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INSTRUCTORS' EDITION

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JOURNAL OF THE INTERNATIONAL ACADEMY FOR CASE STUDIES

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LETTER FROM THE EDITOR

Welcome to the *Journal of the International Academy for Case Studies' Instructor's Edition.* The editorial content of this journal is under the control of the Allied Academies, Inc., a non profit association of scholars whose purpose is to encourage and support the advancement and exchange of knowledge, understanding and teaching throughout the world. The purpose of the *JIACS* is to encourage the development and use of cases and the case method of teaching throughout higher education. Its editorial mission is to publish cases in a wide variety of disciplines which are of educational, pedagogic, and practical value to educators.

The Instructors' Notes contained in this volume have been double blind refereed with their corresponding cases. Each case for which there is an Instructors' Note contained herein has been previously published in an issue of the *Journal of the International Academy for Case Studies*. Each case was required to have a complete teaching note before consideration. The acceptance rate for manuscripts in this issue, 25%, conforms to our editorial policies. This publication also conforms to the AACSB requirements to publish case notes which are considered by that body to be of more academic value than the case itself.

If any reader is interested in obtaining a case, an instructor's note, permission to publish, or any other information about a case, the reader should correspond directly with the author(s) of the case.

The Academy intends to foster a supportive, mentoring effort on the part of the referees which will result in encouraging and supporting writers. We welcome different viewpoints because in differences we find learning; in differences we develop understanding; in differences we gain knowledge and in differences we develop the discipline into a more comprehensive, less esoteric, and dynamic metier.

The Editorial Policy, background and history of the organization, and calls for conferences are published on our web site. In addition, we keep the web site updated with the latest activities of the organization. Please visit our site and know that we welcome hearing from you at any time.

Inge Nickerson, Barry University
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CASE NOTES

ARCTIC FREEZER PLANT

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Sohel Ahmad, St. Cloud State University
Timothy Nebosis, St. Cloud State University

CASE DESCRIPTION

The primary subject matter of this case concerns managing diversity issues in the workplace and the application of total quality management principles. Specifically, an appliance manufacturer is experiencing challenges involving Somali refugees who comprise a significant percentage of the plant's available labor pool. These challenges include quality and productivity problems caused by the Somali workers' lack of English skills and adherence to cultural and religious customs, as well as by the plant's own poor preparation to manage this group of employees. The case has a difficulty level of three or four, appropriate for junior or senior level students. The case is designed to be taught in a ninety minute class period, with two hours of outside preparation time by students.

CASE SYNOPSIS

Imagine the challenge of being a manufacturing plant manager of a major employer in the community, faced with the need to satisfy rigorous customer requirements in the areas of quality, price, and delivery. You must fulfill these requirements with a local labor pool that has a limited supply of applicants and recently has become populated by refugee immigrants who speak little or no English. Additionally, these refugee employees have cultural and religious customs that pose challenges in the areas of plant safety and productivity.

As a leading employer in the business community, you know the spotlight will be on your company to help come up with ways to address the community challenge of helping a new immigrant population become productive members of the community. The last thing your company needs is bad publicity in the area of relationships with workers from diverse ethnic backgrounds. Yet you know that your plant must compete on a global basis and your giant retail customers will spare no time in seeking other suppliers if you cannot meet their requirements.

INSTRUCTORS' NOTES

Research Methods

This case is based on a real company, though officials at the company prefer that the real name of the company not be used in the case. Therefore, in the writing of this case, the company's name and several other descriptive characteristics have been disguised to protect the company and the individuals involved. Except for these company-identifying characteristics, the facts relating to refugee immigration in Minnesota, the competitive environment of the appliance manufacturing industry, and the issues concerning the experience with hiring Somali refugees for the third shift are real. The authors collected data from contacts within the company, local leaders in the Somali community and social service agencies, newspaper articles, and public presentations by company officials.

Learning Objectives

To understand the complexities of managing workers from diverse backgrounds while staying focused on achieving the strategic objectives of the company.

1. To explore ways in which companies can be more effective in hiring and training workers from diverse backgrounds.
2. To utilize quality management tools to identify root problems that hinder the achievement of plant performance goals.
3. To examine the role of a company in a community context.
4. To better understand how multicultural issues must be carefully evaluated in deciding to transplant manufacturing operations to foreign countries.

Links to Theoretical Frameworks

There are several opportunities to incorporate total quality management ideas into the case discussion. These include discussing how quality improvement efforts pay off in terms of preventing internal failure costs (rework, scrap, and downtime) and external failure costs (unhappy customers, warranty costs, and cancelled orders). A discussion of the "Plan-Do-Check-Act" framework for quality improvement and the "Seven Tools for Quality Improvement" can also be applied to this case. For example, a cause and effect diagram can be used to help the class trace quality problems that the plant is currently experiencing (see below).

The case is rich with potential to discuss multiculturalism in the workplace. Key discussions can address questions such as: (a) Is it enough to hire trainers and consultants to conduct surveys and to deliver diversity training sessions to employees? (b) How can the culture of a company be changed to create an environment that is naturally self-sustaining in terms of being inviting to all employees? (c) Are the management challenges presented in the case rooted in a poorly-qualified Somali labor pool or management's failure to recognize that old approaches to new problems may not suffice, especially since Somalis are only one of many immigrant groups that have arrived and will continue to arrive in communities throughout the United States?

SUGGESTIONS FOR EFFECTIVELY TEACHING THE CASE

A significant problem with case discussions is that students often arrive to class not having read the case. The Arctic Freezer case is short enough that it can be read in class in about 15 minutes. Another approach is to give the students a written assignment that is due on the day the case is discussed. Either of these approaches would improve the class discussion.

Small group discussions are always a good way to get everyone to engage in the case discussion. One person in each group takes notes during the small group discussion. In the general class discussion, each group takes a turn by contributing one idea from its list. After each group has taken a turn, the process is repeated until all groups have exhausted their lists.

A human resource manager and an operations manager from a local company could be invited to class to give their perspectives on the case and discuss how their companies have dealt with diversity issues. The testimony of these credible "real world" individuals can help students appreciate better the issues of multiculturalism and corporate responsibility that the case raises versus having a professor "preach" to them on these topics.

Note on Legal Issues Pertaining to the Case

While this case is not intended to be a business law case, the issues in the case do raise questions on the legal obligations of the employer to accommodate religious beliefs. On the subjects of religious discrimination and religious accommodation, an article by Anderson and Campbell (1), states:

> …(E)mployers remain free to establish nondiscriminatory rules against conduct, such as religious proselytizing, that could be disruptive to the smooth operations of the workplace. Not only do American employers have a duty not to allow religious discrimination or harassment but they also face a legal obligation to accommodate the religious beliefs and practices of their employees. However, that obligation is not absolute or open-ended.

Anderson and Campbell compare religious accommodations to accommodations required of employers by the American with Disabilities Act (ADA). According to the authors, for both religious beliefs and disabilities the laws similarly state that employers must make "reasonable accommodations" that do not cause "undue hardship" to the employer. But the way "undue hardship" is interpreted is different:

> According to the ADA, the "term 'undue hardship' means an action requiring significant difficulty or expense when considered in light of factors" such as the overall financial resources of the employer. In the context of accommodating an employee's religious beliefs and practices, however, the courts have given the phrase a significantly different meaning. Many types and levels of burden can constitute an undue hardship in the religious accommodation setting. Something that imposes more than a minimal cost on an employer is an undue hardship. A cost can be economic, such as lost business, or the cost of paying additional workers (or overtime to current employees). A cost can also be non-economic, such as compromising a neutral scheduling or job-assignment system (which would adversely affect other employees), impairing customer service or customer relations, compromising the integrity of a manufacturing process, or compromising the safety of the employee in question or other employees.

The insights provided by Anderson and Campbell demonstrate that, unlike ADA decision settings, employers have a great deal more latitude to decide how to handle requests for religious accommodations. Therefore, both the students and the instructor should understand that deciding what to do in the Artic Freezer case is not driven primarily by legal requirements.

ASSIGNMENT QUESTIONS, ANALYSIS, AND ANSWERS

1. What cultural and religious issues mentioned in the case impact the plant in terms of safety, productivity, recruitment, quality, delivery, and employee morale? Discuss the degree and nature of the impact.

This is a good "discussion starter." It gets the students to think of specific examples of how cultural characteristics in the Somali employees present special challenges to management. Examples of these include:

(a) *Safety Issues*: Loose clothing and long hair can become entangled in machinery. Water on the bathroom floor from washing creates a slippery floor. Illiteracy or lack of English skills can lead to a failure by Somalis to understand safety rules.

(b) *Productivity Issues*: Differences in work habits, lack of factory work experience, language problems in understanding the instructions from experienced workers, failure to take orders from female supervisors, and attempting to pray during the work shift can all negatively affect productivity.

(c) *Recruitment Issues*: Language problems can make it hard for recruiters to understand worker qualifications and skills. Translators are hard to find and incur additional interviewing costs. Social service agencies are critical to identifying and aiding recruitment of Somali applicants.

(d) *Quality and Delivery Issues*: In the case of the Somali workers, the effects of language barriers, lack of experience, and adherence to religious and cultural customs create a more complicated situation for achieving the plant's quality and delivery goals.

(e) *Employee Morale Issues*: Plant management faces the challenge of addressing the special situation posed by the Somali workers while treating all employees fairly. More problems can be created if the non-Somali workers perceive that management has given special concessions to the Somali workers, such as extra breaks for prayer. Management also needs to strive to stay positive in their interactions with the Somali workers so they will feel supported and want to improve their performance.

2. Discuss this case from a Total Quality Management (TQM) perspective. How can spending more on "prevention" activities such as training, workplace redesign, and language training reduce the total costs of quality in the Arctic plant?

The late W. Edwards Deming, a quality guru par excellence, famously blamed management for 85% of the quality problems in the organization. Adopting Deming's perspective, a TQM approach to the Arctic case starts and ends with making management responsible for organizational performance.

TQM identifies four categories of quality-related costs in the workplace:

1. Prevention costs are incurred for activities that prevent bad quality, including training, process design, preventive maintenance, and supplier certification.

2. Appraisal costs are incurred for activities that monitor quality, including inspection, testing, and quality audits.

3. Internal failure costs are incurred when defects are discovered and addressed before it reaches the final customer. Internal failure costs include scrap, rework, and lost production.

4. External failure costs are incurred when defective goods and services are discovered after they are received by the final customer. These include the costs of warranty, replacement, lost goodwill, and lost future business.

The TQM philosophy says that in a traditional organization that attempts to save money on training, maintenance, and investment in capable equipment, and relies heavily on inspection as the main way to prevent defects from reaching the end customer, external failure costs typically represents the largest percentage of total quality costs. By practicing a defect prevention approach, a TQM organization invests more in prevention activities and dramatically cuts the much large costs of internal and external failure costs, thereby reducing total quality costs in the organization.

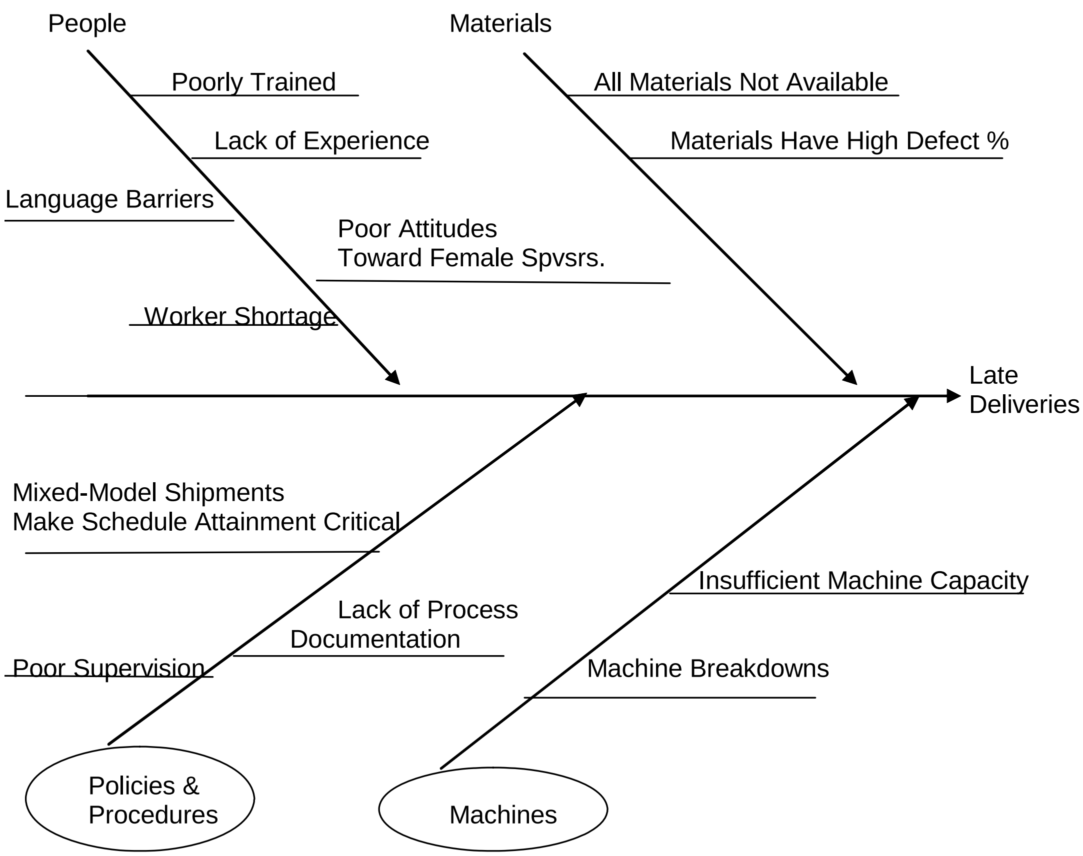
A TQM approach can be used as a guide for what might be done in the Arctic case. For example, the less-prepared Somali employees incur significantly higher rates of internal failure costs of scrap, rework, and reduced productivity compared to traditional new employees. External failure costs include the impact on relations with Sears and other major wholesale customers when orders are delivered late and higher warranty costs if shipped products turn out to be defective.

Students should be encouraged to discuss how specific prevention measures might reduce the two types of failure costs Arctic is now experiencing. The benefits of additional investments in prevention activities have significant long-term benefit if employing Somalis results in acquiring loyal and (eventually) experienced employees. After all, manufacturing jobs are some of the best paying jobs available for refugee immigrants. Social benefits also accrue to the company when it can show how it has contributed to the community effort to welcome and assist the new immigrant arrivals in becoming independent and self-sufficient.

By using Total Quality Management (TQM) principles that emphasize prevention of poor quality, the case discussion can include how Arctic's management could develop a set of critical skills and qualifications that all workers must possess. For example, it is important that all workers respect and fulfill the work-related requests of managers and supervisors, regardless of gender. Perhaps the interview process for all job applicants can include a few questions that test for a gender-neutral orientation in the worker-supervisor relationship. In another example, perhaps Arctic management could work with interpreters to develop simple tests of literacy and/or the ability to learn and follow directions. These measures are prevention-oriented and would help avoid the costlier consequences of poor quality that currently threaten Arctic.

3. Using a fishbone (cause-and-effect) diagram, explain the factors that are contributing to late deliveries.

This question helps the class to understand the use of the fishbone diagram for determining the source of poor organizational performance. It is important to note that the causes for some late deliveries may not have anything to do with the new Somali workers. Here is a sample fishbone diagram that might be generated in a class discussion on the causes of late deliveries:



4. What should Jim do? Given the circumstances, is three weeks enough time for the third shift to meet Jim's expectations for productivity improvements? Are the workers primarily responsible for the third shift's struggles? Suggest some short-term and long-term plans to address the issues raised, taking into account both the internal (organizational) and external (environmental) factors.

Jim faces a common problem to all managers: how to balance what's good for the plant in the short-term and what's good for the plant in the long-term. Jim worries that in the short-term the Somali workers are harming the plant's quality, delivery, and productivity performance, as well as the plant's relations with its customers. He also knows that in the long term, investing time and money in the newly hired Somali employees will likely pay off in securing a group of loyal and productive employees that will allow the plant to meet its performance goals.

In conducting the class discussion, the instructor should elicit from the class the ways in which the plant was not prepared for this new pool of Somali job applicants. Recruitment, screening, training, supervising, and general cultural awareness fell far short in providing the best chance of achieving success with the Somali hires. The case discussion should focus on:

(a) Improving the plant's relationships with the social service agencies that refer Somali job applicants to the plant.
(b) Finding ways to break through the communication barriers (hire more translators, conduct in-house English language classes, translate plant signs into Somali, etc.).
(c) Implementing a more sophisticated and rigorous training program.
(d) Assigning more supervisors and experienced workers to work alongside the Somalis.
(e) Bringing in an outside consultant to conduct management training sessions on Somali culture.

EPILOGUE

The third shift on the upright line was cancelled in late September, three weeks after it began. The reasons given were the poor productivity and delivery performance that showed little improvement over the time the third shift was in operation. After canceling the third shift, plant management added two extra hours of overtime to each of the first and second shifts on the upright line to absorb some of the product demand. Other orders were delayed or cancelled.

A new third shift upright line was launched the following February. This time, the third-shift workforce met the normal 3-week "ramp-up" timeline for new lines to meet plant performance standards. Recognizing the problems from their past experience, plant management implemented some new training and supervisory procedures, including:

1. Special work station simulations were constructed in the training center so newly hired workers could be trained in certain tasks prior to working on the real assembly line.

2. New hires were partnered with workers on the first or second shifts and were required to work 3-4 days under this arrangement, compared to the previous approach that allowed new workers to work as little as a single day with an experienced partner.

3. Plant management identified critical task “cells” that were comprised of one or more work stations on the upright assembly line that performed a major assembly function such as door assembly or compressor installation. The workers within these task cells were organized into teams, with a lead person assigned to provide oversight. The lead person was responsible for assigning employee breaks, getting more parts delivered to the work stations, and providing other support activities. Management hoped that these teams would help the line run with fewer delays and improved quality performance.

4. Three additional supervisors were reassigned from the first and second shifts to work on the third shift line during the start-up time, along with the two supervisors who were already assigned to the third shift.

5. Standard work instructions were translated into the Somali language.

Although all five measures were implemented, the first two measures (training on mock work stations and partnering with experienced workers for longer periods) proved to be the biggest contributors to the success of the second launching of the third line. Another likely contributing factor to the success of the second launch was a learning curve effect that carried over from the first launching, since about 90% of the 82 Somalis that were hired for the second launch were also part of the first launch.

Receiving special emphasis in the simulation and other training activities were the following critical operations:

1. Soldering. There were seven solder jobs on the line.

2. Leak Checking. Two operators use a complicated piece of equipment to make a critical go/no go quality check.

3. High Potential Test. One operator completes a test of the electrical system to check for proper grounding and good connections.

4. Final Inspection. This person checks for the right model number, correct literature, all included features are present, and that the unit is clean.

The analysis of the freezer line to identify these four operations that were deemed "critical" can be related to the "Seven Tools for Quality Improvement" that uses simple charts and data collection techniques (check sheets, fishbone diagrams, etc.) to identify the "significant few" operations that contribute to most of the quality and productivity problems. Pareto Analysis indicates that out of 130 workers on the third shift, only 11 are involved with "critical" operations. By focusing on these 11 "critical" work assignments to ensure proper training, tools, and techniques, the plant can avoid a large majority of quality and productivity problems.

Figure TN1 shows schedule attainment performance for the second launch period for the third shift only and for the combined first and second shift. The third shift achieves almost 85 percent of its schedule goals in the first week of operation (Week 6) and comes close to matching the performance of the first and second shift by Weeks 9 and 10.

Figure TN1: Schedule attainment for upright freezer line

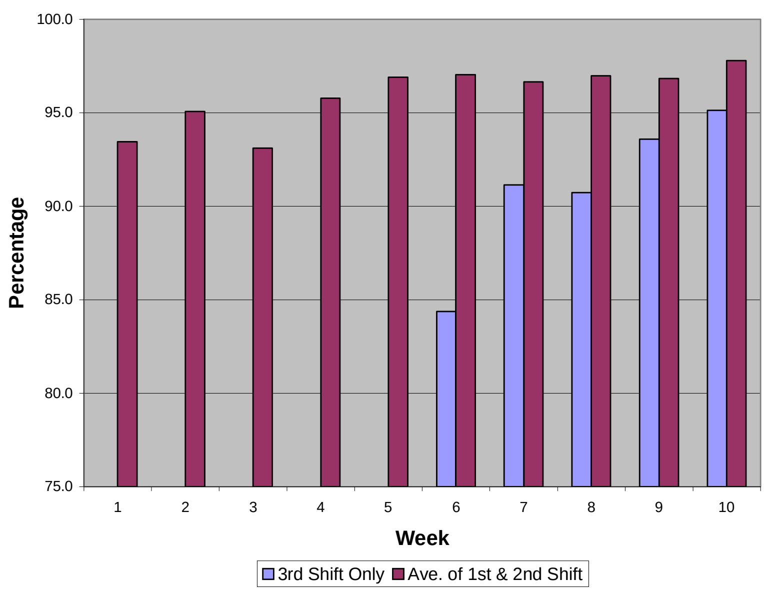
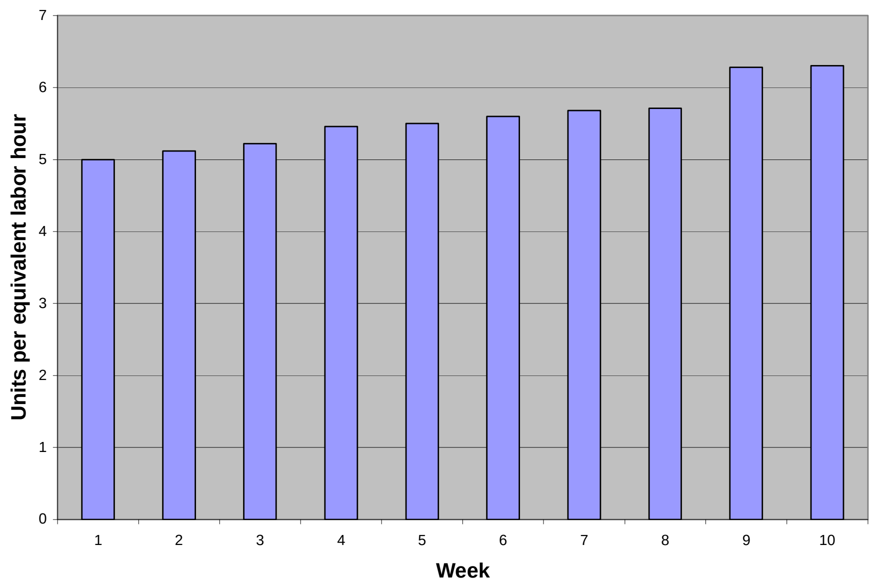


Figure TN2 shows productivity for all shifts on the upright line. Separate third shift productivity figures were not available from plant management. However, the third shift was launched in Week 6 and did not appear to affect overall line productivity, according to the chart. In Weeks 9 and 10, overall productivity of the line increases by one-half unit per labor hour.

