-and-queue production. Batch-and-queue techniques developed from economies of scale principles, which consider small batch sizes uneconomical because of the associated setup penalties. Batch-and-queue methods typically result in lower quality since defects are usually not discovered until subsequent operations or inspection of the finished product. Most manufacturing and service businesses today still operate batch-and-queue systems, even in Japan.

Key Elements of the Toyota Production System

Several aspects of the TPS have been misinterpreted. Despite the popular notion of "driving inventories to zero", the TPS is pragmatic and **does** allow for buffer inventories. Production line segments are buffered to ensure that a brief stop in one station does not immediately affect the next. To be sure, the inventory is kept small, but it is still of sufficient size to prevent major line shutdowns most of the time⁴. Another aim of the Toyota system is to reduce variability at every opportunity. These reductions include demand variability, manufacturing variability, and supplier variability. Variability reduction is today the focus of many quality efforts in light of the recent interest in "six-sigma" quality programs. The primary goal of lean production is to develop processes that are repeatable, reliable, and stable. Occasional process problems are expected, but they are considered valuable opportunities to learn and improve.

Basic Concepts in Lean Production

There are five main elements of lean production:⁵

- Value
- The Value Stream
- Flow
- Pull
- Perfection

Value implies determining what the end-user really wants or needs to see in the product or service. It is surprising how many companies never directly ask customers about their needs, likes, dislikes, problems, or complaints.

The **value stream** encompasses the entire set of activities required to bring a product from conception to detailed design, order taking and scheduling, production launch and physical transformation of raw materials, and finally to delivery into the hands of the customer. Within the value stream there are three types of activities that can consume human and material resources:

1. *Steps that unmistakably create value.* Examples of this would be spot welding a car frame together, or driving passengers from point A to point B.
2. *Steps that create no value but are unavoidable given the current technology and production equipment* (known as Type I muda). An example is the inspection of welds on an aircraft engine.
3. *Steps that create no value and are immediately avoidable* (known as Type II muda). An example would be the unnecessary double handling of an invoice by two clerks in an accounts payable department.

Flow is the general term for producing and moving parts in *small* batches, ideally using *single-piece flow* (i.e., move batch size = 1). Hybrid systems are common, consisting of single-piece-flow in some areas, and batch-and-queue practices in other areas. In wrench manufacturing, for example, steel forgings might move in a single-piece manner through a U-shaped machining cell, but then queue up at the end of the cell before moving to the chrome plating station. In fact, very few manufacturers can claim a pure single-piece-flow system throughout their entire operation.

The term **pull** implies not making anything until it is needed by the downstream customer, and utilizing a make-to-order (MTO) approach whenever possible. Pull techniques were pioneered by Toyota using their just-in-time (JIT) production methods. This is a very common technique used in the personal computer business. Dell, for example, uses their “direct sales model” to convert telephone orders from customers into finished personal computers ready for shipment in about four hours. The initial “pull” in this case is the telephone or electronic order from the customer. This method also allows Dell to customize each unit to the customer's specifications.

The complete elimination of wasteful practices, so that all activities along a value stream create value is known as **perfection**. Efforts focused on waste reduction are often pursued through continuous improvement or *kaizen* events, as well as radical improvement activities, or *kaikaku*.

Flexibility and Its Relationship to Lean Production

Flexibility is an important element of manufacturing strategy and is a key concept within lean production. The following example illustrates the importance of developing flexible production systems.

During the 1980's GM was touting its “reindustrialization” strategy. The plan called for spending approximately \$80 billion worldwide to update and automate GM assembly plants, gradually transforming them into automation showplaces, loaded with sophisticated robots and other automated equipment. GM felt it could significantly reduce direct labor costs associated with vehicle manufacturing by using technology, essentially outspending and thereby leapfrogging the competition. GM, however, ignored flexibility, one of the most important elements of the TPS. In fact, most GM plants were designed and built to produce just one model, year-after-year! GM arrogantly assumed *it* could drive consumer demand. When consumer tastes changed, GM could not adjust quickly or easily to the demand for new styles and models.

A GM assembly plant in Fairfax, Kansas fell victim to reindustrialization. Fairfax was completely renovated in 1987 as a highly automated factory, containing over 200 different robots. Unfortunately, it was designed to assemble only the Pontiac Grand Prix, and was not flexible enough to build any other GM models (although the plant has since added the Oldsmobile Intrigue to its model mix). The original design capacity of the plant was 250,000 units, but it spent many years producing only 100,000 units because GM could not sell enough cars to keep the plant fully loaded⁶. Toyota plants, on the other hand, are extremely flexible and each assembly plant can build at least three different models or platforms. If one model is not selling well, it is then a simple matter to shift production to a better selling model. Toyota’s Georgetown Kentucky plant is an example of this flexible approach to manufacturing. The plant is able to produce the Toyota Camry sedan, the Sienna Minivan, and the Avalon sedan.

Glossary of Lean Terminology

Brownfield - An older, existing production facility that uses mass-production methods and a traditional organizational structure.

