

PN-ABQ-051

ISBN 81111

**MANAGEMENT
FOR
SMALL BUSINESS INSTITUTES
IN POLAND**

Part One

Sponsored by

**The U.S. Agency for
International Development**

Developed by

**Solidarity Economic Foundation
Gdańsk, Poland**

**Polish American
Enterprise Institute
Rzeszów, Poland**

**Center on Education and
Training for Employment
The Ohio State University
Columbus, Ohio**



**MANAGEMENT FOR
SMALL BUSINESS INSTITUTES**

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1993

These materials were developed as a product of the Entrepreneurship Institute Project in Poland, funded under the U.S. AID grant EUR-0029-G-00-1040-00.

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FOREWORD

The United States Agency for International Development (U.S.AID) sponsored this project as part of the U.S.Congress initiative entitled Secure Eastern European Democracy (SEED Act). This project is one of a number of university-based initiatives to provide education for university faculty in emerging countries about business management and economics in support of the newly established market economy.

Since June of 1991, the International Enterprise Academy at The Ohio State University has worked cooperatively with the Solidarity Economic Foundation in Gdańsk, Poland, to facilitate the creation of three Polish-American Enterprise Institutes in connection with the universities in Białystok, Poznań and Rzeszów. In each site two coordinators and fifteen or more faculty members have established courses for business owners in Entrepreneurship, Marketing, Management, Finance, Strategic Planning, and Export-Import. In addition, we developed skills among the faculty for business advising in these areas and developed case studies of Polish entrepreneurs.

The development of the six curriculum products took place over a two-year period and were the cooperative efforts of the coordinators from the Polish Institutes and the faculty from various American Universities. We are indebted to the following people for their dedication, patience and understanding in addition to their outstanding expertise in the area.

ENTREPRENEURSHIP	Vicky Rash, The Ohio State University Andrzej Jurgilewicz, The Białystok Business School
MARKETING	Gerald Hills, The University of Illinois at Chicago Walery Lach, Bogdan Sojkin Poznań Academy of Economics
MANAGEMENT	Eugene Gomolka, The University of Dayton Adam Góral, The Maria-Skłodowska University in Rzeszów
FINANCE	Lynn Neeley, Northern Illinois University Bogusław Plawgo, The Białystok Business School
STRATEGIC PLANNING	Randy Rollinson, The University of Illinois at Chicago Zdzisław Krajewski and Bogdan Sojkin, Poznań Academy of Economics

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CASE STUDIES OF POLISH ENTREPRENEURS

Lisa Mazzei, The Ohio State University
Alicja Zajączkowska and Alicja Unterschuetz of the
Solidarity Economic Foundation

In addition, we are deeply indebted to our counterpart staff at the Solidarity Economic Foundation: Mirosław Mironowicz, Małgorzata Bałkowska, Alicja Zajączkowska, Alicja Unterschuetz, Marcin Flisykowski and Hanna Litka. They contributed so much to the adaptation and translation of materials into Polish.

The editors of these six curriculum products deserve special thanks for two years of attention to detail and schedules that everyone thought was impossible. Both Piotr Koryński and Elżbieta Jacowicz have masters degrees in economics from the University of Gdańsk in Poland. Since the beginning of this project, they have worked at The Ohio State University in an effort to make these curriculum products appropriate for use in their country.

We also thank the secretaries in both countries and others who worked hard on these six very ambitious curriculum projects. At The Ohio State University we especially want to thank Barbara Kahe, Jeanne Thomas, Janet Ray, and Kathy Summerfield. In Poland, we want to thank Dagmara Topolewicz, Ewa Dratwa, Małgorzata Tyburczy, Edyta Rusin and Dorota Małaszkiwicz.

Because these curriculum products include many copyrighted materials that we have obtained limited permission to use for this project, this product may not be published or used for other purposes without express permission from The Center on Education and Training for Employment at The Ohio State University.

We believe that these materials will provide long-term benefits to the faculty for whom they were designed and the business owners who will participate in their courses. We hope that these American models of business training will make a difference in the communities where they are used and impact on their success in a market economy.

M. Catherine Ashmore
Director, International Enterprise Academy

ACKNOWLEDGEMENTS

We are grateful to the primary author, Eugene G. Gomolka, for development of this teaching outline for use in the Enterprise Institutes in Poland. He was assisted by Adam Góral, Krzysztof Kaszuba, Piotr Koryński and M. Catherine Ashmore, as the materials were assembled in 1991-93.