While there is a relationship between schedule attainment and productivity, these performance measures are calculated separately and do not perfectly correlate. Schedule attainment reflects the number of units built versus the weekly production goal, both of which can vary.

Productivity is the ratio of total labor hours to units produced. Since the third shift was phased in over the first three weeks, and did not utilize all 130 workers until the fourth week, this would largely explain why the shift would perform less well on schedule attainment (units produced) in the first three weeks, but still maintain high levels of productivity, since the units that were produced were produced by less than the full complement of workers.

Figure TN2: Productivity for upright freezer line (All shifts)



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Anderson, Steven R., and Greg Campbell, "Religious Discrimination and Religious Accommodation in the Workplace," http://www.faegre.com/articles/article_2113.aspx.

MAGINET.COM:
COMPETITION IN *e*-ENTERTAINMENT SERVICES

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CASE DESCRIPTION

The focus of this case is on the selection of appropriate international strategy by e-entertainment company, MagiNet. The products provided by the MagiNet Company included Information System, Movie-on-Demand, and Internet-TV services for luxury segment of the hotel industry. Secondary issues in the case are globalization vs. multi-domestic strategies; R&D costs for new products; cross-industry application of the services by MagiNet Company; The levels of difficulty in this case are4 – senior capstone classes and 5- first year of graduate classes. The case is designed to be taught in 1.5 hours of class time, and 3 hours of outside preparations by students.

CASE SYNOPSIS

MagiNet was launched in 1995 as an entrepreneurial subsidiary of Pacific Pay Video Company. The mission of MagiNet was to provide e-entertainment services in the Asia Pacific market. Soon after its establishment the company realized rapid growth and became a leading service provider of movie-on-demand, Internet TV, and information services to luxury hotels in Asia Pacific region. By 2002 Maginet became leader in e-entertainment service and expandedboth domestically and internationally. MagiNet's market share increased to 78%, and annual sales reached $6.62 million dollars. However, the strategic audit for the year ending 2003 indicated a gradual decline in total sales and a simultaneous increase in operating costs. The decline in the company's performance created a dilemma for Lee the CEO of the company. After much thought and consulting views, Lee decided that the implementation of drastic reorganization and changes in the strategic orientation of the company may be the only viable alternatives to improve the financial performance and long term survival of the company.

INSTRUCTORS' NOTES

Teaching Objectives

MagiNet case can expose students to the following key concepts

- ♦ Examine the MagiNet's competitive advantage in the e-entertainment services.
- ♦ Evaluate which international (foreign) markets are most attractive for MagiNet.
- ♦ Discuss whether international expansion if a good growth strategy for MagiNet at this time.
- ♦ Assess whether MagiNet's core competence can be transferred to international markets/
- ♦ Assess the opportunities for MagiNet to transfer its core capabilities in related industries.

INFORMATION AVAILABLE IN CASE

External Environment

- Industry
  - Information on hotel industry and tourism (Exhibits, 1, 2, & 3).
- General
  - Country information (Exhibit 2).

Internal Environment

- General
  - Functional strength and factors affecting MagiNet entering international market.

Performance

- Consolidated Income Statement (Exhibit 4).
- Consolidated Balance Sheet (Exhibit 5).

QUESTIONS TO GUIDE THE DISCUSSION

1. What factors should MagiNet consider for success in international growth strategy?
2. What is the source of MagiNet's competitive advantage?
3. What alternatives are available to MagiNet as company expands internationally.

CASE ANALYSIS

I. ENVIRONMENTAL ANALYSIS

A. General External Environment

1. What factors should MagiNet consider for success in international horizontal growth strategy?

1. Economic

The economic development for each country varies. However, MagiNet possesses the core capabilities which provide the company a competitive position in foreign markets. The global economic condition has a significant impact on tourism markets. For example, global terrorism could affect the tourism/hospitality industry; past events demonstrate the devastating repercussions of politically driven bombings.

2. Technological

Connectivity options in wireless devices are becoming popular and affordable. Most personal computers have the capability to integrate cell phones and PDA's. MagiNet's hotel networks enable business travelers to use a paperless system of communication which makes MagiNet a more desirable service. MagiNet should consider changes in internet technology and connectivity options increase upgrade and switching costs. Moreover, technological changes require costly hardware upgrades.

3. Political-Legal

Governments in Asia-Pacific markets welcome investments and technological developments. MagiNet's technology and services is part of economic growth in the region. Emerging economies in Asia-Pacific region are implementing fundamental changes in economic and political reforms that will eventually contribute to their growth in tourism industries. However, growing cyber terrorism has pressured governmental bodies to impose strict regulations information technology and internet access.

4. Socio cultural

An important socio-cultural trend is the use of personal computers by business and leisure travelers. This creates significant opportunities for services provided by MagiNet.

B. Task Environment: Industry Analysis: Porter's Forces

1. Threat of new entrants

High initial costs and investment in both information technology and licensing agreements make the threat of new entrants moderate at best. The market tends to be saturated by the two major industry firms Rootnets Company and MagiNet. Rapid changes in Internet support technologies and new software requirements inhibit other competitors to enter the market.

2. Rivalry among existing firms

Rootnets Company is the largest major competitor to MagiNet in Asia-Pacific market. Both companies heavily rely on the tourism market. MagiNet's primary target customers are five-star hotels in Korea and other Pacific Rim countries. In 2000, Rootnets Company Gain a larger share of the market by offering a PC-based Internet service called Tourism & Business Information System (TBIS) which enabled the company to offer hotel guests all the conveniences of prior systems plus high-speed access to the internet. Rootnet also offered an on-line duty-free shop where hotel guests can purchase items without tariff and pick-up purchased items at the airport upon their departure.

3. Threat of substitutes

Substitutes tend to be information systems include Xbox or other gaming systems, in-house pay-per-view movies, wireless (WI-FI) internet access/connection, cell phone access business centers and other technological in-house conveniences individual corporations/hotels can offer guest at a fraction of the cost.

4. Bargaining power of buyers

The producers in the market are few. Buyers can select a producer and invest in technology required to deliver the services. Prior to selection the bargaining power of the buyer is high. However, after the selection of the producer high costs of technology specific to one producer, makes the switching costs high.

5. Bargaining power of suppliers

Suppliers have rather low bargaining power over MagiNet. The hardware can be outsourced with low cost manufacturer. However, software development is more expensive and requires high skill levels. Furthermore, discontinuous changes in Internet support technologies and software allow suppliers to charge high prices.

II. INTERNAL ANALYSIS

A. BUSINESS AND CORPORATE STRATEGIES

2. What is the source of MagiNet's competitive advantage?

a. Business Level

MagiNet realized that with differentiation strategy in *e*-entertainment services the unique attributes and characteristics of its products and services will provide value to its customers.

b. Corporate Level

MagiNet's corporate strategy is focused on multi-domestic strategy in product development and market expansion.

B. CORE COMPETENCIES: TANGIBLE RESOURCES

1. Marketing

MagiNet created commercial advertisements with an emphasis on travelers and business people with high purchasing power. MagiNet marketing strategy also supports global issues pertaining to the environment, medicine, relief aid and universal peace. This has promoted the company as a socially responsible company.

2. Finance

In 2002, MagiNet Company reported 78% of the market share in *e*-entertainment services with $6.62 million of sales. Corporate revenues for fiscal 2001 reached $4.5 billion with net income from operations totaling $926 million. The consolidated balance sheet and income statement provid information for a complete ratio analysis.

3. Research & Development

The company dedicated $1,000,000 to research and development in order for the firm to create its own hardware technology. MagiNet's commitment to R&D received recognition, in particular, in interactive Internet set-top box, a superior technological creation in the Korean market.

4. Human Resource Management

The company culture of teamwork emphasized strong values and ethics. MagiNet has expanded its size by employing more personnel domestically and internationally. Top managers were able to respond to environmental opportunities and threats in a timely fashion due to the established notion of teamwork throughout the company

5. Organizational Structure and Culture

The MagiNet.Com Company has a functional structure. However, the top managers of the company have arranged its structure to facilitate cross-functional management and teamwork within functions. Decision-making includes the input of all managers and technical staff. Each function works well with the other to best benefit the company. MagiNet used an open-book system, exposing its financial records to its employees. The open-book system encouraged employees to find ways to cut costs for the company as well as increase the harmony between employees and top management.

C. FUNCTIONAL CAPABILITIES: VALUE CHAIN

1. Operations

MagiNet was a first mover in Internet services and *e*-entertainment to nearly 500 luxury hotels in Asia Pacific. The operational efficiency enabled the company to bundled together a wide selection of products at a single price. This was an operational success as the company captured nearly 90% of five-star hotels in Seoul purchased MagiNet products and services. MagiNet's wide array of services consisted of: Interactive Video Service (IVS), which delivered movies to guests in luxury hotels on a demand basis 24 hours a day, as well as movie previews, advertisements and informational videos MagiNet's ability to combine movie on-demand, web, and TV services, as well as the creation of extensive databases enabled the firm to effectively manage customer relationships and create significant market campaigns

2. Information System

MagiNet established an effective network of information system to gather data from multiple markets. The information systems also enabled the company to market and explain their products and services to customers.

III. STRATEGY FORMULATION AND IMPLEMENTATION

3: What alternatives are available to MagiNet as company expands internationally. Global strategy? Or multi-domestic strategy? Application of MagiNet services in other related industries.

Maginet may have greater success in horizontal international growth strategy. The implementation of horizontal growth strategy requires MagiNet transform from a multinational corporation to a global company. The globalization strategy can create economies of scale at global level and reduce the cost of operations. The trade off for global strategy would be less of sensitivity to multinational perspective and understanding of the socio-cultural factors in each of the countries in the region MagiNet operates. The multi-domestic strategy requires the company to be more sensitive to customer preferences in each of the countries it operates. For multi-domestic strategy MagiNet may have to implement a push marketing strategy by developing a program called "Feel at Home." This program should be developed to service customers in every country that MagiNet plans to offer its product. MagiNet should do extensive research on each country's most popular TV Programs and websites. The company should also create exclusive licensing contracts with TV programs and movies distributors in each country. By doing so MagiNet can develop its product to service specific country the company plans to enter. Travelers from other countries may be interested in services offered by MagiNet as they can access news, TV programs, and sports from their country as they stay in hotels. Luxury hotels can attaract business travelers and leisure travelers as hotels offer "feeling at home" programs. MagiNet should also persist with the corporate strategy of differentiation and maintaining low cost by outsourcing the manufacturing of the hardware technology.

BIO-DIESEL PLANT LOCATION DECISION

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Doug Haines, University of Idaho
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CASE DESCRIPTION

This case addresses biodiesel production plant location considerations. The case is appropriate for undergraduate seniors (difficulty level: 4) in supply chain management, logistics, and/or general operations and marketing classes. Understanding the business issues presented is critical to firm success thus, to a student's success when they become involved in such decisions. The time a student must spend on this case for total understanding will vary depending on a student's base level of understanding, but most business students should be able to complete the case in four to six hours out of class and one hour of class discussion. The case is thirteen pages long, including references and appendices.

CASE SYNOPSIS

Bruce Nave had been using biodiesel in his own construction operation for over a year. With the advent of petroleum oil prices breaking seventy dollars per barrel, he saw an opportunity to start producing biodiesel on a commercial scale. Bruce knew that the success of his planned enterprise would depend in part on location, as each location would have different start up cost, cost of living, local laws, cost of doing business, availability and cost of inputs, and cost of shipping raw materials and finished product. Differences in these costs could quickly erode the slim contribution margins that commodity items generate. The case ends with Bruce wondering where he should locate his bio-diesel production facility. The purpose of this case is to provide a decision scenario to students that will be managing supply chains, logistic functions of a firm, and/or are otherwise involved in strategic decisions relative to location of capacity.

INSTRUCTORS' NOTES

Recommendations for Teaching Approaches

With petroleum based diesel continuing to erode profits, Bruce Nave, president of Western Industrial Resources Corporation (WIRC), started using biodiesel in 2005 to help fuel the company's diesel engines. These engines provided power to 65 trucks and an assortment of welders, compressors, and earth moving equipment. Based on the successful use of biodiesel and the rising cost of petroleum diesel, he decided that producing biodiesel on a commercial scale was a viable business. Bruce decided to start a commercial bio-diesel operation named Wi BioFuels, Inc. Once Bruce made the decision to construct a bio-diesel production facility he had to decide where to locate that facility.

Location decisions significantly affect the profit margins and eventual success of a firm due to many variables. These variables may include availability and proximity of raw materials, appropriate labor, regulations and tax structure, proximity of customers, governmental incentives, proximity of competition, quality of life, proximity to information, cost and availability of utilities, real estate costs and availability, and construction costs (Stevenson, 2007).

Presented in the case that accompanies this teaching note is information that enables students to mimic the location decision making process that Bruce performed to make his decision. The case ends with Bruce wondering where he should locate the bio-diesel plant.

The purpose of this case is to facilitate discussion of location decisions and the impact that such decisions can have on firm profitability. Following are teaching objectives this case was designed to fulfill.

- ♦ To provide a situation that demonstrates the intractable nature of location decisions
- ♦ To provide information such that students can delineate significant factors that shape location decisions
- ♦ To provide the opportunity for students to model cost parameters of location factors to determine a quantitative location solution.
- ♦ To provide the opportunity to incorporate qualitative factors with the quantitative solution to determine the final location solution

Following are the corresponding learning objectives that students should be able to demonstrate.

- ♦ Explain and/or demonstrate the intractable nature of location decisions
- ♦ Delineate significant factors of a location scenario
- ♦ Analyze the quantitative and qualitative parameters of a location scenario
- ♦ Utilize the information from the data analyses to reach a location decision
- ♦ Communicate the location decision with all supporting evidence in a professional format

The material in this case is appropriate for upper division undergraduate or MBA level courses in Supply Chain Management, Logistics, Strategy, Channels and Distribution, and/or Operations Management that includes discussions dealing with plant location.

The information and situation detailed in the case reflects actual information encountered in an actual situation by actual people. The information and characteristics of the situation were obtained through interviews with the president of WIRC and Wi-BioFuels, Inc. and through secondary research concerning the possible locations, cost parameters, and the location decision literature.

Discussion of this case should incorporate a qualitative and quantitative location framework such as the frameworks presented by Vonderembse and White (2004) (Appendix 1). Students should carefully read the case to determine the important factors influencing the location decision. Then they should systematically perform a cost benefit analysis of each site. This analysis will produce a quantitative solution to the location decision that then needs to be tempered by the qualitative analysis that the students must also perform. The following are possible discussion questions.

1. What makes location decisions intractable?
2. What criteria should be used to determine the location of the facility?
3. What qualitative criteria should be used for this case and what weight should be given to these different criteria?
4. What tool/s should be used to inform the location decision and what is the outcome of using this/these tools?
5. Where should Bruce locate his plant and why?

Triangulation between several production and operations management books such as Stevenson (2007), Slack (2007), and Vonderembse (2004) can provide basic decision frameworks and a list of possible variables that affect location decisions. The framework and variables chosen, weight placed on each variable, and decision made by each student may and probably will differ. Following suggestions by Slack (2007), the following decision placed a high weight on the supply chain network possibilities associated with a given location. To determine levels of some qualitative variables for each site, students can utilize web sites and/or contact appropriate organizations such as port authorities. Following are possible answers to the discussion questions listed above.

1. What makes location decisions intractable?

Location decisions can be very intractable due to the different factors (see answer number 2) that affect the degree of current and future profitability that a given site can provide. These factors simultaneously affect different goals a company may be trying to achieve; some positively and some negatively. These effects may actually show that there are several locations equally desirable, even though for different reasons (Stevenson, 2007). For example, to minimize freight costs a company may want to locate their distribution warehouse in a central location relative to their weighted markets. An example of how different factors can offset each other is that a firm might find the ideal location relative to freight costs in an isolated area with no available infrastructure and/or cultural life. In trying to minimize total costs by locating in that place, the location may actually raise costs due to employee related qualitative issues such as general dissatisfaction resulting in high turnover, shirking, and/or sabotage. Therefore, it is possible that a quantitative analysis between location possibilities can be misleading and qualitative information needs to be used to differentiate between locations.

2. What factors/variables should decision makers use to determine the location of a facility?

Analyzing different locations and how well they will help the company reach their objectives is important because there generally is not going to be one simple perfect location, but there are usually several nearly equally acceptable options. As suggested by Stevenson (2007) in this case the availability and proximity of raw materials, appropriate labor, regulations and tax structure, proximity of customers and competition, governmental incentives, proximity of competition, quality of life, proximity to industry related information, cost and availability of utilities, real estate costs and availability, and construction costs are some different criteria that should be considered while going through the location decision process. Slack (2007) further explored supply chain effects that a location may have on firm results such as the network relationships within a supply chain.

Some examples presented by Stevenson (2007) include the importance of looking at the availability and proximity of raw materials, customers, and transportation costs. Locating in an area with available labor with the correct skill set will also help in recruiting human resources. If the correct labor is not available cost may be affected adversely, as the firm may have to pay overqualified people to do a job someone else can do for minimum wage or pay overqualified people minimum wage and have a discontented work force causing low productivity. Regulations and tax structure are going to have an effect on whether you can even have your plant in the area, how much extra taxes and fees will cost you, and if you can possibly receive incentives or be exempt from some fee structures.

In addition to factors that can be quantified, qualitative factors should also be explored when considering location. Stevenson (2007) suggests that education opportunity, shopping, recreation, transportation, religious worship options, available entertainment, quality of police, fire, and medical services, and size of a community make a community desirable for its workers. Satisfied workers can increase high quality production of a facility and these factors can affect employee satisfaction Stevenson (2007). Thus, these factors should also be analyzed for this case.

3. Relative to this case, what criteria (factors/variables) should be used for this case and what weight should be given to these different criteria?

Students should start with a complete list of factors important to location decisions developed through sources such as Slack et al (2007), Stevenson (2007), and Vonderembse and White (2004). Then, as they read through the case, they will find information to support key factors from their list of general factors found in their research. The weight that is placed on each factor should be first determined from the case; secondly, if the weight cannot be determined from the case, it should be determined and supported from each student's perspective. It should be noted that the answer supplied put the heaviest weight on the access to the farmers' network, as a production facility with no or relatively expensive raw material will quickly go out of business. The total annual cost of production should be calculated and compared across sites. However, the most expensive site may be selected because of qualitative factors. Factors that students should be able to see as important from reading the case and conducting research are presented below. Students should be encouraged to carefully reduce the list to only the more relevant factors to make the analysis more manageable.

Quantitative
Market availability and cost of transportation
Raw input availability and cost of transportation and contracting
Variable costs, including permits, utilities, bonds, waste disposal, and property rent
Local tax rates
Qualitative
Employee Satisfaction
Real estate availability and cost
*Hospital availability**
K-12 school rating
University education availability
Culture availability
Airport availability
*Ethnic diversity**
Local tax rates
Plant functionality
Labor availability
*Labor skill level**
Proximity to a university with biodiesel experts
*Hospital availability**
*Chemical treatment center **

*Site availability**
*Ethnic diversity**
*Production growth possibilities**
*Feedstock growth possibilities**
*Local demand growth**
Airport availability
Local tax rates
Supplier network to ensure feedstock supply

** not included in this comparison*

A danger of having too many qualitative criteria is that the importance weight of each variable becomes meaningless. A good rule to use when selecting both qualitative and quantitative variables for the final analysis is to make sure the variables are relevant to the specific decision and actually vary across the sites. If there is no variation between prospective sites for a given variable, state that it does not and do not include it in the weighted analysis between sites. In addition, students should use the 80/20 rule to minimize their list of qualitative variables that are weighted and used to help make a location decision. A student would start with a complete list and then eliminate when possible, communicating their assumptions and reasons for keeping or eliminating the various variables. For this case, availability of health care, facility site availability, and growth possibilities with respect to facility and feedstock did not vary across sites. Labor skill level was also discounted, as 4/5s of the required work force was blue collar. In addition, ethnic diversity was not included, as, historically, it has not been a factor in firm success in the northwest. Although local demand growth differed, it did not vary by much and if the percent of biodiesel in a petroleum and biodiesel mix were increased beyond 20%, there would be ample increased demand at all sites to justify growth.