Chaku-Chaku – A method of production to achieve a *single-piece flow* of parts, typically by arranging machines in a U-shaped cellular layout. The cell operator unloads the machine, replacing the workpiece with a part from the adjacent upstream machine. The removed workpiece is then loaded into the adjacent downstream machine, after unloading its workpiece. This swapping of parts (by unloading and loading) continues until all of the parts in the cell have been moved downstream by one machine. The operator then moves back to the first machine and repeats the routine until all parts in the lot have moved through all of the machines in the cell. The term literally means “load-load” in Japanese.

Greenfield – A new manufacturing facility where it is possible to implement lean methods from the very beginning of production.

Heijunka – The manufacture of products using a level or uniform schedule so that during any given day, a wide variety of product models are produced. The goal is for production to mirror how the products are actually being purchased and consumed in the marketplace.

Jidoka (also called autonomation) – The development of automated machines that can halt production immediately when a nonconforming part is detected. This is accomplished with mistake-proofing or *poka-yoke* principles. Ideally, a machine with true process control would not be capable of making bad parts. It is more common, however, to first develop sensing capability within a process to know when a defective item has been made and then shut down the machine (detection during process). The simplest level of mistake-proofing would be to detect defective parts after they have been produced, and then automatically sort the good from the bad.

Just-in-Time (JIT) – This term is sometimes used synonymously with lean production, because it seeks to eliminate waste in all areas of a firm's production activities, but this interpretation is related more to what is often called "Big JIT". The classic pull system, where production at one level is initiated from a request of a higher level is usually referred to as "Little JIT". Little JIT focuses on scheduling goods inventories and providing service resources when and where needed. It works best when the production rate at final assembly is fairly uniform. But it can still typically incorporate only 60% to 70% of all parts and subassemblies regularly used in large-volume products. Big units or complex subassemblies often need to be scheduled separately under routine planning and control procedures.

Kaikaku- The radical improvement of an activity to eliminate muda. Moving or eliminating machines to facilitate better material handling and faster throughput would be an example of kaikaku. In contrast, improving a work area by developing a new quick-change fixture, and organizing the area and its tools are often the types of actions performed during traditional kaizen activities. Both initiatives in this example reduce waste, although the term kaikaku is generally reserved for the initial rethinking of a process.

Kaizen – The Japanese term for continuous incremental improvement involving everyone. In 1986, Masaaki Imai wrote *Kaizen - The Key to Japan's Competitive Success*⁷, which became very popular with U.S. management. Kaizen is one of the most commonly used words in Japan, and means continuous improvement in ones personal life, home life, social life, and working life. Imai studied many management philosophies, theories, and tools used successfully in Japan, and organized them under a single and readily understandable common framework. Kaizen implies achieving continuous, gradual, incremental improvements, but it is more common today to use a "kaizen blitz" approach, achieving rapid change within an area by focusing significant human resources on a process for a short period of time, typically one week.

Muda – The Japanese word for wasted materials, time, energy, and so forth. Briefly, muda equals waste in English.

Standard work – Details the motion of the operator and the sequence of material movement through the cell. Components include the cycle time, takt time, work sequence, and the minimum needed inventory of parts on hand (standard work-in-process).

Takt Time - A calculated value representing the allowed production time for each unit, so that the pace of production matches the rate of customer demand. Takt time is equal to the available production time per day divided by the number of orders placed by customers each day.

Total Productive Maintenance (TPM): Improving the overall effectiveness of process equipment by actively involving the operators. TPM is accomplished by performing regular cleaning, daily walkarounds, and preventive maintenance.

Visual Control – The placing of tools, parts, production tasks, and indicators of system performance so anyone can walk into a workplace and visually understand its current status. Factors such as workplace organization, the work process, the schedule condition, and any abnormalities should be obvious to the observer. Overhead display boards containing a series of colored lights are often used, referred to as *andons* by the Japanese. Toyota refers to visual control as *transparency*.

Endnotes

¹ Not previously published. Used with permission.

² Hopp, Wallace J., and Mark L. Spearman, *Factory Physics*, 2nd Edition, New York: Irwin McGraw-Hill, 2001, p. 25.

³ Ironically, John Krafcik is not well known because he was not one of the three authors of the *Machine that Changed the World*. In 1996, two of the author's, James Womack and Daniel Jones, subsequently wrote an enormously popular sequel entitled *Lean Thinking*.

⁴ Mishina, K., and K. Takeda, *Toyota Motor Manufacturing, U.S.A., Inc.*, Case Study Teaching Note 5-693-046. Harvard Business School, 1993, p. 3-5.

⁵ Womack, James P., and Daniel T. Jones. *Lean Thinking*. New York: Simon & Schuster, 1996, p. 15-28.

⁶ Based on Jim Harbour's comments to host Hedrick Smith in the video series "*Challenge to America: Old Ways, New Game*", Films for the Humanities and Sciences, Princeton, NJ, □ 1994.

⁷ Imai, Masaaki, *Kaizen: The Key to Japan's Competitive Success*, McGraw-Hill/Irwin, 1986.