As stated before, scores and weights for each qualitative factor will vary by student. However, it is important that each student supports the scores and weights they assign. The method used to create Table 7 of Appendix 1 was to assess the standing of each site for a given variable and give the site with the best rating for a given factor a ten, then adjust the others down from there. Weights for the factors were determined by logic. The highest weights were given to factors that directly affected the functionality of the facility with lesser weights given to the employee satisfaction factors, as these variables indirectly affect the success of a facility. The factor with the highest weight was having an established network with local farmers because when there is no raw material, there is no chance of success. This decision was based on the Slack et. al. (2007) suggestion that a well developed supply chain is an important strategic advantage. Table 6 shows that Richland is the lowest cost location. However, information presented in Table 7 shows that Clarkston is the best site. The information in Table 6 shows that the costs of operating in Clarkston would be 16% greater than operating in Richland. Analysis shows that the major cause of the difference is the established supplier network. Bruce's long term connections in the Palouse area assure a sufficient number of farmers can be convinced to adjust their traditional rotation crops to supply sufficient oil seed feedstock for Wi-BioFuels' plant. To determine the actual importance of such a network, the cost of shipping all inputs for the feedstock from the Palouse area to Richland was included in the cost analysis for the Richland site. Under that scenario, the Richland site is nearly 20% more expensive than Clarkston. This information would suggest that Clarkston is the most favorable site.

Supply chain management literature such as that found in Slack et. al. (2007) emphasizes the importance of supplier networks. However, the case only briefly mentions Bruce's connection to such a network. Thus, an instructor of this case may want to emphasize this point during case discussion.

4. What tool/s should be used to inform the location decision and what is the outcome of using this/these tools?

A major tool that could be used for the cost variables is linear programming, but with only three locations to decide from it is not necessary. A simple table can be constructed in excel that shows factor costs and total costs for each location. An additional table can display the results of weighting the qualitative factors after first scoring each qualitative factor for each possible site (See Appendix 1). In the following analysis, a 10 point scale was used with 1 being low and 10 high to score the different qualitative variables.

5. Where should Bruce locate his plant and why?

According to the following analysis with the given weights, Bruce should build his plant in Clarkston at the Port of Wilma. The total costs per year are lower than for Portland, but 16% higher than Richland. However, the qualitative weighting is much higher for Clarkston than for Richland. The difference in costs only amounts to $169,942.81 per year, favoring Richland over Clarkston. However, the major factor influencing the difference in the qualitative assessment is access to the farmers' network that will ensure feedstock availability. Such access is critical to maintaining the costs as depicted. Thus, the recommendation is that Clarkston be the site of the new biodiesel production facility.

REFERENCES

Slack, Nigel, Stuart Chambers, & Robert Johnston. (2007). Chapter 6: Supply Network Design. *Operations Management 4th E*. Pearson Education, Inc. Retrieved on June 20, 2007, from http://wps.pearsoned.co.uk/ema_uk_he_slack_opsman_4/0,8757,1144898,00.html.

Stevenson, W. J. (2007). *Operations Management* (9th Ed.) Boston: McGraw-Hill.

Vonderembse, M. A. & White, G. (2004). *Operations Management: Concepts, Methods, and Strategies.* NJ: Wiley & Sons for Leyh Press LLC.

Appendix 1: Assessment Tables and Explanations

An estimate of total diesel usage for each area is displayed in Table 1. There was no acreage to grow oil crops listed in the case for the St. John area, so the only local demand would be for what is consumed in the city area. In addition, it was acknowledged in the case that the state of Washington had mandates of biodiesel usage, thus only Spokane and Seattle (both in Washington) are supplied by all areas in the table. The locale farm area for Clarkston includes both the Palouse and Camas Prairie areas, as both central locations of these areas are within 80 miles of Clarkston. As displayed in the table, both Clarkston and St. John facilities will have to ship fuel to the Richland area local users to sell all five million gallons of fuel.

Table 1: Demand by Location For Purpose of Outbound Freight
Available Yearly Markets by gallon (7.6 lbs/gallon)

	Spokane	Seattle	Local Farm Area Clarkston	Local Farm Area Richland	Local City area St. John	
Diesel Use	1,370,000*	20,000,000*	18,980,000**	73,000,000**	6,560,000**	
Biodiesel demand at 2%	27,400	400,000	379,600	1,460,000	131,200	
Biodiesel demand at 20%	274,000	4,000,000	3,796,000	14,600,000	1,312,000	
Expected demand by site	To Spokane	To Seattle	To Local Area***	To Richland local area		Starting Production of Facility
From Clarkston	27,400	400,000	3,796,000	776,600	=	5,000,000
From Richland	27,400	400,000	4,572,600	0	=	5,000,000
From St. John	27,400	400,000	131,200	4,441,400	=	5,000,000
*numbers from case						
**numbers from research						

***Reasoning to determine usage per area was derived from the case where local farmers would be more willing to use a higher percent of biodiesel in their engines than commercial users. 'Local' usage based on acres times 7.3 gallons/acre/year

Table 2 :Mileage Chart			
Factor	Clarkston	Richland	St. Johns/Portland
Miles Grangeville to:	74.33	211.21	418.06
Miles Rosalia to:	77.45	153.77	360.62
Miles Moses Lake to:	153.57	81.16	286.62
Miles Des Moines to:	1557.36	1647.2	1789.92
Miles Spokane to:	105.86	145.81	351.29
Miles Seattle to:	317.77	218.84	173.58
Miles St. John to:	344.16	226.47	7.63
Miles Clarkston to:	0	137.31	344.16
Miles Richland to:	137.31	0	226.47
Figures obtained through Research at Mapquest.com			

Table 3: Production per Acre and Freight Costs Per Pound per Mile					
Production per Acre	Camas Prairie	Palouse Area	Columbia Basin		
	2880	1555	1500		
Freight Costs	Truck	Train	Private Train	Ocean	Barge
$/ton/mile	0.15	0.12	0.13	0.02	0.08

Illustrated in Table 4 is the information that all areas have enough acreage to supply enough oil bearing crops to supply a five million capacity production facility.

Table 4: Acres Needed and Available per Area			
5 million gallons of biodiesel requires 5 million gallons of oil, given all oil comes from canola			
Given the following			
5,000,000	gallons capacity of facility		
38,000,000	pounds of oil at 7.6 lbs/gallon		
95,000,000	pounds of seed needed at 40% oil		
Then how many acres of canola needed given production rates	Camas Prairie	Palouse Region	Columbia Basin
lbs per acre	2,880	1,555	1500
acres needed	32,986	61,093	63,333
Acres available by area given a four year rotation	150,000	500,000	2,500,000

Illustrated in Table 5 are the freight costs. The case and a quick look at an area map provides information to complete this table. The inbound freight from the Camas Prairie area with Grangeville the center to Clarkston is all truck; from there it can change to barge. Inbound freight from Rosalia to Clarkston can be by private railroad and from Moses Lake commercial railroad. Inbound to Richland from the Camas Prairie would be by truck to Clarkston and barge from there to Richland. Inbound to Richland from Rosalia and Moses Lake would be by train. Inbound to Portland would be a combination of truck and barge from the Camas Prairie and by train and barge from the other two areas. All outbound freight is by truck.

Table 5: Cost of Freight (least cost method available for each distance)							
Inbound							
From/to	Clarkston	Richland	St. John/Portland				
Camas Prairie	$529,601.25	$1,051,379.25	$1,837,409.25				
Palouse	$478,253.75	$876,489.00	$1,786,061.75				
Columbia Basin	$875,349.00	$462,612.00	$1,323,198.00				
min/area	$478,253.75	$462,612.00	$1,323,198.00				
Outbound of Biodiesel from Production Facility to Locations Identified in the Case							
From/to	Spokane	Seattle	Local Area	Ship to Richland local Area	Total Outbound	Total Freight	Total in and out with inbound to Richland from the Palouse area
Clarkston	$1,653.32	$72,451.56	$167,580.11	$60,781.92	$ 302,466.91	$780,720.66	$780,720.66
Richland	$2,277.26	$49,895.52	$211,533.96	$ -	$ 263,706.74	$726,318.74	$ 1,140,195.74
St. John	$5,486.45	$39,576.24	$5,982.72	$573,331.00	$ 624,376.41	$1,947,574.41	$1,947,574.41

Information in Table 6 is derived from secondary research listed in Appendix 1 of the case and from Table 5 above.

Table 6: Yearly Site Variable Operating Costs (from secondary research)			
	Clarkston	Richland	St. John/Portland
Permits	$75,000.00	$20,000.00	$100,000.00
Utilities	$96,000.00	$60,000.00	$120,000.00
Bond	$120,000.00	$80,000.00	$400,000.00
Waste Disposal	$60,000.00	$24,000.00	$120,000.00
Rent of property	$120,000.00	$180,000.00	$300,000.00
Total	$471,000.00	$364,000.00	$1,040,000.00

Table 6: Yearly Site Variable Operating Costs (from secondary research)				
Total Costs	Clarkston	Richland	St. John/Portland	Richland with inbound from the Palouse area
Freight Costs	$786,238.15	$723,295.34	$1,791,552.22	$1,140,195.74
Variable Costs	$471,000.00	$364,000.00	$1,040,000.00	$364,000.00
Total	$1,257,238.15	$1,087,295.34	$2,831,552.22	$1,504,195.74
Clarkston – Richland = $169,942.81 When inbound freight is from the closest growing area			Clarkston/Richland Cost Ratio	1.16
If inbound freight to Richland were from the Palouse area then: Richland – Clarkston = $246,957.59			Richland/Clarkston Cost Ratio	1.19642865

Information displayed in Table 7 is from the case or Appendix 1 of the case. Heavier weights were placed on factors that directly affected facility functionality.

Table 7: Qualitative Factors Analyzed										
Each factor rated on a scale from 0 to 10 with ten being good				Rating			Weighted Rating			
	Clarkston	Richland	Portland	Clarksto	Richlan	St.	Weight	Clarksto	Richlan	St.
Employee satisfaction factors										
Real-estate availability (housing permit ratio to population higher the better)	0.00082	0.006816	0.000468	8	10	5	0.05	0.4	0.5	0.3
Real-estate cost (single family new housing construction permit avg. cost ’04)	$66,100	$221,600	$169,700	10	5	7	0.05	0.5	0.3	0.4
K-12 Schools	High Schools: 1 public	High Schools: 3 public, 1 private	Well over 10 in each public and private in all three areas of education	7	9	10	0.03	0.2	0.3	0.3
	Primary/Middle Schools: 8 public, 1 private	Primary/Middle Schools: 10 public, 2 private		9	9	10	0.03	0.3	0.3	0.3
Culture Availability	Limited	Diverse	Highly Diverse	7	9	10	0.05	0.4	0.5	0.5

Table 7: Qualitative Factors Analyzed										
Each factor rated on a scale from 0 to 10 with ten being good				Rating			Weighted Rating			
	Clarkston	Richland	Portland	**Clarksto**	**Richlan**	**St.**	**Weight**	**Clarksto**	**Richlan**	**St.**
Both Employee Satisfaction and Plant Functionality Factors										
Local & State Tax Rate	sales tax but low income tax	sales tax but low income tax	No sales tax, but high income tax	9	9	7	0.10	0.9	0.9	0.7
Airport Availability	Flights available to international airports	Flights available to international airports	Portland International Airport	9	9	10	0.07	0.6	0.6	0.7
University Education Availability	University of Idaho/Washington State University/Lewis and Clark State College	University of Idaho/Washington State University/ Columbia Basin College	University of Portland/Portland State University/Concordia University	10	8	10	0.07	0.7	0.6	0.7
Plant Functionality Factors										
Relevant to biodiesel research University	University of Idaho/Washington State University	University of Idaho/Washington State University	University of Idaho/Washington State University/ Oregon State University	10	8	5	0.10	1	0.8	0.5
Labor availability (unemployment rate, assume same pay rate at all sites)	6.30%	5.60%	6.20%	10	8	10	0.15	1.5	1.2	1.5
Established Network with Farmers (80 mile radius)	High	Low	None	10	0	0	0.30	3	0	0
			Total	99	84	84	1	9.5	5.8	5.8

Table 7: Qualitative Factors Analyzed											
Each factor rated on a scale from 0 to 10 with ten being good				Rating			Weighted Rating				
	Clarkston	Richland	Portland	Clarksto	Richlan	St.	Weight	Clarksto	Richlan	St.
Factors not included as they did not vary or were not important											
Labor skill level (35 years old % graduated high school)	81.40%	92.60%	85.70%	8	10	9	0.00	0	0	0
Hospital	Kadlec Medical Center and Lourdes Counseling Center	Tri-State Memorial Hospital and St. Joseph Medical Center (5 miles)	Approx. 8 including OHSU hospitals and clinics and Doernbecer	10	10	10	0.00	0	0	0
Hospital treat chem. Exposure	Yes	Yes	Yes	10	10	10	0.00	0	0	0
Site Availability	Adequate growth potential	Adequate growth potential	Adequate growth potential	10	10	10	0.00	0	0	0
Diversity	93% White non-Hispanic	87% White non-Hispanic	75.5% White non-Hispanic	7	8	9	0.00	0	0	0
Production Growth Possibilities	Unlimited	Unlimited	Unlimited	10	10	10	0.00	0	0	0
Feedstock Growth Possibilities	Unlimited	Unlimited	Unlimited	10	10	10	0.00	0	0	0
Local Demand growth	Stable	Stable	Some Growth	9	9	10	0.00	0	0	0

THE EFFECTS OF PERFORMANCE MEASUREMENT ON A DELIVERY COMPANY: A CASE STUDY

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CASE DESCRIPTION

The primary subject matter of this case concerns the challenges faced by a delivery company that uses technological tools to measure individual performance. Topics such as performance measurement, accuracy, employee motivation, and safety concerns are all explored in the case. Secondary issues include corporate culture, organizational structure, effects of incentives, and labor-management relations. The case has a difficulty level of 4-5, and is appropriate for senior-level undergraduates or first-year graduate students. It is designed to be taught in 2-3 class hours and is expected to require approximately two hours of outside preparation by students.

CASE SYNOPSIS

The case examines how a delivery company uses incentives as a motivational technique to get drivers to work faster. This technique seems to work early on for one driver, Mike, until he hurts his ankle. This leads the reader to the next issue, safety, and how WDS handles a work environment in which injuries are common. The case explores the downsides of the drive to improve financial performance by increasing workloads and pushing productivity improvements.

The reader is able to get a clear understanding of how a delivery company operates and the type of management structure that is in place. The challenge of motivating employees and managers to continually increase performance is clear throughout the case. The unique problems of encouraging employee motivation in a unionized work environment arise at the end of this case.

This case is designed to stimulate discussion about performance measurement, motivation, and safety issues in organizations. Although this case focuses on the package delivery industry and the unique characteristics thereof, the challenges that the organization encounters related to the issues of tracking performance and heightening employee motivation are general enough to fit many business situations.

INSTRUCTORS' NOTES

Recommendations for Teaching Approaches

This case was written for undergraduate and graduate students who are currently taking a human resource management, organizational behavior, organizational theory, or operations management course. Instructors of a human resource class could use this case to review decision-making issues regarding workplace safety, motivation, and performance measurement. Organizational behavior and organizational theory instructors can use this case to examine how the organizational hierarchy of a delivery company works and how different types of employees (managers vs. workers) interact with each other. Instructors can also use this case to engage students in discussions related to leadership, team building, motivation, and goal setting. The case can enhance student learning as to how these theories might be applied toward workers to make them motivated and perform their jobs more efficiently and safely.

The major objectives of this case are as follows:

1. To help students gain a better understanding of the effects that performance measurement can have on employee motivation.
2. To demonstrate to students the unanticipated consequences of instituting a performance measurement system.
3. To expose students to accidents that can occur in the workplace and the procedures which need to be followed when analyzing injury rates.
4. To provide a tool so students can examine the different types of management theory.
5. To prepare students to anticipate the inevitable changes that permeate the day-to-day operations (affecting both management and workers) of a company that has recently gone public.
6. To allow students to develop solutions to the major issues presented in the case study and to generate class discussion with the case study's questions.
7. To expose students to the possible benefits of using teams in the workplace.

Students are encouraged to research characteristics of the package delivery industry, theories of motivation, workplace safety, and incentive systems before reading the case. The instructor may use the following questions, generate another list, or ask students to formulate questions about the case for class discussion.

DISCUSSION QUESTIONS WITH ANSWERS

1. Describe the major issues presented in the vignette and prioritize the issues in terms of importance. How closely do they affect each other? Do you feel that any one issue is more important than the other? If yes, explain your answer.

The three major issues that are presented in this case are motivation, performance measurement, and safety. All of these issues presented are closely tied to each other. Safety and proper working methods are the most important issues for a business in an industry that has a large number of injuries annually, such as the delivery business. Workers will not be motivated to perform their duties to the fullest if there is a big chance of injury. It is important for an organization, such as WDS, to put just as much effort into raising safety awareness among its employees as it does in analyzing performance. The issues should be prioritized with safety first, performance measurement second, and motivation third. Unsafe working conditions cost businesses $50.8 billion in 2003 according to the Liberty Mutual Workplace Safety Index. See Table 1 for a listing of the leading causes of workplace injuries.

Table 1: Leading Causes of Workplace Injuries in 2003

Events/Causes	Occurrence (%)	Cost (in billions)
Overexertion	26.4%	$13.4
Falls on the same level	13.7	6.9
Bodily reaction	10.2	5.1
Falls to a lower level	9.0	4.6
Struck by an object	8.5	4.3
Repetitive motion	5.9	3.0
Highway accidents	5.8	3.0
Struck against an object	4.4	2.2
Caught in or compressed by	3.9	2.0
Assaults and violent acts	0.8	0.4
All other	11.3	5.8
Total	100%	$50.8

Source: The 2005 Liberty Mutual Workplace Safety Index Findings

Performance measurement should be adjusted to promote safer working conditions. One way to do this would be to lower the amount of stops for each driver. By giving drivers shorter work days, the amount of time they have to spend delivering is reduced, thereby reducing injuries that are related to lifting and stepping into and out of their trucks. Managers should strive for a "no mandatory overtime" policy, so employees know exactly how much they are going to work every day.

Mike worries more about performance and achieving a bonus than his own safety and thus ends up hurting his ankle. It is important for supervisors and managers to recognize this and try to motivate employees to not get hurt. According to Maslow's hierarchy of needs and Alderfer's ERG theory, safety or security is one of the most basic needs that people have. WDS's management should strive to create safe working conditions. This will help workers feel better about their jobs, thus increasing their performance.

2. Is Theory X the best motivational approach for WDS to use in order to increase the performance of employees? Would it be possible for a low cost leader, such as WDS, to remain competitive with another motivational approach?

Theory X and Theory Y, developed by Douglas McGregor, are contrasting approaches to motivation that are often taught in management courses. Theory X is based on the belief that people do not like work and that in order to get them to work some kind of direct pressure must be exerted to achieve maximum performance. Theory Y managers have more positive views about workers' motivations.

"Under Theory X the four assumptions held by managers are:

1. Employees inherently dislike work and, whenever possible, will attempt to avoid it.
2. Since employees dislike work, they must be coerced, controlled, or threatened with punishment to achieve goals.
3. Employees will avoid responsibilities and seek formal direction whenever possible.
4. Most workers place security above all other factors associated with work and will display little ambition.

In contrast to these negative views about the nature of human beings, McGregor listed the four positive assumptions that he called Theory Y:

1. Employees can view work as being as natural as rest or play.
2. People will exercise self-direction and self-control if they are committed to the objectives.

3. The average person can learn to accept, even seek, responsibility.
4. The ability to make innovative decisions is widely dispersed throughout the population and is not necessarily the sole province of those in management positions" (Robbins, 2005, p. 172).

Since WDS is unionized and a low cost leader in the industry, the Theory X style management is used in the work environment. However, there are some parts of WDS's organizational structure that can benefit by incorporating parts of Theory Y, such as incorporating more of a team structure and taking suggestions from employees on how to improve production to increase performance. It would be difficult for WDS to remain competitive if it gave up its tight control over performance measurement. WDS should modify its current practice for measuring performance to lower the amount of overtime worked each day by drivers.

There are several ways that employees, both managers and hourly workers, can be motivated to achieve the goals set forth by WDS's board of directors and chief executive officer. One approach to motivation would be for WDS to pay closer attention to intrinsic and extrinsic factors. Frederick Herzberg has stated that there are two broad categories of factors that affect job attitudes and employee performance. "The growth or motivator factors that are intrinsic to the job are: achievement, recognition for achievement, the work itself, responsibility, and growth or advancement. The dissatisfaction-avoidance or hygiene factors that are extrinsic to the job include: company policy and administration, supervision, interpersonal relationships, working conditions, salary, status, and security" (Herzberg, 1987, p. 117).

Managers at WDS are motivated to perform by stock options and salary (both hygiene factors) and also advancement, responsibility, and recognition (all motivator factors). Union workers (drivers and sorters) at WDS are motivated to perform primarily by hygiene factors such as: salary, overtime, performance bonuses, and health benefits. The primary incentive for both managers and union workers is money. Monetary incentives for managers come from stock options, and for union workers they come from overtime. However, there is a lack of social recognition for the drivers, sorters, and preloaders at WDS. Social recognition can play a very important role in increasing the workers' productivity. "Social recognition consists of personal attention, mostly conveyed verbally, through expressions of interest, approval, and appreciation for a job well done" (Stajkovic & Luthans, 2001, p. 582).

Many drivers felt that they were not recognized enough by managers at WDS. Their only recognition for performance came in the form of monetary incentives. A study done on incentive motivators by Stajkovic and Luthans (2001) revealed that by showing social recognition to employees, performance increased by 24%. This is a 13% greater improvement in performance than just a monetary incentive, which showed only an 11% performance improvement in the study. When workers in the study were given just routine pay for performance, their performance increased only 11% above normal output. Straight social recognition, with no monetary incentives, resulted in a 24% increase in employee output. "Our results show that [social recognition] can greatly improve performance and, unlike money, generate no direct financial costs" (Stajkovic & Luthans, 2001. p. 587)

Equity theory is another motivational theory that WDS should consider. The theory is based on the premise that “individuals compare their job inputs and outcomes with those of others and then respond to eliminate any inequities” (Robbins, 2005, p. 187). In this case, Mike is realizing that he is working harder than other drivers. Although he is getting compensated for his extra effort with overtime bonuses, the increased stress and potential for injury outweigh the benefits of these bonuses. The end result is that Mike feels that he is being treated inequitably. When workers feel underrewarded, they tend to feel angry (as Mike does), and they can be expected to respond in one of six ways. According to Robbins (2005), employees may change their inputs, change their outcomes, distort perceptions of themselves or others, choose different people to compare themselves to, or quit. WDS’s current policies may result in Mike exerting less effort or quitting, either of which are undesirable options for the company. WDS will need to evaluate employees’ perceptions of equity to discern how to motivate employees more effectively.

Vroom’s expectancy theory can also shed some light on the motivational issues at WDS. Expectancy theory proposes that workers will exert higher levels of effort when they perceive that they are able to do so, when that effort will be rewarded, and when the rewards given are valued by that worker (Robbins, 2005). Mike’s motivational issues can be explained well using this theory. First, he is continually asked to exert higher levels of effort to reach escalating performance goals. The overtime that he is expected to work increases repeatedly. Eventually, he does not believe that he can exert the level of effort needed to achieve the goals that have been set for him. Second, WDS does reward higher levels of effort by the drivers. However, since the bar is continually being raised as to what is expected of employees, the rewards are becoming harder to reach. The result is frustration and anger. Third, the case exemplifies a situation in which the rewards offered to employees are becoming less valued over time. As rewards lose their appeal, they also lose their motivational effect.

3. How effective is WDS’s current productivity measuring system? What are some better ways that WDS could measure driver productivity instead of “ride alongs”? How could teams be used effectively in this work environment?

The current productivity measuring system is very efficient for recording drivers' productivity throughout the day. However, the problem that Mike faces in the case is the increasing amount of overtime that he is given each day. WDS might find that a better way to measure a driver's productivity is by using a team of five drivers for a certain area and having them switch routes every week. This would provide WDS's industrial engineers with a better variance of the productivity levels that each route requires. By using a team structure, WDS would be able to incorporate some of the benefits of teams into an environment that is mostly managed in a Theory X style.

4. Could Mike's injury have been prevented if there was no incentive plan in place? As a manager, how would you go about raising safety awareness for the drivers of WDS? If you had to form a safety committee, how would it be structured based on the organizational structure of WDS?

There is no guarantee that Mike's injury could have been prevented if there was no bonus incentive system in place. The incentive system did increase the likelihood of an injury because Mike was working quickly to achieve a bonus. If there was no incentive plan in place it is unlikely Mike would have been hurrying so feverishly to deliver all the packages within a certain amount of time.

In order to raise safety awareness, a manager for WDS should set safety goals for both individual workers and all the workers in the Center. Measurements toward these goals could come from tracking the number of safe work days that an employee completes. If an employee works safely for a month without an injury, then he/she would have twenty safe work days (five days each week for four weeks). The incentive plan for safe work days completed by each worker should be realistic, but not too easy or too difficult. Having a reward for 500 safe work days would be too far out of reach and discouraging for many workers. However, having a goal for only twenty (one month) safe work days would be much more realistic. A "small wins" strategy should be used by managers to help motivate employees to work safer by providing them with small incentives for working safely. "Although each individual success may be relatively modest when considered alone, the multiple small gains eventually mount up, generating a sense of momentum that creates the impression of substantial movement towards a desired goal" (Whetten and Cameron, 2002, p. 125). Goals that are too difficult will be considered impossible to achieve and are likely to cause an employee to give up early and remain unmotivated. "Specific goals allow a team to achieve small wins and are invaluable to building commitment and overcoming the inevitable obstacles that get in the way of a long-term purpose" (Katzenbach and Smith, 1993, p. 115).

Referring to Exhibit 4 in the case, we can see that Mike's division is organized by different cities. A safety committee should be formed with members from each city and also at least one supervisor or manager. Members of the safety committee would then be able to better interact with fellow coworkers and supervisors. A safety communications board with pictures of the committee members and recent committee minutes should also be posted to help others identify the members and current safety issues.

There should also be a safety committee at the corporate level that oversees and gives guidance to ones at the lower division levels. The corporate level safety committee could work with insurance companies, such as Liberty Mutual, to help identify the leading causes of injuries and ways that they could be prevented. (Table 1 in the answer to Question #1 shows the ten leading causes for injuries on the job during 2003.) The lower divisions would report each month to the corporate level safety committee. By forming a safety committee, employees would have a team to work with to achieve safety goals. The committee would also be helpful for motivating fellow coworkers and potentially increasing performance. Workers would feel better about coming to work because they would feel safer about their jobs. "The essence of a team is common commitment. Without it, groups perform as individuals; with it, they become a powerful unit of collective performance" (Katzenbach and Smith, 1993, p. 118).

5. Using current theories of motivation, describe how WDS could motivate its employees instead of using monetary incentives? What would be a good way to motivate Joe given his perception that, "the harder you work for a bonus, the harder WDS will make you work"?

Reinforcement theory could be used to a greater extent at WDS. WDS could motivate employees by using external rewards such as trying to make employees feel like they are more of a team. A team structure among the drivers, similar to the one discussed in question three, would help to foster more of a shared leadership role. This would create a feeling among members of being more individually and mutually accountable for the performance of their team. WDS managers might also consider having a friendly competition among drivers that is based on bi-weekly performance. An example might be rewarding employees who go for two weeks with perfect attendance and who also achieve the highest efficiency for packages delivered within their planned work day.

Expectancy theory can be tapped to focus managers on employees' perceptions of the rewards offered. Rewards, such as a special employee parking spot or a dinner gift certificate, are other options for those employees who perform at high levels. Giving the employees a choice as to what their reward is would also be a good motivator because they are getting to pick how they are rewarded.

WDS can use Herzberg's two-factor theory to address motivational concerns. By upgrading the trucks so they have better parts, workers would feel better about doing their job. A new seat in Mike's truck could work as a motivator for him to work a little bit longer. Turnover, absenteeism, and lagging performance could be reduced by having managers at WDS show workers that they care about them and recognize their hard work. "If only a small percentage of the time and money that is now devoted to hygiene, however, were given to job enrichment efforts, the return in human satisfaction and economic gain would be one of the largest dividends that industry and society have ever reaped through their efforts at better personnel management" (Herzberg, 1987, p. 117).

WDS managers could consider using the job characteristics model for guidance. Managers could figure out how to enhance the work's meaningfulness, responsibility levels, and feedback. Hackman and Oldham's (1980) model suggests that motivation can be increased if the core job dimensions of skill variety, task identity, task significance, autonomy, and feedback are enhanced for employees. At WDS, increasing skill variety, autonomy, and feedback would be effective interventions.

Goal-setting theory also reminds us that good feedback is a very important motivator for employees. Feedback helps to clarify the expectations of both employees and managers. "In the past decade, increasing numbers of companies have been measuring customer loyalty, employee satisfaction, and other performance areas that are not financial but that they believe ultimately affect profitability. Doing so can offer several benefits" (Ittner and Larcker, 2003, p. 90). The money that is saved by using employee feedback should be used to reward the employees. A good example of the benefits of feedback comes from Toyota Motors in Japan. "Toyota's suggestion box is certainly not unique to Japan. Back in the early 1950's, the company's 45,000 employees turned in only a few hundred suggestions annually. Today, Toyota gets 900,000 proposals - 20 per employee on the average - per year, worth $230 million a year in savings. Even for a company the size of Toyota, that's not an insignificant sum" (Ohmae, 1982, p. 207).

Workers like Joe and Mike could benefit from increased recognition for the work they do at WDS. It is clear from the vignette that Joe feels that the managers at WDS don't really care about how hard he works. Giving drivers small amounts of company stock instead of a monetary bonus could also increase the morale of drivers; this way they would also be owners in the company they work for and share in the success of it.

EPILOGUE

Over the course of a year, WDS experienced a large increase in the number of drivers who received workers' compensation as a result of being injured on the job. Incentives were implemented to increase awareness among employees and to promote safety. A safety committee was also formed for each of the three shifts to help reduce injuries. The bonus system is still in place and WDS continues to do time studies every two years. The current union contract for the drivers will expire this summer and the teamsters are seeking strong language in the contract to address the overtime issue for employees. WDS has not commented on any change to the contract with regard to overtime hours worked per employee. They have mentioned that there will be an increase in the hourly pay rate to reflect cost of living increases.

Management teams continue to work with the drivers to reduce the amount of overtime hours worked. Mike has seen the daily amount of delivery stops for him slightly drop, and he is now able to get back to the building without rushing. Additional part-time workers have been promoted to full-time status, and this has helped to lower the amount of stops for the drivers. A suggestion box has also been placed near the time clock and a list of the suggestions is posted every week and reviewed. This list is printed out and then discussed with the drivers every Friday. The suggestions are then implemented if management and the drivers both agree on them. This has helped to promote better feedback between both the drivers and managers. Mike's coworker, Joe, is feeling better about the feedback he has been getting. He now has a better understanding of the reasons behind some of the management decisions that have been made.

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THE GREEDY SEVEN

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CASE DESCRIPTION

The primary subject matter of this case concerns a salary increase and the internal and external compensation alignment of a university. The equity-theory helps explain the conflict that exists between the faculty members.

To assist in their analysis, students are provided with a timeline of the critical events of the case and comparison compensation tables. Students are asked to answer four questions that include solutions to management issues and a recommended long-term solution. This case has a difficulty level of four. The case is designed to be taught in two class hours and is expected to require approximately three hours of outside preparation time by students.

CASE SYNOPSIS

The case depicts a business school dean's attempt to raise the salaries of seven School of Business faculty members to the 25th percentile salary level of AACSB accredited institutions. This was an important step to retain valuable employees and ensure reaccredidation in 2007. The salary proposal created an uproar among the non-business faculty at the university. They felt the School of Business professors were already among the highest paid employees at the university. To make matters worse, this situation occurred during a financial crisis as many other employees were denied raises and several employees were laid off due to budget constraints. The problem is exacerbated by the lack of a clear pay policy and by serious constraints posed by the institution budget and state funding. This case illustrates the importance of internal and external compensation alignment within an organization. The President of the university and the Board of Directors are faced with the enormous challenge of creating cohesiveness among the faculty despite their irreconcilable differences. Their actions and decisions will shape the fate of the School of Business and the overall university

INSTRUCTORS' NOTES

Recommendation for a General Teaching Approach

This case encourages students to critically analyze several management principles including conflict management, decision-making skills, and the equity theory in an applicable, real-world situation.

This case is structured for senior level management students and should take approximately two in-class hours to complete. Questions should be graded for the specificity of the answers provided. The instructor may choose to lead an in-class discussion after the assignments are completed so that different views can be observed. The instructor can then follow the discussion with appropriate answers.

Answers to Case Study Questions:

Based on your knowledge of the Pay Equity Theory and provided appendices, evaluate the Board's decision relative to the proposed salary increases for the seven School of Business faculty and administrators by answering the following four questions:

1. **Using the equity theory, discuss and rationalize the non-business faculty members' and the School of Business "Non-Greedy Seven" professors' actions toward the salary adjustments for "The Greedy Seven".**

    J. Stacy Adam's equity theory helps us understand why there was a controversial concern over the salary increases for the School of Business. Equity theory is based on employees' perceptions of fairness relating to their job. Using the equity theory, several non-business faculty members compared his/her input (effort, experience, education, and competence) and output (salary, recognition, rewards) to those of the business faculty members. Since they perceived the ratio was unequal, an equity tension existed. Therefore, the non-business faculty members could either choose to reduce his/her effort or strive to increase his/her output to make the relationship ratio balance. In this case, two main points can be noted to help illustrate the perceived work ratio imbalance. First, the non-business faculty members felt that the business faculty members were already overcompensated. Second, the non-business faculty members felt that it was unethical to give "The Greedy Seven" a raise when the university was experiencing a huge financial crisis. Therefore, the non-business faculty members expressed their concern to Dr. Foster and the Board of Trustees as a way to establish equilibrium among the contenders. There were also twelve School of Business professors who were not included in the "salary increase" proposal. If they believe that everyone in the School of Business has contributed an equal share in the success of the department and therefore feel that they should also receive a raise, the equity theory helps explain why they may be upset and express their feelings by working less or trying to get a raise as well in order to equalize their reference ratio.

2. During the current stage of conflict aftermath, what can the administration do to rebuild trust and reunite the academic areas to allow them to work together as a team?

First, the administration needs to recognize the various types of conflict that have occurred. Conflict is not always a negative aspect, but too much conflict can impair the organization. Functional conflict reduces groupthink, challenges members to think creatively, and helps members to work towards the goals of an organization or group. Dysfunctional conflict, on the other hand, can create tension among the group members and block the organization or group from reaching its goals. In this case, dysfunctional conflict was portrayed by a high level of tension and stress, reduced trust, and a hasty pronouncement to reverse Dr. Foster's decision. Interpersonal conflict also existed between several colleagues when they gossiped, name-called, and brought the issue to a personal level. Once the administration understands the various types of conflict, they can begin to resolve the differences and repair the damage. The administration also needs to consider that the employees' perception, not necessarily reality, is used to determine the balance or imbalance of the reference ratio. Employees may know only part of the salary and workload information of other employees. They then assume and make their own judgments on the equality of their input/output equation. One possible resolution to reduce dysfunctional conflict and help rebuild trust is to improve communication throughout the university. It is essential to have open communication between the administrative team and its employees. Since the salary increases had been approved by Dr. Foster in January but not presented to the budget committee until March, the budget committee members may have felt unimportant in the decision-making process. After the budget meeting, there were a lot of rumors circulating the campus, which distorted the truth. Rather than using all objective information, some of the emotional appeals at the March Board of Trustees meeting were irrelevant personal opinions. Using the proper channels of communication and maintaining professionalism could have eliminated some of these problems.

The administration should also refocus everyone on the overall mission of the school rather than the individual departmental goals. While departmental goals are important, they should be secondary to the overall university mission, which will ensure that employees are focusing on the same goals. Another possible solution is to recognize that employees may perceive things differently. The administrators and school deans can help employees adapt any misunderstood perceptions to the realistic situation. A third potential solution would be to bring an independent mediator to the university. This mediator could listen to the arguments of the opposing sides and facilitate settlement of the conflict by hopefully finding a win-win solution.

3. Using the salary compensation tables in Appendix C, is the compensation plan of Turrentine internally and/or externally aligned?

As illustrated in table 1 of the salary compensation tables in Appendix C, Turrentine State University is internally aligned within the individual colleges, but is not internally aligned as a university. This can be noticed by comparing the various ranking positions within the university. Students should be reminded that these tables signify salary averages. Table 2 indicates that Turrentine is not externally aligned as shown by the lower salary averages than the AACSB average salaries. A more detailed analysis of the School of Business can be found in table 3. Students can calculate the difference of salaries among the "Greedy Seven" School of Business professors and the "Non-Greedy Seven" School of Business professors and recognize that the School of Business in not internally aligned.

4. Should the administration try to externally or internally align the compensation plan?

There is usually not a perfect solution because there are many factors to consider when making such a decision. Choosing either strategy will result in both positive and negative outcomes. If the administration of Turrentine decides to internally align the compensation plan, employees may feel satisfied because they are compensated for their education, experience, and overall value to the organization. Therefore, employees will feel that they are treated fairly and equally within the university. However, salaries may be higher or lower than those of similar universities, creating a compensation deviation for market-driven positions. If the salaries are considerably lower than those of other universities, it may produce high turnover as employees seek higher paying positions and could harm the university's ability to recruit qualified employees. If the administration of Turrentine decides to externally align the compensation plan, employees of market-driven positions may feel satisfied because they are fairly compensated compared to outside institutions. However, the compensation deviations between all of the employees of Turrentine would create tension and turmoil within the university (as illustrated in this case). This could also create a high turnover of employees and harm the university's ability to recruit qualified employees.

Within the School of Business, an internal alignment does not currently exist. As shown in table 3 of Appendix C, there are some lower ranking professors who have a higher salary than some upper ranking professors. This inequity was created when only seven faculty members from various ranks were chosen to receive a raise. These professors were selected based on their hard work and their number of recent publications to academic journals. Both of these criteria help enable the AACSB reaccredidation in the near future. If the other School of Business professors, who were not selected to receive a raise, understand the selection process, they may justify the situation and make an adjustment to their current reference ratio. If they do not understand the selection process or feel that they worked just as hard as the "selected few", a perceived imbalance would exist and could affect their productivity and morale. If the School of Business dean decides to internally align the department, many professors will feel satisfied as the ranking salaries would be in order. However, the professors who exert more time and energy into their position will not be satisfied because their reference ratio will not be equalized. This could also seriously affect the productivity and morale of the department because employees would not feel rewarded for their extra time and effort.

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ROLLING THE OATS

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CASE DESCRIPTION

This case concerns the arrival of a Chief Executive in a small private company and his need to take stock of the company, and with the information that is available, plan a systematic collection of data, review the position and develop a strategy for the future. The case also deals with the development of a small business and in a minor way with some organizational development issues. The case is suitable for a number of levels of use from undergraduate to post- graduate and post experience (MBA) classes. The level of answers and analysis will vary with the level and previous understanding of business. Part One could take two class hours, Part Two three hours and Part Three three hours. The first part allows the student to consider being suddenly responsible and having little information or resources. They are invited to consider what to do first, then to plan the collection of systematic quantitative and qualitative data and the implementation of some way forward. Part Two provides information for the next three years and allows comparison of the student's ideas in Part One with what actually happened. Part Three moves on to consider the way forward for the restored company- based on the actual position.

CASE SYNOPSIS

Stuart has just arrived as the Chief Executive(CEO) of Harraways and Sons Ltd (Harraways) a small 100 year old family business. The main activity is the processing of oats into breakfast foods, and then distributing them directly and indirectly. (The processing of oats into porridge requires rolling the oats with large rolling machines- hence the title of the case!) It is a challenging environment in a difficult remote location. Stuart needed to rapidly assess the business and then plan for systematic data collection and work out how to preserve and grow the business. There is incomplete data, which is typically the case in small companies. The case begins in May 2001 when the CEO (who arrived in 2000) is asked to provide a strategy paper for his Board of Directors. Part One concerns an initial appraisal of the business and asks students what the CEO should do in that situation in 2001. Part Two is concerned with 2000- 2003 and asks students to compare what the CEO did with their suggestions from Part One. Part Three concerns the period 2004 – 2006 and brings students up to date. Current information is available on the company website.

INSTRUCTORS' NOTES

Recommended Teaching Approaches

This is a largely self contained case which can be used in a variety of ways. It can be the framework and impetus for a whole range of discussion and learning. There are three parts. Part one is about the arrival of an experienced (in other industry) new CEO. There is little in the way of support. He needs to rely on his own understanding of all businesses to gain an appreciation of how things are at Harraways.

Part Two chronicles his first three years as he sets out to collect data, plan the future and implement his plan. It is important not to give students Part Two until they have completed Part One, as it could be seen by some students as being the answer. Part Two will be very helpful to instructors if they read it in advance. Part Three is a minor part that brings the students up to date. Students wanting more information can access http://www.harraways.co.nz/ and browse the website. It shows the current project range and much interesting information .Instructors may find this interesting source of information crucial to bringing this case alive. Other sites of interest would be the main competitor who is now Nestle or health and nutrition sites. The Harraways site leads to a number of other sites to do with research and product development

The material is brief enough to be used as a small group or team task or task without previous preparation. This case can be analyzed by individual students but we suggest a format for all three parts of small group work, student presentations and instructor led integrating sessions. This method has the added advantage of developing student team leadership, membership and decision making skills. Other managerial skills: report writing, presentations, persuasive skills and analytical ability can be developed. Formal presentations can be useful in growing skills of public speaking and argument. These are all addition to the examination of content of the case.

Part one could be used as the basis for a final examination. Because this is a versatile case, for which different outcomes may be specified but the outcomes may vary with the background of students, we suggest that instructors allow discussion to develop each time the case is used and gradually build a portfolio of materials and resources that can be subsequently used.

One interesting issue that can be raised with Part One, Two or Three, is discussion of the wisdom of a manager with no industry experience being appointed to the CEO role. Whether management is generic and generalizable could form the basis of useful discussion

PART ONE: TEACHING NOTE

Teaching Objectives

Students will engage with the difficulty of insufficient information with which to begin activity. They will scan the company and the environment outside the company. They will plan the collection of data, the ordering of importance and timing. Students will decide and justify the action and the order of action proposed.

The Immediate Issues (The Process)

Students are expected to produce a plan of planning (i.e. initial response to Board). They might suggest a SWOT analysis and list the Strengths, Weaknesses, Opportunities and Threats. More advanced students might develop a sensitivity analysis of the items within the SWOT to explore how likely things are to happen

Students will come across the need to gain more information which will allow some learning about the incomplete nature of information and the often random information that is available. Students will develop a list of the things that would be helpful to know and how to go about finding them out.

Students can be encouraged to reflect on the problem of inadequate information in every part of their lives- but the necessity to make decisions despite that.

Underlying Issues (Content)

It is likely that students will suggest in response to Question Two, that value be added to Harraways through some of the following: product development; marketing and customer care and distribution. In addition issues of managerial leadership and control and organizational development may be raised.

Sales and operational planning, financial forecasting and management and establishing business Key Performance Indicators were all key drivers that needed to be implemented to manage the business.

Environmental Scanning may highlight the issues of: historical company trends, a changing market place. Current and potential customers, export opportunities, the use of the plant and what is made. (flour, stock food and oats). Internally rationalization and better financial information may aid or sustain profitability.

As a model for the external scan we suggest considering economic, political, technological and social factors are the basis.

The company needed to develop systems to increase its knowledge of customers, review trends and to assess overall market opportunities.

The company had to tap the experience and knowledge of all its employees to better manage the business. The changing of culture is firstly created from trust – Stuart needed to gain the trust and the respect of staff before this would begin to change. Staff needed to have more delegated responsibility to manage the process and be engaged and empowered...

Rationalisation is always an area a new CEO will address. The contribution of flour milling, oats and stock food may need addressing as does any improvement to administrative systems.
What actually happened forms the basis of Part Two – reading this in advance will be helpful to instructors!

PART TWO: TEACHING NOTE 2001- 2003

Teaching Objectives

In addition to the objectives in Part one student will demonstrate the ability to understand the action that took place and speculate on the reasons. They will display knowledge of techniques which help make good decisions including: developing and analyzing data; identifying problems and opportunities; identifying alternatives and choosing action and implementation. They will distinguish between the short and long term and the important and the urgent.

Students will be able to emphasize with managerial uncertainty, responsibility and the stress it can cause to individuals.

Student Learning

Students can be asked to contrast the suggestions they made for Part One with what Stuart did. Explanations can be asked for from students. The issue of priorities for action can be raised.

Discussion of the results of Stuart's activity should be encouraged. The development of a matrix for approaching a new company can be developed from what Stuart did and what was suggested by the students. Students will end up with a matrix or generic checklist to use in the real world. They already will be familiar with SWOT, environmental scanning and prioritizing activity.

Additional discussion can be introduced about organizational development and attempts to change culture, the sort of person Stuart is (maybe some values clarification based on what he appeared to care about) in some settings the nature of payment systems and other rewards for Stuart and the employees could be explored. Marketing and product development could be discussed.

PART THREE: TEACHING NOTE 2004-2006

Teaching Objectives.

In addition to the objectives in parts one and two, students will demonstrate: an understanding of the stages in small business development in particular the synergistic and iterative nature of growing a small business. They will continue to display the ability to think widely and come up with workable suggestions.

Student Learning

Students will have sense of completion by knowing what actually happened up to 2006. Students would be expected to develop a range of strategies for continuing with the business much as it is including: doing nothing new; growing incrementally in market share and in profit margin; product development and internal business improvement.

More adventurous solutions will include finding a complementary process or product, aggressively expanding the business through exporting, buying another business or starting a connected business (for example to try to protect the Intellectual property and develop overseas franchises) or a new completely different business.

The options need to include some way to exit the business by selling to a competitor. The discussion could include some fundamental exploration about why the individual directors are in business. Perhaps their purposes can be satisfied by selling a profitable business and investing the money elsewhere.

Overseas users are likely to underestimate the logistic difficulties in New Zealand. Oats only grow in the South. It is wise to process the oats locally to avoid the transportation of the 30% waste (the husk) from the process. Dunedin has low cost labour, easy communication and low cost land on which the plant is located.

THE U.S. FLOORCOVERING INDUSTRY - 2006

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CASE DESCRIPTION

The primary subject matter of this case is a study of the U.S. carpet and floorcovering industry. Secondary issues include consolidation of mature industries, global pressures, mergers and acquisitions, and rising raw material and fuel costs. The case permits in-depth discussion of the various externalities facing this changing industry including internationalization and consolidation pressures as well as shifting customer preferences away from carpet and toward hard surface flooring. It is designed for senior-level classes in strategic planning and business policy. It is expected to require two to three hours of outside preparation by students.

CASE SYNOPSIS

Dalton, Georgia is the carpet capital of the world and is home to the area's leading floor covering and carpet producers. The old world industry attracted the interest of Warren Buffet prompting him to purchase Shaw Industries, Inc. in 2001. Shaw and their key competitor, Mohawk Industries, Inc. has a rich history of growth through acquisitions. The industry giants have consolidated much of the formerly fragmented flooring industry they helped establish. Each is a full-line flooring producer manufacturing carpet, rugs, ceramic tile, laminate flooring, wood flooring vinyl, and other surfaces for commercial and residential customers and both continue to battle for the number one position in the U.S. The industry has experienced recent fiscal growth from the U.S. housing market boom and higher product sales prices exceeding analysts' expectations. However, rising fuel prices, competition from low-price Asian imports and actions by competitors continue to challenge the industry. Small suppliers exiting the industry have caused raw material prices to rise. Changes also include a shifting product mix driven by consumer preferences toward laminate, wood and ceramic tile flooring and away from carpet and vinyl products. The rug segment is growing along with hard surface flooring. Even with wood or laminate floors, consumers decorate with area and scatter rugs. The industry is changing and the leaders must consider additional ways to grow. Interviews with industry analysts, trade associations, and consultants provide additional insights.

INSTRUCTORS' NOTES

Recommendation for Teaching Approaches

Dalton, Georgia has been recognized as the carpet capital of the world and is home to the area's leading floor covering and carpet producers. Mohawk and Shaw, the industry leaders have a rich history of growth through acquisitions and have consolidated much of the formerly fragmented flooring industry they helped established. Both are full-line flooring producers manufacturing carpet, rugs, ceramic tile, laminate flooring, hardwood flooring, vinyl, and other surfaces for both commercial and residential customers. Their products are sold through an extensive dealer network. While the industry experienced recent growth and on-going profitability, rising fuel prices, competition from low-price Asian imports and actions by competitors continue to challenge the industry. The case asks students how recent acquisition will change the industry and how the industry can continue to grow.

Decision Focus

Dalton, Georgia is the carpet capital of the world and is home to the area's leading floor covering and carpet producers. The old world industry attracted the interest of Warren Buffet prompting him to purchase Shaw Industries, Inc. in 2001. Shaw and their key competitor, Mohawk Industries, Inc. has a rich history of growth through acquisitions. The industry giants have consolidated much of the formerly fragmented flooring industry they helped establish. Each is a full-line flooring producer manufacturing carpet, rugs, ceramic tile, laminate flooring, wood flooring vinyl, and other surfaces for commercial and residential customers and both continue to battle for the number one position in the U.S. The industry has experienced recent fiscal growth from the U.S. housing market boom and higher product sales prices exceeding analysts' expectations. However, rising fuel prices, competition from low-price Asian imports and actions by competitors continue to challenge the industry. Small suppliers exiting the industry have caused raw material prices to rise. Changes also include a shifting product mix driven by consumer preferences toward laminate, wood and ceramic tile flooring and away from carpet and vinyl products. The rug segment continues to grow along with hard surface flooring. Even with wood or laminate floors, consumers decorate with area and scatter rugs. The industry is changing and the leaders must consider additional ways to grow. Interviews with industry analysts, trade associations, and consultants provide insights.

Main Features of the Case

The authors analyzed the industry's situation and strategic alternatives to determine which growth avenues were best for the industry. The case provides insights into strategic and managerial issues and included detailed market and financial information on the industry and Mohawk, the only publicly-traded major player with separate industry data. The case study was developed from extensive use of secondary research from readings, articles, and reports from trade organizations on the carpet and floorcovering industry as well as interviews and personal experience working with the industry.

Learning Objectives

After studying and discussing the industry case study, students should attain the following learning:

- *Recognize growth issues in a mature company and industry*
- *Describe strategies for vertical and horizontal integration*
- *Comprehend the benefits of industry consolidation*
- *Discuss the problems with merging companies*
- *Review how economic conditions and rising material costs affect industry strategies*
- *Profile an entrepreneurial-based industry and review the "cluster" effect of industry growth and location within a region*
- *Consider the impact outsourcing has on the ability to retain market share*
- *Practice balancing the interplay of strategic alternatives, financial outcomes, and the industry implications of possible continued mergers and acquisitions.*

Potential Curriculum Uses

This case is suitable for an undergraduate strategic management course and can be used later in the course when material related to industry mergers and consolidation for mature industries is discussed. It also fits with a discussion of maturity strategies. It can also be used in an international economics or managerial economics course since it presents issues related to international mergers, fuel and other rising raw material costs (particularly oil which is a key component of carpet yarn and backing), outsourcing and expansion strategies, NAFTA and CAFTA discussions, and vertical integration. The case can be taught in a single session of approximately 1.5 hours, but a two-session sequence or a double session could delve deeper into industry structure, conduct, and performance. A longer time is also recommended if calculations and other details are computed. The case is also suitable for a take-home examination of the financial and market data with strategic issues. A team presentation is also possible as is a follow-up analysis of other industry players. An outside experiential activity can be to interview a carpet retailer in the area to learn about changing consumer preferences in the industry (i.e., shift to hard surface flooring, replacement cycle for flooring, absorption of energy costs, costs patterns and trends, etc.).

Class Assignment Questions and Answers

1. What are the pros and cons of the industry leaders maintaining their rapid acquisition rate of competitors and consolidation of the carpet industry?

Pros of Growth and Consolidation	Cons of Growth and Consolidation
Economies of scale and scope	Acquisitions may fail to recognize their intended benefits
Justification for further backward integration toward the source of raw material inputs	Difficulty in integrating diverging corporate cultures
Move toward higher market share and potential monopoly status in some floorcovering categories	Can be expensive
Less risky than internal new ventures	Insufficient or inadequate screening of acquisition targets may result in problems
Preferred entry mode (in new product categories) in well-established industries like floorcovering	Acquisition may fail to add value
Faster growth than through internal development	May overestimate the economic benefits of the acquisition

2. Will the recent acquisitions guarantee Shaw and Mohawk a strong position for further expansion within the flooring category? Should they consider other growth avenues including joint ventures, partnerships, or internal growth?

While the purchase of Unilin does provide Mohawk a presence in Europe, particularly in laminated flooring, this is no guarantee of a strong position. It does extend the company's reach into Europe and adds more non-carpet flooring to their offerings. Belgium's location in Western Europe is also a good position for further expansion into continental Europe. Business is in Europe and Mohawk's acquisition strategy gives them knowledge of the culture and flooring buying habits of this market. Unilin is a strong brand name and has experience and a set of customers and suppliers in place. This acquisition is a fast entry strategy rather than starting a company. Hard surfaces not comprise over 30% of Mohawk's total revenues in 2004 up from 5% in 2001.

An "A" answer might include a discussion of international expansion. International expansion is complex and involves weighing the benefits of new markets vs. the loss of operational size and efficiency in the US.

Shaw Industries, Inc. also is positioned to have a larger access of fiber and backing materials and should be better able to squeeze more profits or at least reduce petroleum-dependent raw material costs.

While all these choices represent ways to grow, their acquisitions have left few partners for joint ventures. Growth internally is possible and an on-going strategy. Their production output and number of employees steadily increases. The rivalry with Shaw Industries, Inc. has put continued pressure on the company for size. Joint ventures or partnerships might be appropriate for recycling. It is difficult for companies to recycle and reclaim used carpeting on their own (due to the capital costs to enter). Thus forming a recycling and distribution channel (for reverse supply chain logistics) might be appropriate. Design is another area of internal growth. Offering customer specialty and custom designs are appealing to customers who are growing more interested in "mass customization" choices.

An "A" solution will note that regardless of the growth avenue, market share growth is the goal. Market share growth encompasses a number of strategies. Further internal growth is through process improvements and leveraging knowledge across all lines supported by real-time information systems. Quick reaction time is also important for growth as is cost management.

For Mohawk and Shaw, the two leaders in the carpet and floorcovering industry, growth by acquisition has historically been the norm. Most mid-sized players have been acquired. They will probably not increase their horizontal presence by acquisition as they are already selling or manufacturing flooring in every hard and soft surface category. Mohawk's goal, according to the 2004 annual report, is to sell floorcovering and textiles for every use in the home and for every commercial application. Thus, other vertical acquisitions are possible moving backward toward the source of supply (raw materials, backing, and dyes) or forward toward retail outlets. Shaw, however, expanded into retail outlets five years ago and realized they were competing with their own retail customers. Further global expansion is also possible. With the rising fuel costs, it makes sense to have a manufacturing presence in Europe and Asia to reach these markets faster and cheaper. European buyers are concerned more about recycled content and one avenue for growth to make them appealing in the international market is to further adapt their manufacturing processes toward this goal. While they have environmental programs in place, the acquisition of other "green" companies could further this goal. Still other home or office textiles might also be acquisition targets (i.e., wall coverings, sheets, towels, etc.).

An "A" answer will note that growth by acquisition is important to gain market share, it offers immediate leadership and a strong position along with backward integration and represents a stronger point of control in the supply chain. Acquisition allows companies in general to broaden their product line and offering and consolidate fragmented markets. Acquisition is also a means to achieve a strategic goal. Acquisition offers a fast way to gain existing infrastructure including transportation and distribution centers. Purchasing sole source suppliers allows firms to have an uninterrupted source of raw materials.

Mohawk's acquisition of Lee's carpet moved the firm into a new line of modular carpet. It is a fast growing category in the carpet industry and is easy for do-it-yourself installers. Consumers like carpet tiles (for homes and offices) because only the soiled squares or wear areas need to be replaced – thus extending the life of the carpet flooring.

3. Are the top firms expanding too quickly? If so, what challenges face management?

Analysts seem positive about the acquisitions of the carpet industry and of Mohawk in particularly. With each acquisition, the stock price increases and each year (except 1996 and 2002) the company has made acquisitions. This is typical of companies in the late-growth, early-maturity stage of the life cycle. Beginning in 1992 a series of strategic mergers and acquisitions redefined Mohawk and the entire floorcovering industry. As in any merger or acquisition, management faces challenges of assimilation of the various corporate cultures into one organization. There is an issue of changing or redefining management structure. Problems exist due to the nature of the various computer software packages and hardware. The programming staff is left to combine data and information. While the IT issues are beyond the scope and coverage of this case, they do represent an important point. This would represent an "A" answer. These students should note that the data flow, as in the communication flow, means they will either create one huge company and realign all the systems with the large company or leave the entitles as stand-alone strategic business units operating their own systems (with probably compromised efficiency).

4. How will smaller companies be able to carve out a lucrative niche in this industry? Do these firms represent a threat or an opportunity to Shaw and Mohawk and why?

While the small companies are neither a threat to Mohawk or Shaw, small companies can survive in this industry as a niche player. These smaller companies offer a limited line of specialized products. Firms like Niche, Inc. (at http://www.nicheworld.com), for example specialize in products like mats, wall coverings, custom carpet, and logo carpet for business and industry. Such players offer small runs or lot sizes and customized, one-of-a-kind designs that cost more but offer extreme choice options to the customer. As another competitor, J&J Industries, while not small, is a niche player in that they concentrate only on the commercial segment of the market. An "A" answer will mention possible niche strategies including niche-differentiation (specialized and customized products) as well as niche-low cost (serving small price sensitive customers).

5. What are the pros and cons of diversifying outside the floorcovering industry?

Pros of Diversification	Cons of Diversification
Reduce risk of concentrating in only one industry or market	Bureaucratic costs of diversification may exceed the costs of diversification as a value strategy
Take advantage of differing business patterns, trends, or cycles	Difficulty in managing a number of different industries, markets, and customers
Can enter an industry or market at another stage of the life cycle (add products at the entry-level of the life cycle to offset the shrinking of other markets)	Companies may diversity for the wrong reason
Gain production, distribution, sales or marketing efficiencies and scale economies	Investors may prefer to diversity their portfolio of investments on their own rather than having a company diversity for them
Gain technical expertise (knowledge base, technology, personnel) from the diversification that may help the parent company	Tends to depress rather than improve company profitability

6. How will raw material and energy price increases (particularly oil) and the need to remain environmentally responsible continue to affect the industry in the future?

An "A" answer to this question should include additional analysis beyond the case itself to focus on current world events and the energy situation. Oil shortages due to industrialization in Asia, particularly China, increased the demand for oil. The shortages and increased prices for both the raw material input and for distribution (trucking) will cause costs to increase, thereby lowering profits, or they will have to pass the costs along to the consumer. With economic uncertainty and consumer's budgets strained by their rising fuel costs (for automobiles, natural gas for heating and cooking, etc.), consumers may delay replacement purchases of flooring. New housing starts are starting to slow. Builders and specifiers (architects, designers, builders, etc.) may switch to lower-cost flooring options. Yet, consumers are demanding more hard-surface flooring. Thus there may be a shift from carpet (petroleum-based) to hard surfaces (wood or ceramic tile). Yet, the shipping costs to transport the flooring remain.

Raw material inputs for carpet production include nylon, polyester, and polypropylene resins and fibers and carpet backings used exclusively in the carpet and rug production. All these inputs are derivatives of petroleum.

7. Will sales of laminate and other hard surfaces continue to grow?

As with a growing number of consumer products, there is a demand for more choices and options. Carpeting, while offering a range of colors and textures, is a more mature product than the newer hard surfaces. Consumers are shifting to hard surfaces to offer more choices in flooring. While carpeting remains some 63% of market share for the industry, customers are demanding hard surfaces in kitchens, baths, and other high traffic areas. Hard surfaces have grown almost 21% (laminate) over a five year period (1998-2003). This trend suggests hard surfaces are growing in popularity. Several links, while unfounded, exist between carpet and allergies. Students with an "A" answer should also note some of the trends in laminate flooring. For example, laminates are seen as easier to clean by consumers and the number of cleaning products (Swifter duster and wet or dry disposable sheets that attract dust electrostatically) indicates the popularity of the category. While hard surfaces are growing, most customers continue to use area rugs.

8. What effect will low-cost imports, particularly from Asia, have on the industry?

Almost every consumer goods industry faces competition from Asia. However the shipping costs and transportation time from Asia offer some advantages to US carpet producers. Carpet is capital intensive but not labor intensive (as all the tufting, coating, and processing is fully automated and often vertically integrated in a seamless process). The less labor intensive industries are not as vulnerable to low-cost imports. More of the competition from imports has been at the high quality end of the carpet spectrum in silk Oriental hand-woven rugs. An "A" answer should draw parallels to other textile industries, particularly the glut of Asian clothing that has entered the US market since import quotas were lifted.

Teaching Approach and Plan

It is recommended the class begin with an introduction to the industry and its history. The class can consider the questions above as an in-class assignment. A review of major industry players is also recommended particularly to understand the parallel changes at Shaw, Inc. who has also grown through a number of acquisitions. Consolidation of the industry should be discussed as well as consolidation of the retail outlets (now largely limited to big-box home improvement retailers) as well.

Another teaching plan is to direct students to the Carpet and Rug Industry's website at: http://www.carpet-rug.com to read about the history of the carpet industry as well as highlight current trends in the industry. This is particularly important for students with limited experience in or knowledge of the industry.

Industry Analysis

A starting question for an industry analysis might be: "What are key events in the structure and growth of the floorcovering industry? Also how did the industry change from carpeting to floorcovering and what is the next revolution in the industry (Griner, 1988). Exhibit 1 summarizes the findings of a "Porter Five Forces Analysis" (Porter, 1980). An Industry Life Cycle Stage analysis is offered in Exhibit 2 (Porter, 1980; Oster, 1990; Grant, 1995 *et seq*.) Exhibit 3 illustrates the Industry Value Chain (Porter, 1985).

Exhibit 1 Summary Porter's Five Forces Analysis for the Floorcovering Industry

	Very favorable	Favorable	Neutral	Unfavorable	Very unfavorable
Customers			X		
Suppliers				X	
Barriers					X
Substitutes	X				
Rivalry				X	

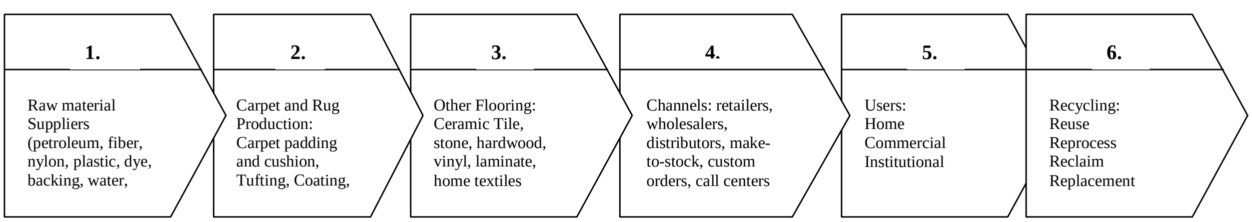
Conclusion: Consolidation to a smaller number of players is due to the high barriers to entry (cost and size of manufacturing and distribution coverage). There is a significant investment to breakeven. Rivalry is strong due to the two main players and their major market share. The industry is clustered and concentrated with U.S. manufacturing based near Dalton, GA in the SE U.S. Most full-scale competitors offer all floorcovering choices (hardwood, vinyl, tile, ceramic, carpet, rugs, laminates) and there are few substitutes not included within the industry coverage. The cost of fuel means suppliers costs for raw materials is increasing. The threat of substitutes is low since the leading manufacturers produce or distribute the entire line of floorcovering products.

The floorcovering would be recognized by most analysts as an attractive industry when examined using the Porter's Five Forces framework. The purchase of Shaw Industries Inc. by Berkshire Hathaway attests to the hidden value of this "old world" industry by Warren Buffet, founder of Berkshire Hathaway. With the vertical integration of the industry, most firms are dependent on suppliers for nylon pellets and other petroleum-based raw materials but Mohawk, like other large manufacturers, extrude their own yarn. They purchase dye and use a large source of water for carpet dyeing. Entry barriers are high due to the size necessary to be competitive. With few manufacturers customers have a number of color and texture choices, but have little choice of manufacturer. Most manufacturers make a number of floorcovering products and most retail outlets sell the products of multiple manufacturers. Switching costs between companies by customers is low and few buy carpet based on brand name or manufacturer but rather rely on information provided by sales representatives in the retail outlets.

Exhibit 2: Life Cycle Stage Analysis: Carpet Industry

Factor	Emerging	Growing	Mature	Aging
Growth Rate	Increasing	> GNP	< = GNP	< 0
Growth Potential	Unknown	Uncertain >> Present Volume	Well known > Present Volume	Well known < Present Volume
Product Lines	Basic	Proliferating	Renewal	Reduction
Role of Technology	Concept development. Product engineering	Product line refinement and extension	Evolution of process/materials Product line renewal	Process development and cost reduction
Number of Competitors	Increasing	Shakeout	Stable	Declining
Market Share	Volatile	Progressive concentration	Leaders entrenched	Concentrated
Barriers to Entry	Low	Increasing	High	High
Customer Loyalty	Little or none	Increasing	High	High and stable
Supplier Loyalty	Little or none	Increasing	High	High and stable
Importance of Cost	Low	Increasing	High	High

Exhibit 3: The Industry Value Chain



The relatively large market share of the two industry leaders (Mohawk and Shaw) is evident yet further mergers and acquisitions seem likely as the industry continues their consolidation. Small players that remain are likely niche players offering custom, one-of-a-kind, customized products for an up-scale customer or market. Other small players may also be low-end producers of entry-level floorcovering products.

The floorcovering industry, with a continual customer replacement cycle and a growth in housing starts in the US in recent years (2004-2005) with a slowing in 2006 has extended the growth of this industry. The industry seems to be experiencing a prolonged growth pattern due to mergers and the addition of new floorcovering products. The industry is very much linked to general economic conditions. Housing starts are a key leading economic indicator. When housing starts fall, the industry must either lower costs or shift their customer base to institutional, governmental, and other non-residential customers. These institutional customers, particularly schools and hotels, follow a cyclic and seasonal pattern for renovation schedules. Exhibit 3 portrays the Floorcovering Industry's Value Chain.

Retail carpet is a fragmented industry, requiring a high level of customer service to assist the end user in choosing colors, textures, and options. Carpet has not enjoyed a branded status and few outside the N. GA region know the Shaw or Mohawk name. Consumers are often more familiar with the coatings use to make carpet stain-free. Carpeting represents major consumer expenditure and requires much marketing and consumer education. The popularity of home redecorating has helped to advance frequent floorcovering changes. Educated customers can make a more informed choice. Marketing at the retail level requires a knowledgeable, well-trained sales force and coordination with installers since most carpet is not a do-it-yourself project. Because more people own homes and home size is increasing, floorcovering sales should continue to grow. Interest in home décor continues to rise. Ceramic tile, stone, wood, vinyl, and laminate products are growing due to increased consumer demand and will shift marketing efforts and expenditures.

Since Mohawk is the only publicly traded company with separate financial data, students can compute ratios using balance sheet and income statement data for the company. In addition students can develop a SWOT analysis for Mohawk. Exhibit 4 outlines the Strengths, Weaknesses, Opportunities, and Threats (SWOT) for Mohawk.

Annual Operating Revenue	$6,620,009
Operating Profit Before Depreciation	$ 627,272
Pre-tax Income	$ 577,021
Total Net Income	$ 358,195
Quick Ratio (FY)	0.8
Current Ratio	2.2
Debt to Equity Ratio	33.43%
Price to Revenue Ratio	0.97
Price to Book Ratio	2.00

Exhibit 4 Mohawk SWOT Analysis, 2006

STRENGTHS	WEAKNESSES
Largest market share in the industry providing market power with suppliers and operating economies **Complete portfolio of flooring products** **Strong liquidity (cash and investments and ratios)**	**Size could be a potential weakness** **Few acquisition partners** **Inability to merge the cultures of the acquired companies** **Loss of control due to size** **Possibly an inefficient organizational structure**

OPPORTUNITIES	THREATS
Concentrate on other geographic areas and international markets **Acquire still other firms to build scale and market power** **Increased negotiating power with suppliers** **Access to less expensive capital** **More professional management** **Cross elasticity between different products** **Increased lobbying power** **Scale and market economies** **Rugs and carpet tiles** **Aging population**	**Increasingly powerful competitor – Shaw Industries** **Rising fuel costs for distribution as well as a raw material input** **Cheaper imports** **Government mandated recycling or recycled content** **Poor carpet image – health/indoor air/ and environmental concerns** **Overproduction**

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DOTA'S SOFTWARE RE ENGINEERING GROUP: WHAT'S GOING ON IN YOUR DEPARTMENT, JIMMY?

Harsh K. Luthar, Bryant University
Shirley Wilson, Bryant University

CASE DESCRIPTION

The primary subject matter of this case concerns the critical Human Resource Management issues that arise in organizations. Specifically, the case focuses on the role played by legal and ethical concerns in formulating and implementing sound Human Resource Management policies for recruiting and selecting employees as well as creating a professional work environment.

A related issue examined in this case explores the impact of globalization on human resource management practices of recruitment, selection, and retention. The importance for managers to engage in effective International Human Resource Management practices in the context of an outsourcing/offshoring strategy to countries like India is highlighted.

The case can be used to discuss a number of secondary issues such as, effective leadership from top management, Line vs. Staff issues, organizational culture, the power and influence of HR in organizations, group dynamics among top managers, and the need for effective communication of HR policies in organizations.

This case has a difficulty level of three or four and is best utilized with juniors and seniors in the latter half of the semester in a Human Resource Management course. It can be taught in two hours of class time and should require four to five hours of outside preparation by students.

CASE SYNOPSIS

This case describes events taking place at Digital Omega Tech Alpha (DOTA) Information Services. This company has been in business for 17 years and employs around 90 people in its Providence, Rhode Island headquarters. Senior DOTA managers actively work to identify organizations that are facing challenges in communicating and effectively interfacing with various stakeholders (typically employees, customers, clients, suppliers, and regulatory agencies, etc.). After doing a needs analysis, DOTA typically proposes software solutions to handle collection of the relevant data from important internal and external stakeholders for easy retrieval, analysis, and display for the decision makers in their client organization.

To continue expanding, DOTA opened an office in Delhi, India in 2002, and has been offshoring design and programming work to that office. However, the India office has been *experiencing high turnover among employees and managers, and several major projects for important clients are stalled there. Although top DOTA managers are keenly aware of what is happening in their India office and the need to address it, they have become distracted by an EEOC investigation of sexual harassment at DOTA. The EEOC representative has also been asking questions about DOTA's recruitment and hiring policies in the Providence, Rhode Island office and is poised to broaden the investigation into other HR practices in the company. Various Equal Employment Opportunity laws such as Title VII of the Civil Rights Act, American Disabilities Act, as well as Uniform Guidelines on Employee Selection Procedures issued jointly by the EEOC and other federal agencies are salient to the case.*

The case raises a variety of legal and ethical HR issues and highlights the tension and difference in perspectives that can occur between top managers. The case suggests that neglecting HR issues can potentially undermine the overall strategy of a business. The case has been successfully used in HR class discussions as well as for take- home case analysis projects.

INSTRUCTORS' NOTES

Situation Overview

DOTA is a fictitious company and is based on a composite of cases and research in the area of human resource management as well as discussions with MBA students who are professional managers in a part-time evening MBA program.

This is an integrative case in Human Resource Management and includes a number of important issues faced by managers that pertain to making effective use of people in the workplace. The primary focus of the case is in helping management students understand the role played by legal and ethical considerations in formulating sound Human Resource (HR) policies for selection of employees and creating a professional work environment. A secondary emphasis is on recognizing the important role played by outsourcing and offshoring to countries like India and the HR issues associated with that strategy. Various Equal Employment Opportunity laws such as Title VII of the Civil Rights Act, American Disabilities Act, as well as Uniform Guidelines on Employee Selection Procedures issued by the EEOC and other federal agencies are salient to the case.

The case is appropriate for students who are at least in their junior year. Ideally, students should be in the middle or latter half of their HR course and have discussed equal employment opportunity laws as well as the impact of globalization on organizations to make the best use of the case. In order to fully benefit from the case and understand all the nuances, the students should be familiar with legal cases involving adverse impact, validation of selection instruments, reasonable accommodation for disability, and sexual harassment in the workplace. Some prior exposure to the trends of outsourcing and offshoring to other countries will help students understand the general background of the company and the challenges it is facing in international human resource management.

The case was carefully developed to ensure a comprehensive coverage of equal employment opportunity issues. It has been reviewed by undergraduate and graduate students as well as academic experts in the area of equal employment opportunity for clarity and readability. The case has been formally tested twice in HR classes by one of the co-authors with very positive results. The students invariably enjoy reading the case due to the inherent drama in the conversation between top managers and their differing perspectives on HR issues.

The case may be utilized in various ways to teach students about the application of HR concepts and laws to actual organizational problems. It can be used for in-class discussion or as an individual or group take home case that takes several weeks to complete.

For an in-class discussion, due to the complexity of HR issues raised, students should spend 4-5 hours reading and studying the case and making notes prior to the class discussion. At least two 50-minute class periods should be allocated to discussing the legal and ethical issues the case raises and the potential course of actions and strategies available to the President of DOTA.

A second approach to the case analysis could involve a substantial assignment over the second half of the semester requiring several weeks of work on the part of students. In this written case analysis, students would be required to analyze and evaluate DOTA's HR policies based on their knowledge of equal employment opportunity laws as well as the requirements of sound HR strategies. In the written case analysis, students should be required to give specific actionable recommendations to DOTA's President, Mike Thompson, and justify these based on their understanding of critical HR issues. This project could be completed by teams of 3-4 students or individual students. If the case analysis is given to students to complete individually, it should form a significant part of the semester grade (20-25 percent). Questions that Instructors can ask students to include in their written analysis are given at the end. Sample answers to these questions are provided as well in these notes. The Instructors can add other related questions as they see fit.

Case Overview

This case describes events taking place at Digital Omega Tech Alpha (DOTA) Information Services, which has been in business for about 17 years and employs around 90 people in its Providence, Rhode Island office. DOTA helps client organizations manage their information needs along the critical supply chain of their business. Specifically, DOTA designs and provides customized software solutions to handle the collection of the relevant data from important internal and external stakeholders (typically employees, customers, suppliers, partners, and even regulatory agencies) of its client organizations. This data is kept up-to-date for easy retrieval, analysis, presentation, and use for the decision makers in their client organization.

In order to continue expanding and taking on more clients, DOTA opened up an office in Delhi, India, in 2002, and has been offshoring important design and programming work. However, the Delhi office has experienced high turnover among employees and managers. With several projects for important clients stalled in the Delhi office, the President of the company, Mike Thompson, knows that the company needs to make its offshoring strategy more effective. However, top management has become distracted and troubled by an ongoing EEOC investigation into sexual harassment at DOTA's Providence office in Rhode Island.

Specific behaviors that have been called into question center on the males in the Software Engineering Department engaging in loose sexual jokes and humor, general horse playing involving playful touching, exhibiting nude posters of models, and asking the recently hired female engineers for dates. A recent e-mail was sent to the whole department by someone showing pornographic clip art and a movie animation showing a couple in the final stages of a romantic evening. Two of the Asian female engineers recently hired were very upset and took offense to that. When they complained to James Applebee, they were told that these were harmless and silly pranks to break the monotony of work and that the new women should adapt to the DOTA culture. Currently, three women are parties to a complaint with the EEOC.

The EEOC investigation has highlighted a number of serious internal problems at DOTA and is likely to expand into other areas of HR. DOTA is clearly facing legal and ethical questions relating to the company's human resource policies in the Providence office.

Given this background, the students as they read the case should be able to assess that the case essentially describes a crisis occurring in the Software Engineering Group of DOTA.

Mike Thompson, president of DOTA is learning from Lisa Connors, DOTA's Human Resources Director, that several women in the Software Engineering Group have filed charges of sexual harassment with the EEOC. Both Thompson and Connors question James Applebee, the senior manager of Software Services Department, about these charges.

LEGAL AND ETHICAL ISSUES

The following summary of conversation highlights the legal and ethical issues the students will have to analyze.

Connors is disturbed by Applebee's response to the recent sexually graphic e-mail that was sent to everyone working in the Software Engineering Group. James Applebee states, "I thought it was funny and so do most others who work here but a couple of the Asian girls in the office have had their noses bent out of joint. We have had 11 woman software programmers join in the last 2 years and my boys are still not used to it. It's going to take some time Mikey to adjust. We hired these women so rapidly over the last year because Lisa here with HR has been on our backs to diversify. Now we have the usual problems!"

Students should be able to determine that Applebee's response is not consistent with sound human resource policy or the case law in sexual harassment. Students should be able to cite specific sexual harassment cases to support their position.

Additional specific details on what constitutes sound human resource policy which is supported by case law are given in answer to sample question number 2 which is, "Do you think DOTA would be found guilty of sexual harassment, if the case ever went to court.

Applebee, while acknowledging that there is some gender tension in the Software Engineering Group, dismisses the seriousness of the problem and maintains that there is no violation of any EEO laws. Applebee also points out that the behavior that is being questioned as inappropriate has been going on since the beginning of the company, and is part of the company culture. Applebee suggests to the HR director (Connors) that the women who are newcomers should be helped to adjust to the DOTA culture through an orientation program. Overall, Applebee seems to regard the culture of his department as being playful with no ill will or malice.

Students should be able to assess that simply because a behavior has been common in an organization does not mean that it complies with emerging norms in the workplace or the HR laws. In organizations today, there is an expectation on part of the employees, both male and female, that they will be treated professionally without regard to their gender. These expectations are supported by organizational policies which are based on EEOC guidelines. Today, organizations are required to have sexual harassment policies and to communicate these to all their employees. In addition, sound HR policy dictates that employees should be able to complain to a neutral party without having to go to their supervisor. In Burlington Industries v. Ellerth, the Supreme Court has said that an employer can only defeat liability in hostile environment cases, if the employer proves that it took reasonable care to prevent and correct sexually harassing behaviors and the victim unreasonably failed to take advantage of such procedures. Since social norms and case law on sexual harassment have evolved and continue to do so, behaviors that may not have been challenged 20 years ago may be viewed today as legally questionable. Students should be able to provide examples of this with specific cases including the ones given in the sample answers.

Lisa Connors points out the other concerns being raised by the EEOC of adverse impact against women. She questions the validity of Applebee's selection practices, which appear to put certain groups of people at a disadvantage. Applebee vigorously defends the aptitude exam given to all applicants in the Software Engineering Group and states that the test is job related and the success DOTA has enjoyed is due to the excellent selection process that screens out unqualified programmers.

Students should be able to analyze this issue in terms of Title VII of the Civil Rights Act and discuss the nature of adverse impact with reference to well known court cases. Students should demonstrate an understanding of concepts such as validity of selection instruments, business necessity defense, job relatedness of selection practices, and Uniform Guidelines on Employee

Selection Procedures issued by the EEOC and other federal agencies. Students should be able to cite specific legal cases to justify their analysis. These cases along with the legal analysis of the issues can be found in the sample answer to question no. 3.

The suggestion by Connors that Applebee might be discriminating against disabled applicants is denied by Applebee. Applebee instead counters by giving an example of a hearing-impaired programmer hired by him a few years ago. Applebee points out that a recent applicant in the wheelchair was denied not because he was disabled but because he would not be able to perform the job. Applebee states that his focus is on making the company productive and not on rethinking the design of the building to accommodate every kind of disability.

The students should be able to assess this issue within the framework of the American Disabilities Act of 1990. The importance of job analysis in discovering essential functions of the job may be highlighted. Students should be able to discuss the responsibility a firm has to make reasonable accommodations to disabled employees as long as it does not cause the company undue financial hardship.

The suggestion by Connors that Applebee discriminated against an applicant because she was overweight infuriates James Applebee.

Students should be able to assess the complexity of the subject of discrimination against obese applicants as it raises both legal and ethical issues. Although ADA does not cover obesity, courts have included morbid obesity as well as disabling conditions that arise from obesity (heart disease, thyroid condition, diabetes, etc.) to come under the protection of federal laws. State and local laws are important to consider as well. Michigan is one of the states that prohibits discrimination due to weight of an individual (] Mich. Comp. Laws Ann. § 37.2102 (1985 & Supp. 1993). Students can do more research on this and include it in their analysis.

The conversation gets very hot and an acerbic exchange follows between Connors and Applebee. The meeting is concluded by president of DOTA, Mike Thompson. Thompson states that all the managers need to work as a team to tackle these challenges. Thompson suggests that Connors seek help from a neutral outside expert (his former HR professor) to help the company avoid additional lawsuits and problems with the EEOC.

Overall, the students should be able to clearly identify all the important legal and ethical issues that arise in the case, analyze these with reference to specific HR laws and court cases, and be able to make actionable recommendations based on knowledge of sound human resource policy. The following discussion questions will help students structure their analysis.

DISCUSSION QUESTIONS

1. Summarize the critical human resource issues and problems that exist at DOTA.

Currently, DOTA top management is clearly distracted from its main mission to serve its clients effectively. DOTA is having major problems with its offshoring strategy to Delhi, India and ideally should be focusing on making its International Human Resource Management more effective. Instead, top DOTA management is mired into internal squabbles at the Providence, Rhode Island home office while an EEOC investigation into company's HR practices appears to be expanding.

The problems at DOTA appear to be related to some of the senior managers such as James Applebee not understanding the requirements of EEO laws and their impact on the workplace. The fact that James Applebee is a long- term friend of the President of DOTA, Mike Thompson, and helped him start the company gives him a lot of leverage in what he does. However, what Applebee does may not be in the long- term interest of the company.

Applebee clearly knows the technical side of his business but underestimates the importance of people issues in the workplace. When a company is small and has less than 15 employees, many of the major federal EEO laws like Title VII of the Civil Rights Act do not apply to the business (even though state and local laws can still apply). This was true of DOTA in its first few years when there were only a few employees. However, DOTA has grown considerably since its inception 16 years ago and now has about 90 employees. Professionalizing the HR function should be a priority for top management. In a growing company that has gone beyond its initial entrepreneurial phase with the original small group of employees, paying attention to the workplace issues and ensuring that sound human resource practices and policies are in place is critical.

Ultimately, line managers like James Applebee must understand the nature of sound human resource management and the importance of complying with the EEO laws. This implies that they must consult and take the advice of staff managers who have specialized expertise in workplace and related HR issues very seriously.

Line managers make the most important HR decisions in organizations. They are the ones who hire, promote, discipline, and even fire employees. If line managers make the wrong decisions, the company can face lawsuits and get into serious trouble. Various issues that have been discussed in the case raise the strong possibility that there may be discrimination going on due to gender, disability, and even personal appearance or being overweight. DOTA is currently facing charges of sexual harassment in the Software Engineering Group and given the nonchalant attitude of James Applebee toward what is going on, the company may be headed into serious trouble. In addition, there appears to be adverse impact in selection due to gender and it is not clear if the selection instruments have gone through any validation. Further, issues have been raised about discrimination due to disability.

Given the current situation, DOTA may be in violation of a number of federal laws such as Title VII of the Civil Rights Act and the American Disabilities Act. In addition, DOTA may be in violation of state and local laws (referred to as Fair Employment Practices) which are often more stringent than federal laws. Without evidence that the aptitude test that has been used for over a decade for hiring is job related and valid, DOTA's selection practices would be hard to defend in court.

2. Do you think DOTA would be found guilty of sexual harassment, if the case ever went to court?

It is quite possible. Courts and the EEOC guidelines have defined sexual harassment as any unwelcome advances or conduct that creates an intimidating, hostile, or offensive working environment. This definition means that there are two types of sexual harassment:

A. Quid Pro Quo sexual harassment is when a person in a superior position in the organization makes a job opportunity (such as promotion or a salary increase) dependent upon the subordinate submitting to a sexual advance or proposition. This is a situation of "I'll do something for you, if you do this for me". This is clearly illegal and a violation of Title VII.

B. Hostile Environment sexual harassment occurs when employees are subjected to unwelcome advances, sexual jokes or banter, physical touching, being repeatedly asked for dates, exposure to nude posters, sexually graphic and/or harassing e-mails, or other such conduct of a humiliating nature, which makes work conditions intolerable. To sustain a finding of hostile environment sexual harassment, it is generally required that:

   1. The harassment is unwelcome by the harassee.
   2. The harassment is based on gender.
   3. The harassment is sufficiently severe or pervasive to create an abusive working environment.
   4. The harassment affects a term, condition, or privilege of employment.
   5. The employer had actual or constructive knowledge of the sexually hostile working environment and took no adequate remedial action.

Given the above definitions, there is no evidence in the case that there is quid pro quo sexual harassment going on. However, under the current case law (See Meritors Savings Bank, 1986; Ellison v. Brady, 1991; Harris v. Forklift systems, 1991), DOTA is likely to be found guilty of creating and tolerating a sexually hostile work environment in its Software Engineering Group. Employers have been held liable for encouraging and/or being aware of and tolerating a sexually hostile work environment without trying to remedy it. That appears to be what is going on at DOTA. James Applebee, a senior manager, has been aware of the sexually harassing behaviors in his department. However, he interprets and views these acts as playful and funny. This perspective is unlikely to be shared by a judge or a jury if the case ever goes to trial. Due to Applebee's "soft" stand ("boys will be boys") on the graphic e-mail that has been sent around the Software Engineering Group, he is essentially allowing the culture in place at DOTA to perpetuate itself. The situation clearly requires intervention.

Employers can try to limit their liability from sexual harassment cases through an affirmative defense (See Faragher v. City of Boca Raton and Burlington Industries, Inc. v. Ellerth); by providing evidence that they took immediate and corrective action once they became aware of the situation. Given the current environment and culture at DOTA and the position expressed by Applebee, there is no evidence that such an affirmative defense would be available to DOTA. Mike Thompson, the President of DOTA, is now directly involved and knowledgeable about what is going on as well. If the president of DOTA does not initiate immediate corrective action, DOTA would only be getting deeper into trouble. The liability associated with sexual harassment cases can be quite substantial. In addition, the loss of reputation for the company in the region can have a negative impact on the relationship between the company and important stakeholders, which may include existing as well as potential new clients. Given the potential seriousness of the situation and liability considerations, Mike Thompson, the President of the company, should consult with a firm specializing in employment law cases.

3. The Software Engineering Group is at the heart of DOTA's success and James Applebee attributes this to the hiring of excellent programmers through the use of the aptitude test the company put in place over a decade ago. Is the use of this selection test by DOTA automatically in violation of Title VII? Analyze and discuss in depth with reference to court cases.

Tests can be designed by industrial psychologists to measure specific aptitudes, knowledge of the job, personality characteristics, intellectual abilities, physical stamina, and psychomotor functions and skills of an individual. While the information from these tests (if they are valid) can assist managers in deciding who would be the best employees, these tests are often subject to lawsuits because of the adverse impact they may have on women and/or minorities.

Adverse impact is seen to occur when a selection device or process, that is otherwise neutral, has a disproportionately negative impact on a protected group. As a rule of thumb, if the selection rate of a protected group is less than 80% than that of the majority group, adverse impact is taking place and there is a possibility that the selection practice is in violation of Title VII. If the use of such tests in an organization results in adverse impact on some protected group, the Supreme Court has stated (in Griggs v. Duke Power Company, 1971) that the burden falls on the employer to provide evidence that the test under question is job related or constitutes a business necessity. In the Albemarle Paper Company v. Moody case, the Supreme Court strengthened the Griggs decision by requiring employers to demonstrate that the tests used in selection that had adverse impact were indeed valid.

In order to be selected to work in the Software Engineering Group at DOTA, an applicant must score over 95% on a special aptitude test. Applebee admits that the test he uses screens out more women than men and thus has adverse impact. This is also clear from the number of women in the Software Engineering Group. The case specifies that there are 64 people in the Software Engineering Group of which 53 are males and 11 are females. While Applebee has much praise for the aptitude test being used to select programmers, he does not provide any evidence for the validity of the test that would stand up to the scrutiny of the court. Whether Applebee has such evidence or not will become a critical matter if DOTA is legally challenged on that issue.

In principle, there is nothing wrong with James Applebee wanting to use a good programming aptitude test to screen out poor performers. Many companies, in fact, do just that. Title VII does not prohibit the use of such tests in the selection process. The courts have supported the use of tests of both mental and physical abilities as long as these tests can be demonstrated to be job related. Applebee clearly feels that this is a good test and DOTA has successfully used it for over a decade. The real question is whether there is any evidence to support the test as being valid.

Since the Griggs and Albemarle court cases, validation of selection devices prior to their use with applicants is considered important. Otherwise, the employer is vulnerable to various types of class action lawsuits based on the potential for adverse impact. A test is considered valid if, based on the test results; one can predict the applicant's probability of success on the job. A valid test should accurately measure what it is designed to measure. Validity tells the employer if the characteristics or aptitudes or skills being measured by the test are related to job performance. It is the employer's responsibility to make sure that a test being used for screening applicants is valid and that documentation of its validation is available. Otherwise, the selection device cannot be defended legally or on the basis of sound human resource practices.

4. Should DOTA hire employees if they are not qualified programmers just to satisfy EEO laws? Does not Applebee have a point in stating that he has to keep his focus on the company objectives and not on the layout and design of the building to accommodate those in wheel chairs or those who are obese?

A company is never legally required by any federal, state, or local law to hire a person who is not qualified to do the job. What the EEO laws do is to force organizations to focus on relevant factors and qualifications in their selection process. Although Applebee feels that his focus should be on DOTA's productivity and not the layout and design of the building to accommodate those with disabilities, the courts would disagree with him. The American Disabilities Act requires companies to make "reasonable accommodation" to qualified disabled employees unless such accommodations results in undue financial hardship for the company. This needs to be seriously considered by DOTA.

It is important for organizations to identify essential functions of jobs through the job analysis process. If a disabled individual can perform the essential functions of a job and can demonstrates that he or she is qualified, the organization should attempt to accommodate within their financial means. Most accommodations typically cost little to the company and result in a win-win situation. DOTA is clearly a profitable company. This would make it difficult for DOTA management to argue that making minor adjustments (like lowering the shelves for those in wheel chairs, redesigning bigger bathrooms, and ensuring that the elevators are always available) constitutes a financial hardship on the company.

Although ADA does not cover obesity, Courts have included morbid obesity as well as disabling conditions that arise from obesity (heart disease, thyroid condition, diabetes, etc.) to come under the protection of federal laws. State and local laws are important to consider as well. Michigan is one of the states that prohibit discrimination due to weight of an individual (] Mich. Comp. Laws Ann. § 37.2102 (1985 & Supp. 1993). Even small and medium sized organizations in today's environment are expected to know the federal, state, and local laws that apply to it and comply with these.

The fact is that people want to and expect to be treated fairly in the workplace. Fair treatment is at the heart of many human resource issues like selection, performance appraisal, compensation and others. Employees expect to have equal access to job opportunities based on skill, education, and other objective criteria. If they encounter barriers to fair treatment and workplace opportunities based on race, gender, age, ethnicity, disability, or other irrelevant factors, they are likely to be unsatisfied. In today's competitive economy, an organization with serious human resource problems will face a variety of difficulties in its relations with its employees including lawsuits.

5. What type of leadership would be needed at DOTA to change the culture and effectively address the human resource issues that exist in the company? Are Thompson and Applebee effective leaders who are capable of changing the culture of DOTA? Discuss strategies that top management (particularly the President of DOTA, Mike Thompson) can employ to effect the cultural change.

U.S. workforce is becoming more diverse in terms of age, disability, race/ethnicity, religious orientation, sexual orientation, gender, and other characteristics. Effective leadership in today's organization means being able to motivate and mobilize employees from many diverse backgrounds. A leader must create a culture which supports, nurtures and utilizes employee differences to the organization's advantage. Therefore, an effective leader should exhibit the following traits of strong leaders: emotional intelligence, integrity, drive, motivation, self-confidence, intelligence, and knowledge of the business.

In the case of DOTA, the organization needs a strong leader who demonstrates these qualities and transformational leadership. Transformational leadership is needed here because the transformational leader is one who motivates followers to work for organizational goals instead of short-term, self-interest objectives like the ones exhibited in the Software Engineering Group. DOTA needs a leader with vision, who provides employees with the motivation to perform as well as the willingness to change behaviors and attitudes for the good of the whole organization while creating a supportive, nurturing culture. A transformational leader will be able to create an organizational culture where all employees feel valued and respected regardless of gender, race, age, or physical disability.

There are some limitations in the leadership capabilities of both Thompson and Applebee (evidenced by the fact that they have been slow to respond to diversity issues in their organization and now DOTA appears to be in trouble with the EEOC). Given the current situation, however, Thompson appears to be better suited of the two to provide the leadership needed to change the culture of DOTA to become more inclusive and supportive of diverse employees.

At the very least, Thompson recognizes a need for change. This problem recognition indicates that he possesses basic transformational leadership ability, which includes need assessment skills, communication abilities, and sensitivity to others. Leadership and assertiveness training would enable Thompson to further develop these skills and become a more effective leader.

One of Thompson's big problems is his long-term friendship with Applebee. He is reluctant to deal with his friend in a strong and assertive manner, possibly out of fear of offending him or even losing him. Perhaps due to this, Thompson has not been providing the company with a clear focus on EEO issues and even appears unaware of some of the things that have been going on. However, now it is imperative that as the President of DOTA he demonstrate strong leadership if the company is going to prosper and survive in today's multicultural environment.

Applebee, on the other hand, sees nothing wrong with the culture of DOTA. His main concern is for his department only, and not for the total organization. Therefore, he appears willing to allow an uncomfortable and even a hostile environment for some employees to exist as long as his unit continues to perform at a high level. In fact, comments like 'let's not blow it out of proportion' and 'boys will be boys' indicate that he is unlikely to change without outside intervention. Because Applebee is not inclined to take a leadership role in making the needed changes to create an inclusive culture at DOTA, it is essentially all up to Mike Thompson to move forward in a decisive way and do what needs to be done to turn DOTA around.

There are several strategies top management can use to change the culture of the company. First, the company could implement sensitivity training to help the employees understand and appreciate differences. If Thompson chooses this route, he should require all of his supervisors and top managers such as James Applebee to undergo this training first so they understand its importance. Cultural change requires the support of top management in order to be effective and Thompson now has to ensure that all the top managers understand the critical need for intervention at DOTA.

Additionally, Thompson may choose to bring in a high-level executive with experience in such situations to assist with this culture change and work with the company's top managers and supervisors. A chief operating officer or a comparable position would have the authority and stature to help effect culture change by mandating training, linking rewards to performance, and providing discipline for noncompliance, if needed. Strategically, by putting a new high-level executive in charge of a diversity initiative Thompson would be sending a strong and a clear message to all managers about the company's values, and where the company wants to go in the future.

EPILOGUE

Although this is a fictitious case designed to generate classroom discussion, students often wonder what actually happened at DOTA. Following is a conclusion to this case, which provides one course of action. Students may brainstorm other possible conclusions.

Mike Thompson, President of DOTA hired his former professor Dr. Rick Smith as a consultant to help navigate DOTA through this difficult time. After extensive discussions involving both Professor Rick Smith and Lisa Connors, Mike Thompson took a number of actions to address the situation. The following events were most relevant to the case.

1. In a private meeting with James Applebee, Mike Thompson asked James Applebee to take over as the manager of the India branch of DOTA immediately for one year. Thompson emphasized to Applebee that having a senior manager from DOTA in the India office at this time was essential and that Applebee with his extensive experience was the right manager for building that office. Given that many critical projects were stalled there, James Applebee agreed with this assessment and left for the assignment three weeks later.
2. Both Mike Thompson and Professor Rick Smith felt that it was advisable to bring in a professional who could look at the situation at DOTA from a fresh perspective. At the recommendation of Professor Smith, Ann Thorpe, a senior manager with over twenty years of experience in the applications of information technology to supply chain management was hired as the Chief Operations Officer of DOTA. She took over many of James Applebee's day- to- day supervisory responsibilities in the Software Engineering Department.
3. Ann Thorpe asked Lisa Connors to assist in a diversity and cultural change initiative throughout DOTA with a special emphasis on the Software Engineering Group.
4. Mandatory sexual harassment training was part of the diversity initiative and was offered jointly by Lisa Connors and Professor Rick Smith and some of his students.
5. Soon after the diversity initiative was launched, the sexual harassment charges based on hostile work environment were withdrawn by the three female engineers in the Software Engineering Department.
6. Professor Rick Smith was given the task of evaluating the HR policies including the validity of the aptitude exams that were being given to hire programmers for DOTA. The evaluation and recommendations were expected to take six months.

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TOM BROWN INC.: SURVIVING IN THE OIL AND GAS INDUSTRY

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CASE DESCRIPTION

This case was developed through the use of secondary research material. The case has a difficulty level of five and is appropriate to be analyzed and discussed by advanced undergraduate and graduate students in a strategic management class.

The case allows the instructor the flexibility of concentrating on one strategic issue, or as a means of examining the entire strategic management process. The major focus within the strategic analysis as well as excellent stand alone modules is in the area of legal/political influence, economic, and as a means of discussing owner succession.

The instructor should allow approximately one class period for each element addressed. Using a cooperative learning method, student groups should require about two hours of outside research on each element researched. The case also provides an impetus to explore a critical industry in our world economy, yet one that has received minimal attention in most course coverage.

CASE SYNOPSIS

This case is a library, popular press and internet case which examines Tom Brown Inc. The review of annual reports, trade journals, government documents and proposed and enacted regulations must be accomplished carefully. While most students have a general understanding of the oil and gas industry, few have the current knowledge to compare this industry against more traditional production operations. A review of these resources should lead students in determining the future of the company and the current CEO, Tom Brown.

INSTRUCTOR'S NOTES

Company Mission

> *"Tom Brown, Inc. is an independent energy company engaged in the exploration for, and the development, acquisition, production, and marketing of natural gas, natural gas liquids, and crude oil primarily in the gas-prone basins of the North American Rocky Mountains and Texas."*

The corporate mission of TBI should be located by the students on the corporation's website. A review of the mission clearly demonstrates that the company has a well focused mission statement. Further investigation of TBI's direction within that document allows the identification of several internal goals and directions. Each of the below goals reinforces the company's desire to build value per share:

- Exploring undiscovered reserves
- Acquiring and exploiting oil and gas properties
- Enhancing value by optimizing production, actively marketing and processing natural gas and focusing on cost containment
- Aggressively managing and holding a dominant land position in its core areas
- Maintaining a strong balance sheet

Review of these goals should provide discussion on consistency with the mission. Knowledge of the actual results indicates, for the most part, that TBI has created a well developed direction for the company. Some discussion may arise regarding whether the above goals are truly goals or are they strategies the company is pursuing.

INDUSTRY ANALYSIS

Threats to Entry

The natural gas production industry sells a relatively undifferentiated commodity. There is no proprietary product difference or brand identity associated with natural gas. Many projects have fairly low capital requirements for domestic natural gas production. In addition, there are no switching costs for purchasers of natural gas.

One barrier that a new start-up would encounter could be access to distribution channels in certain gas rich areas—the Rocky Mountains for example. Not only is there a lack of pipeline capacity existing in the region, but individual gathering systems within that region also lack abundance. Individual operators can build gathering systems, but these systems make project economics much less attractive.

Perhaps the biggest deterrent for potential competitors within the natural gas industry is the fact that existing firms have absolute cost advantages with respect to the exploration and development of new reserves. Because the domestic natural gas market must now develop low quality reserves, competitors often lack the knowledge base to know which properties may have reserves and how exactly to go about developing those reserves.

Another component influencing the treat of new entrants is the expected retaliation of existing firms within the industry. Expected retaliation in the natural gas production industry only exists with respect to employment wars between companies. With the departure of many of the major oil companies from the U.S. exploration and development market, most firms are on a relatively equal platform in this regard.

Threats of Substitute Products

There are many other energy sources across the country that could be substituted for natural gas. These substitute forms of energy include coal, nuclear, hydro, heating oil, solar, and wind-generated. Considering that a firm's greatest concern with substitute products is their potential to set the price ceiling for your product. This consideration excludes solar, heating oil and wind-generated power as major concerns.

On the other hand, hydroelectricity is a very cheap form of energy that is definitely substituted for natural gas where possible. However, the total amount of power generated by this means is already at maximum capacity and accounts for only a small percentage of the nation's needs. The cleanest and cheapest form of energy generation in the world is that of nuclear power. Per megawatt of electricity produced, no other form of energy generation compares with respect to cost or amount of pollution generated. Due to the public's reaction to "nuclear" power plants, the nations move to this supply has been extremely limited in recent years with no new plants coming on line for several years.

Power of Buyers

Unlike many commodities, natural gas purchases are typically not at the discretion of the final end user. The price, as discussed in the case, is driven primarily on the basis of supply versus demand.

An element in the channel of distribution for this product does have a considerable influence on price in certain regions—the owners of the pipelines. When there is limited capacity with respect to the movement of the gas, the pipeline owners have considerable leverage and can charge a premium for its movement.

Power of Suppliers

In the oilfield, products and services are highly differentiated. There are such a large number of applications that must be catered to that a myriad of sub-sectors have arisen in the industry. Because each sub-sector contains only a handful of firms that are also differentiated within their peer groups, competition is low and these firms are able to charge a premium. Furthermore, limited knowledge with respect to the specialty products and services reduces the power of the exploration companies. To illustrate this point, below are a few of the specialty sub-sectors:

Drilling—drilling rigs that powers the drilling operations
Bits—bits that can cut and drill away rock
Mud—drilling fluids that provide pressure control
MWD—equipment that measures bottom-hole characteristics
Directional Drilling—hole guidance and directional drilling heads
Logging—measurement instruments of rock characteristics
Communication—relay information from remote rig locations
Casing and Liners—liners for the hole to ensure wellbore integrity
Cementing—cementing for pressure isolation and corrosion control
Down-hole tools—tools to correct remote problems
Wellheads—surface control equipment
Safety—various safety equipment items

These are only a few of the sub-sectors—there are numerous others.

There is one other supplier that may exert even more power over independent exploration and production companies. That supplier is land owners. Gas rich land masses are in short supply.

Rivalry of Existing Firms

In terms of the competitiveness of the industry, most experts would classify the industry as only relatively competitive. There is exceptional growth, few large players, fixed cost as a percentage of value added is low and exit barriers are generally low.

For students it will be difficult to accumulate a great deal of information relating to each of TBI's direct competitors. This is not a major concern for the analysis. A few of these firms include: Apache, EOG, Evergreen, Forest, Newfield and Pogo,

After analyzing the above five forces, students should come to the general conclusion that the industry is potentially very attractive. There are some protective barriers to entry, buyers are not powerful, there are limited substitute products, and the industry is relatively mild in terms of competition.

GENERAL ENVIRONMENT

The case provides numerous opportunities for the students to explore the influence of the general environment on firms. While good discussions can be generated regarding the influence of the social, global and technological forces, the areas that need the most attention from the students are natural, economic and legal and political issues.

Legal/Political:

Students should be prepared to recognize not only existing regulations, but also the potential for future re-regulation of the industry. Students should also be cognizant of the political climate relating to foreign producers. At a minimum, students should address the issues in the following paragraphs.

While forthcoming legislation and changes in governmental regulations are difficult to predict, firms operating in the natural gas industry need to be aware of proposed changes and steer their strategic plans to capitalize on legislative activity and minimize the negative impact of regulatory actions. Both the President and Congress see the need for a change in U.S. energy policy. The U.S.'s dependence on foreign oil has adverse economic and geopolitical consequences. Both government and industry view natural gas as an economic alternative to fuel oil and a clean fuel source for the generation of electricity.

A growing use of natural gas is in the generation of electricity. Coal, while being the most plentiful energy source in the U.S. and the primary fuel source for electric generation, has a number of environmental issues as it relates to air quality. Air quality regulatory activity has become more stringent and costly every year. Emissions from coal plants have been regulated since the Clean Air Act of 1992. The President has proposed an update of the Clean Air Act that would call for even more stringent requirements on the emissions of Nitrogen Oxide (NOx) and Sulfur Dioxide (SO2). Even without legislative reform, the EPA and the various states through the Clean Air Interstate Rule are likely to require lower emissions of NOx and SO2. Regulatory proposals are also in place for control of mercury emissions and well as fine particulate matter.

Pending legislation targets an increase in both domestic production as well as natural gas imports. A revision of the Energy Policy Act of 1992 is currently under consideration at the federal level. Legislative provisions being discussed include opening up the Alaskan North Slope to oil and natural gas exploration and the construction of a natural gas pipeline from Alaska to the lower forty-eight states. Proposed incentives include low interest loans and loan guarantees as well as accelerated depreciation for the pipeline owners. Proposed activities to promote additional exploration include royalty relief for oil and gas production in the deep waters of the Gulf of Mexico and the opening up of additional areas in the deep Gulf and off the Florida coast. Other areas for exploration are also being discussed including the Outer Continental Shelf and additional Federal

Lands in the Rock Mountains. While these legislative activities will eventually put some downward pressure on natural gas prices, they also offer new opportunities for TBI.

Both the President and Congress view Liquefied Natural Gas (LNG) as a solution to the U.S. dwindling natural gas supply. However, the U.S. has limited importing and re-gasification facilities for LNG. A number of companies have attempted to build LNG import stations but have not been successful due to environmental and safety concerns; especially, after the September 11 terrorist attacks. Currently, the approval and permitting of importing facilities are up to the individual states. Current provisions would move this approval and monitoring authority to the federal level. Approval of import facilities are proposed to fall under the jurisdiction of the Federal Energy Regulatory Commission (FERC) with safety issues to be addressed by the Department of Homeland Security.

The California energy crisis and a general shortage of electricity in the U.S. have prompted a number of provisions to expand the use of nuclear and coal. No nuclear reactors have been constructed in the U.S. since the mid 1970's. Current provisions include cost off-sets and tax credits for new nuclear plants. Coal, while environmentally unfriendly, is plentiful. Many see coal gasification as an environmentally friendly method of producing electricity. The Department of Energy is encouraged to foster the development of this technology and provide cost-offsets and tax credits to support its development.

Natural gas production from the Rocky Mountain States has been hampered by a lack of pipelines and storage facilities. Tariffs for natural gas transportation and storage fall under the jurisdiction of FERC. These tariffs fail to provide the economic incentives for new pipelines and storage facilities in the West. FERC is currently reviewing provisions to permit natural gas companies to provide storage facilities at market-based rates if FERC believes the company can not exert excessive market power.

Threats

- Increased environmental and safety regulations
- Increased social concern driving further pocketed legal roadblocks such as in Colorado
- Regulation restricting expansion due to potential environmental damages

Opportunities

- Increased regulation forcing larger companies out
- Legal restrictions being lifted in certain international markets

Economic

The case clearly demonstrates the influence of two major economic issues on the natural gas industry. Supply and demand is probably no more apparent in any other industry. Also the relationship of Economic Growth as measured by GDP is made very clear in this case.

Threats

- ♦ Unpredictable patterns of supply and demand
- ♦ Downturn in the economy

Opportunities

- ♦ Economic upturns
- ♦ Price increases bring new exploration

Natural

The very nature of the commodity presents both challenges and opportunities for the industry. While natural gas is a limited resource, there is still potentially a very large market to explore. The greatest concern students should identify is the diverse and isolated locations of many of the gas rich locations. In addition, gas consumption is increasing at a faster pace in the U.S. than in other areas rich in natural gas.

INTERNAL

Firms in the oil and gas industry have had very little written about there day-to-day operations in the popular press. This is also true regarding the leaders within those firms. While studying Tom Brown would be a case in itself, access to large amounts of information about him is limited. The same is true about the individual functional areas within the firm. Students will be limited primarily to looking at the raw numbers and drawing conclusions based upon these financial statements.

Financial Analysis

The analysis begins with the comparison of the firm's key performance ratios to those of its competitors. For this analysis, a random selection of independent natural gas producers with domestic operations was chosen as an industry peer group. Among those were Apache, EOG, Evergreen, Forest, Newfield, and Pogo.

Return on Revenue (ROR)—this performance ratio indicates the company's profit margin on every dollar of revenue. Lower ROR percentages indicate that the company is spending more money in the acquisition, development, or production of its reserves, or that current operations carry a high level of fixed costs compared to existing production rates. In either case, companies with lower ROR live with cost disadvantages compared to their peers. TBI was in the middle of the pact compared to its peers in this category.

Return on Assets (ROA)—this performance ratio indicates the company's ability to utilize its asset base to generate net income. Some companies may be extremely efficient at generating income from revenue (high ROR), but not utilize their full asset base to maximize those revenues (low ROA). Companies with the highest ROA are growing at the fastest rates as a direct result of differentiating their operations and establishing cost advantages with respect to "finding costs." TBI was a leader in this area within its peer group. The increase natural gas prices realized between 1999 and 2001 enabled the firm to benefit from its strategic plays and large production base existing within the Rockies.

Return on Equity (ROE)—this performance ratio indicates the company's ability to deliver earnings to its stockholders. This ratio is directly dependent on the firm's ROA in combination with its capital structure and cost of debt. Given a ROA higher than the cost of debt, an increased capitalization ratio results in a higher ROE. Likewise, given a ROA less than the cost of debt, increased capitalization ratio results in lower ROE. ROE for TBI is at the bottom of its peer group. This is true for each of the years under study. This is especially alarming given that TBI increased its ROA performance. The obvious reason for the difference between ROA and ROE is the amount of leverage assumed by TBI versus its peers. This should have become obvious to the students as they studied Table 1 within the case.

Capitalization Ratio—this ratio is a measure of the firm's long-term debt compared to its total capital base. The capitalization ratio is a simple measurement of financial leverage. TBI carried a debt percentage significantly below that of its peers—10-15% versus 35-40%. While the impetus to do this is admirable (Tom Brown's individual aversion to the risk associated with debt), it is obvious that it places TBI at risk as a target for a takeover.

CRITICAL ISSUES

While numerous issues are facing the company, a few of these are explored below.

Critical Issue # 1

THREAT —the cyclical nature of the natural gas industry adds a large component of market risk into the equation, which can lead to decreased cash flows and the mistiming of projects.

WEAKNESSES —the company has historically assumed market risk in its business operations—opting not to hedge gas production. The combination of assuming the risk associated with developing unconventional gas sources (operational risk) as well as market risk has been detrimental to the company's prior financial performances.

Within TBI's operations, there is a major inconsistency between the business unit level strategy and functional level strategies. The business unit level strategy dictates that the company will achieve superior financial results by employing its technical staff and its land position to find and develop a production/reserve base at a cost significantly lower than its competitors. While the company has been successful in its attempts to realize this objective, the company's financial results have been sub-par in some areas. While mitigating risk and outperforming the market in terms of operational excellence, TBI has given back many of these gains by assuming a large degree of market risk in its operations. This was evident in 2002, as TBI production and reserves increased at acceptable levels, while net income plummeted to a negative $8.2 million. As can be inferred, TBI did not hedge any of its production prior to the start of the year.

Critical Issue # 2

OPPORTUNITY —Major oil producers and some large independents are exiting the high-cost environment in North America in search of low-cost reserves found abroad. Therefore, existing domestic properties will continue to be sold to independents.

STRENGTH —TBI has a proven track record of successfully evaluating and subsequently negotiating the purchase of those properties. The company's current capital structure would allow for easy financing of such deals.

Over the past decade, TBI has been able to acquire properties at prices significantly lower than its finding costs. Many of the acquired properties have also led to very successful, low-cost development projects. Therefore, the availability of additional sales-block properties can only be beneficial.

Critical Issue # 3

THREAT —With its large composition of gas reserves and strategic positioning, larger competitors may make hostile-takeover bids to acquire the TBI's reserves for a fraction of their real value.

WEAKNESS —TBI's capital structure, with its low levels of debt, invites an action. The company's historically low Return on Equity (due primarily to unfavorable leverage positions) might have the shares undervalued—further enticing potential acquirers.

Although short-term shareholder value may increase as a result of such a transaction, it probably would not be beneficial to stockholders in the long term. Because of the low capitalization ratio historically employed by the company, the Return of Equity has been artificially reduced. This reduction in ROE negatively impacts the price of the stock. Therefore, a hostile acquirer, instead of the previous shareholders, would benefit form this "hidden value". In addition, there is a very real possibility that the value of natural gas (and thus TBI shares) will significantly increase in the near future. A hostile takeover would strip existing shareholders of this future value.

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Table 1: Tom Brown Inc. Activity: 1992-2002				
Year	**Investment**	**Divestment**	**Source of Funds**	**Amount**
1992		Willingston Basin (ND, Montana)		($7.0 M)
	Arkoma Basin (AR)			$1.6 M
	Wyoming's Wind River Pavilion Field			$3.4 M
1993	Wind River Pipeline			$2.2 M
			Stock Issuance	($38.6 M)
	Val Verde Basin of South West Texas			$1.6 M
1995	Presidio Oil & Gas Index notes		Bank Loan	$56.0 M ($56.0 M)
			Renegotiated bank loan	($65.0 M) $56.0 M
		Arkoma		($9.0 M)
			Stock Issuance and paid loan	($47.0 M) $65.0 M
1996	K. N. Production Co.			$36.25 M
			Stock Issuance Preferred Stock Issuance Common	($25.0 M) ($11.25 M)
	Finalized remaining purchase of Presidio			$206.6 M
			Stock Issuance	($46.4 M)
1997			ND Properties	($11 M)
			Stock Issuance	($121 M)
	Genesis Gas & Oil			$35 M
	Interenergy Corp			$23.4 M
1998	Sauer Drilling Co.			$8.1 M
1999	Relocation to CO			$2.1 M
	Unocal Rocky Mountain assets			$60.9 M
			Stock Issuance	($55.9 M)
	Greater Green River Basin of WY			$7.7 M
		DJ Basin of NE Colorado		($2.3 M)
2000	Wind River Pavilion field			$15.2 M
2001	Stellarton Energy Inc.			$94.8 M
			Canadian Loan	($94.8 M)
	Don Evans (CEO) resigned to become Sec. of Commerce and receives bonus and non-cash stock option charge of $3.8 M			$1.5 M
		Oklahoma Assets		($24.5 M)
		Wildhorse		($24 M)
	Deep Valley Project			$8 M
2002		Wyoming Power River Basin		($7.2 M)
		Louisiana Holdings		($2.0 M)
		Colorado Holdings		($1.6 M)
	Green River Basin			$14.9 M

Table 2: TOM BROWN, INC. BALANCE SHEET
($ thousand)

	2002	2001	2000	1999
Current Assets				
Cash & Equivalents	13,555	15,196	17,534	12,510
Accounts Receivable	47,414	63,745	95,878	53,646
Inventories	1,808	1,689	521	829
Other	3,988	2,332	2,307	1,625
Total Current Assets	66,765	82,962	116,240	68,609
Property & Equipment, at cost				
Gas and Oil Properties	959,807	849,628	575,991	470,461
Gather & Process & Plant	101,054	89,343	81,873	71,657
Other	35,930	33,689	28,746	23,027
Depreciation	-320,306	-234,134	-176,848	-133,342
Net P&E	776,485	738,526	509,762	431,803
Other Assets				
Deferred Income Taxes, net	0	0	0	28,625
Goodwill, net	0	18,125	0	0
Other Assets	7,702	5,362	3,533	35,887
Net Other Assets	7,702	23,487	3,533	64,512
Total Assets	850,952	844,975	629,535	564,924
Current Liabilities				
Accounts Payable	42,773	59,172	55,982	39,489
Accrued Expenses	21,993	12,512	22,119	9,763
Fair Value of Derivative Instruments	10,886	0	0	0
Total Current Liabilities	75,652	71,684	78,101	49,252
Bank Debt	133,172	120,570	54,000	81,000
Deferred Income Tax	73,967	75,194	5,475	0
Other Non-Current Liabilities	4,543	2,299	3,066	3,950
Total Liabilities	287,334	269,747	140,642	134,202
Stockholder's Equity				
Convertible Perferred Stock	0	0	0	100
Common Stock, ($0.10 par value)	3,926	3,913	3,835	3,531
Additional Paid-in Capital	537,449	534,790	516,911	495,817
Retained Earnings	29,678	37,855	-31,648	-97,351
Accumulated Other Comp. Loss	-7,435	-1,330	-205	0
Total Stockholder's Equity	563,618	575,228	488,893	402,097
Equity & Liabilities	850,952	844,975	629,535	536,299

Table 3: TOM BROWN, INC. INCOME STATEMENT ($ thousands)				
	2002	2001	2000	1999
Revenues				
Oil, Gas & Liquid Sales	194,276	274,031	216,968	104,431
Gathering & Processing	20,467	23,245	18,283	11,968
Marketing & Trading	5,276	1,891	5,841	-786
Drilling	14,347	14,828	11,472	5,645
Gain on Sale of Property	4,114	10,078	0	1,265
Change in Derivative Fair Value	-2,406	897	0	0
Loss on Marketable Securities	-600	0	0	0
Interest Income & Other	171	1,345	1,346	888
Total Revenues	235,645	326,324	253,910	123,411
Costs and Expenses				
Gas and Oil Production	32,151	32,060	25,488	18,446
Taxes on gas & oil	16,621	21,020	22,105	9,934
Gathering & Processing Costs	6,918	10,855	7,212	5,853
Drilling	13,763	11,851	9,715	5,237
Exploration Costs	22,824	34,195	11,001	10,013
Impairment of Leasehold Costs	5,564	5,236	3,900	3,600
General & Administrative	18,413	22,742	11,614	9,203
Depreciation, Depletion, & Amor.	91,307	74,371	50,417	44,215
Bad Debts	5,222	1,043	133	n/a
Interest Expense & Other	9,726	7,347	5,967	5,860
Total costs and expenses	222,509	220,720	147,552	112,361
Income Before Taxes & Cumm.				
Effect of Change in Acct. Principle	13,136	105,604	106,358	11,050
Income Tax Provision:				
Current	229	1,200	1,968	903
Deferred	2,981	36,927	37,812	3,390
Cumm. Effect of Change in Acct.	-18,103	2,026	0	0
Net Income	-8,177	69,503	66,578	6,757
Preferred Stock Dividends	0	0	875	1,750
N.I. Attributable to Common Stock	-8,177	69,503	65,703	5,007
Weighted Average # of Shares out.				
Basic	39,217	38,943	36,664	32,228
Diluted	40,327	40,227	37,897	32,466
Net Income/Share (Basic)	-0.21	1.78	1.79	0.16
Net Income/Share (Diluted)	-0.20	1.73	1.73	0.15
Earnings/Share (Basic)	0.25	1.73	1.82	0.21
Earnings/Share (Diluted)	0.25	1.68	1.76	0.21
**Note: Earnings/Share strips out the cumulative effect of accounting change.				

SUNNY VIEW MEMORIAL HOSPITAL: A DAY IN THE LIFE OF A BUSY HOSPITAL PHARMACY MEDICATION ERRORS, MANAGERS, AND MISSING MEDICATIONS, OH MY!

Jessica N. Wine, Nova Southeastern University
Nile M. Khanfar, Nova Southeastern University

CASE DESCRIPTION

The primary subject matter of this case is concerning the managerial and personnel issues in a hospital pharmacy. Focus is on the implications of mismanagement leading to localized medication errors, dissatisfied employees and a global endangerment of patient wellbeing. The case also provides insight into the behind-the-scenes of a hospital pharmacy atmosphere.

Secondary subject matter includes issues of organization and cooperation of the work force that increase the problems in the hospital. The case can be used to assist in specifically improving and understanding the function of management in a regulated healthcare setting or to generally illustrate the importance of proper leadership and organization to prevent local and global issues in the workplace.

This case has a difficulty level of two to three. The case is designed to be taught in two class hour(s), requiring three hours of preparation.

CASE SYNOPSIS

Time is 11:30am. Date is October 15, 2006. Location is Sunny View Memorial Hospital Centralized Pharmacy. Phone line 1: Emergency Room needs IV morphine STAT! Phone line 2: Surgical Room 3 still needs the syringes that were ordered three hours ago!

The incessant requests and ringing of the telephone exhaust the overworked pharmacists of the small city hospital. To add to the chaos, the hospital pharmacy manager has been insisting that the pharmacists must work even harder to prevent the errors and medication problems that have been steadily increasing over the past weeks in the hospital.

In a hectic work environment without effective guidance to reach any goals to decrease these errors is leading Sunny View Memorial Hospital down a path of destruction and failure. With an inefficient dictator-like pharmacy manager placing the blame on others and not taking control, medication orders pile up and life-threatening errors are occurring in the pharmacy and putting *patient's lives at risk. The over-stressed, but experienced pharmacists are too busy to use their knowledge to correct the blatant issues that are ruining the hospital's reputation.*

This case, which focuses on the local and global implications of poor management in a hospital pharmacy setting provides insight into the utility of proper management techniques in the healthcare system to enhance patient safety. Real life medication errors that have occurred in a hospital are included to further stress the importance of proper management, organization, and personnel unity and cooperation that are necessary to prevent both employee dissatisfaction and patient emergencies.

Discussion of this case will allow students to understand and diagnose the local and global problems in the pharmacy workplace environment, create goals to help reduce medication errors, and develop specific solutions to these problems using management theories and techniques.

INSTRUCTORS' NOTES

Recommendations for Teaching Approaches

Case Objectives

- ♦ Identify the symptoms of any problems at Sunny View Memorial Hospital.
- ♦ Diagnose the problem using management terms and definitions.
- ♦ Characterize the Hospital Pharmacy Manager's leadership technique based on his actions and availability to the hospital pharmacists.
- ♦ Use Hersey and Blanchard's theory to define leader and follower roles.
- ♦ Analyze possible solutions to solve the problems, keeping in mind management theories and goals.
- ♦ Examine the hospital workplace as a whole and identify problems overall.

Questions

1. Identify the symptoms of any problems at Sunny View Memorial Hospital.

Symptoms of problems found at Sunny View Memorial Hospital consist of the following:

- ♦ Medication errors are steadily increasing
- ♦ Dissatisfied and disgruntled employees
- ♦ Pharmacists working extremely long hours

Memos full of criticism

- ♦ The main goal of decreasing errors is not being reached
- ♦ Patients receiving double doses
- ♦ No upgrade in technology since the 90's
- ♦ global endangerment of patient wellbeing
- ♦ lack of organization
- ♦ lack of timeliness
- ♦ lack of modern technology
- ♦ understaffed pharmacy
- ♦ knowledgeable pharmacist unable to correct/verify orders correctly
- ♦ accurate records are not being kept

These symptoms mentioned above lead us to believe that there is a graver problem/situation at hand.

2. **Diagnose the problem using management terms and definitions.**
The problem in this pharmacy is mismanagement.

A. Based on Fayol's Classical Management Theory it is essential to have five management functions and in this case this pharmacy is missing all of them.

- ♦ Planning: The pharmacy manager has not formulated or implemented an action plan that will allow the pharmacy operations department to meet the goals and objectives set by the hospital. The methods and resources needed in order to accomplish the current goals are unclear.
- ♦ Organizing: The pharmacy managers' current operational model is clearly haphazard. The pharmacists are overworked and are unable to utilize their clinical skills. It seems that the pharmacy operations are inefficient and dysfunctional. Until the pharmacy operations are streamlined or additional pharmacists are hired, the statistics of the hospital will continue to decline.
- ♦ Leading: The pharmacy manager has not been successful at setting clear directives for his department staff and therefore achieves results that are <u>repeatedly</u> unacceptable. He has not been able to align the vision, values, mission and or goals of the organization with that of his staff. Therefore, he is a poor manager and clearly lacks the traits of a leader.
- ♦ Controlling/Evaluation: The pharmacy manager has not assessed nor analyzed the reasons for the pharmacy's failures and is unwilling to collect

feedback from the staff. He focuses his frustrations on blaming the pharmacists and maintains a closed door policy.

B. The Manager/Employee Relationship models a hierarchical style of the past. In today's world, this relationship should be a partnership where rewards are shared. Currently, there is no partnership between the manager and the pharmacists. The manager has failed to convey the energy, support, empowerment and good communication that are necessary for such a relationship. This has lead the very skilled pharmacists against the entire system where they are now unwilling to perform.

C. The manager also lacks basic managerial skills necessary to get to a proposed goal. The lack of conceptual skills and human skills:

- ♦ Conceptual Skills: the ability to analyze and diagnose a situation and find the cause and effect.
- ♦ Human Skills: the ability to understand, alter, lead, and control people's behavior.

3. Characterize the Hospital Pharmacy Manager's leadership technique based on his actions and availability to the hospital pharmacists.

Based on the pharmacy manager's actions and availability to the hospital pharmacists, the only way to characterize his leadership techniques is a little bit of each technique we have learned. We consider most of his actions in the method of Laissez Faire since he is greatly hands off or absent and he believes that things will work themselves out. His pharmacy staff is very educated and capable but without the proper resources and empowerment the pharmacists are failing. On the other hand, this manager also operates with a little of bureaucratic methods. He is all about "it's not my fault" and greatly avoids responsibility. He also displays a bit of authoritarian in his communication skills only being one way. The one thing he is NOT is participative.

4. Use Hersey and Blanchard's theory to define leader and follower roles.

Hershey and Blanchard's theory states that employees vary in their level of maturity and readiness. Leaders should adjust their leadership style to match the development level of the employee (follower). Maturity is assessed in two parts: (i) psychological maturity and (ii) the ability and readiness of the employee.

Follower's Readiness	Leader's Behavior
Unable and unwilling or insecure	**Telling**: provide specific instructions and closely supervise performance.
Unable but willing or confident	**Selling**: explain decisions and provide opportunity for clarification
Able but unwilling or insecure	**Participating**: share ideas and facilitate in decision making
Able and willing or confident	**Delegating**: turn over responsibility for decisions and implementation

At Sunny View Hospital, Pharmacy manager is high task focus and low relationship focus., he uses one-way communication and sees his followers as unable and unmotivated. Pharmacists are at R4, willing and able to change their work environment, but they are too over-worked to try. They also have no internal or external motivations.

5. Analyze possible solutions to solve the problems, keeping in mind management theories and goals.

To solve the problems of declining productivity and poor employee moral, the pharmacy manager might consider some or all of the following:

- ♦ Scientific management (Taylor) – focus on employees within his department and on ways to improve their productivity. e.g. The pharmacy manager should encourage two-way communication between the staff and himself. He can then utilize their feedback and input to formulate a strategic action plan to turn things around in order to achieve the goals within the four week time frame.
- ♦ According to Nelson and Economy (2003) today's managers also need to energize their employees. This can be achieved by getting their "buy in". This will inspire them to follow his action plan with a sense of urgency. He should also empower his staff by providing them with the necessary resources to get the job done. In addition to empowering his staff, he should support them while still being mindful to balance the needs of his department with the resources allocated by the organization. Communication is very important also. The manager should communicate effectively with his staff and gain their trust. Instead of a closed door policy he should convert to an open door policy.
- ♦ Administrative management (Fayol's) – focuses on the organization (pharmacy) and the ways to make it efficient. e.g. The pharmacy manager should submit a proposal to the CEO requesting a budget increase for his department. This could facilitate

more pharmacy staff, automated dispensing machines, shoots that deliver medications to nursing stations on different floors and other improvements. He could also request that a Pharmacy Supervisor position be offered. This will help to motivate his staff and also help the department to achieve its goals.

- ♦ Specific steps that can be taken in order to improve the pharmacy situation:
  - ♦ Try to set a meeting with pharmacy manager to formally sit down and discuss the issues going on at the pharmacy, try to come up with possible solutions and get input from him on suggestions on how to solve the issues. For example, the need to implement policies and procedures for pharmacy operations.
  - ♦ Since the pharmacists are obviously capable to do the task due to their extensive training and experience, at this point we do not know if they are willing or unwilling to try to work more efficiently. The pharmacy manager can turn the responsibilities of decision making and implementing to the pharmacists. The manager can also work with the pharmacists and share ideas as well as facilitate in the decision making process.
  - ♦ Create goals to help reduce medication errors
  - ♦ Try decentralizing the pharmacy
  - ♦ Need specific tasks for Pharmacy employees: i.e.

    * <u>need one person in charge of screening calls only</u>. This person is to log calls stating:

    - Time call received
    - Priority (high, med, low)
    - Room #
    - Patient name
    - Medication needed/Issue
    - Needed by (time)

    * <u>Need technicians</u> to look at chart above <u>and fill medications accurately.</u>

      After filling the medication, the technician is to provide the medication order and filled prescription/medication order to the pharmacist(s) on duty.

    * <u>Need pharmacist</u>: while the technician is filling the medication, the pharmacist can review the patients' chart and evaluate for drug interactions, dosages, contraindications, etc…

      The pharmacist is to check the filled medication for accuracy before dispensing the medication.

    * After the prescription/medication order is checked by the pharmacist, the technician is to place the filled prescription/medication order in the

appropriate medication cart for the technician to deliver prior to the promised time. The nurse is also to check for accuracy with the 5 R's: Right patient, Right medication, Right dose, Right route, and Right administration time.

- ♦ Consider adding an automatic dispensing machine under the pharmacy's supervision which will allow the pharmacists to spend more time on clinical issues rather than filling prescriptions/medication orders.
- ♦ Need to consolidate the medical records with the pharmacy records to avoid duplicate administration. As in most metropolitan located hospitals, faxing the information directly into the system keeps duplications from happening.

6. Examine the hospital workplace as a whole and identify problems overall

The problems of Sunny View Hospital as a whole are that the hospital's organizational structure needs to be revised. It seems that there are high expectations of the pharmacy but not enough resources, assessment, planning, organization, and implementation. There is not enough pharmacy staff and the technology is lacking. The pharmacy manager has poor management skills and is unable to utilize the available resources. He does not recognize that the problem cannot be fixed if the pharmacists do not have the time to perform their jobs efficiently and effectively. It is his responsibility to manage the department.