We are also indebted to the publishers or authors who gave permission to use selected portions of their copyrighted materials. They include the following:

Houghton Mifflin Company, Boston
McGraw-Hill Professional Publishing Group, N.Y.
Prof. Henry L. Tosi
Prof. Allan A. Zoll
Richard D. Irwin, Inc. Homewood, Illinois
John Wiley & Sons, Inc.
Prentice-Hall, Inc.
Pfeiffer & Company

MANAGEMENT MODULE

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MANAGEMENT COMPETENCIES

Management is the capability to get things done through people.

Small business management is the application of management techniques to the particular circumstances of a small firm, which generally include limited resources, general rather than specific skills, limited markets, many competitors, close contact with customers, quick reaction time, focus on the here-and-now, etc.

The task of small business management is to analyze the present circumstances of the firm, set goals, establish standards, make things happen, solve problems, deal with people, find resources, and think about the future.

Specific competencies which will be developed by the Management Course in the Entrepreneurship Institute Program include the ability to:

- **Set realistic goals for the business.**
- **Train employees to be efficient workers.**
 - **Schedule making**
 - **Determination of wage levels**
 - **Hiring and firing**
 - **Training and development**
 - **Understanding human behavior at work**
 - **Dealing with groups**
 - **Evaluation**
 - **Coaching**
 - **Team building**
 - **Confidence building**
- **Use communications skills in the business.**
 - **Conflict resolution**
 - **Communication channels**
 - **Persuasion**
- **Manage activities of the business.**
 - **The organization of people, resources, machines and operations**
 - **Leadership and supervision**
 - **Employee relations**
 - **Managing growth**
 - **Managing change**

- **Negotiate effectively.**
 - **Develop strategies**
 - **Focus on the interests involved**
 - **Generate a range of alternative solutions**
 - **Avoid common obstacles and mistakes**

- **Manage small business operations.**
 - **Develop operations strategies**
 - **Develop a framework for forecasting demand**
 - **Identify the importance of inventory management**
 - **Construct performance measurement systems**
 - **Control operations**

UNIT 1

OVERVIEW OF THE COURSE

UNIT 1

Title: OVERVIEW OF THE COURSE

Purpose: This session is designed to explain the purpose of the course.

Objectives: Upon completion of this unit, the participant will:

- understand what management means,
- understand what small business management means,
- understand what the task of small business management is,
- have a stated view of what they hope to accomplish through this course.

Materials:

Transparency 1-1:	Small Business Management Competencies
Transparency 1-2:	Problem-Analysis Work Guide
Transparency 1-3:	Experiential Learning
Transparency 1-4:	Experiential Exercises
Transparency 1-5:	A Framework for Case Analysis
Transparency 1-6:	The Case Class
Transparency 1-7:	Do's and Do Not's for Case Classes
Transparency 1-8:	Student Responsibilities in Case Learning
Transparency 1-9:	The Teacher's Task in Management Classes
Transparency 1-10:	The Teacher's Responsibilities in Case Teaching
Transparency 1-11:	Action Skills Reinforced by Cases
Transparency 1-12:	An Inexact Science
Handouts 1-1:	Small Business Management Competencies
Handouts 1-2:	Problem-Analysis Work Guide
Handouts 1-3:	Student Responsibilities in Case Learning

Product: A list of participants' needs and expectations.

Assignment: Read the case "Bill Harold" for the next unit.

Notes to

Instructor: This unit is designed to provide background information to the participants, to introduce concepts that will be covered in the course; and to gain information about what the participants presently know about small business management, what their small business management needs are; and what their expectations from the course are. Additionally, the methods of teaching the course need to be made clear to the participants.

The following items will be discussed:

- an overview of management,
- an overview of small business management,
- the tasks of small business management,
- the competencies of small business management,
- the content of the management course,
- the problem-solving process.

The methods of teaching the course, lecture and discussion, case analysis, and experiential learning exercises, will be discussed. The role of both the instructor and the participant in these different methods will be reviewed and discussed.

The participants will list what their small business management needs are, and what they hope to accomplish in this course.

If the discussion of the needs and expectations of the participants reveals unmet needs, or unrealistic expectations, the instructor needs to see if they can be addressed by accommodating them with an adjustment in the course outline.

**Estimated
Time:**

Description and introduction of course concepts, content, and methods	35 minutes.
Listing of course expectations by the participants, discussion of their expectations	15 minutes.

**UNIT 1
OVERVIEW OF COURSE
TEACHING OUTLINE**

CONTENT	PROCESS
<p>A. Introductions</p>	<p>The instructor should welcome the students to the course, and say something about his or her background or experience. Have the students introduce themselves, and say something about their companies.</p>
<p>B. Overview</p> <p>This course is designed to help you with the management of your small business firm.</p> <p>Management is getting things done through people.</p> <p>Small business management is the application of management techniques to the particular circumstances of a small firm, which generally includes limited resources, general rather than specific skills, limited markets, many competitors, close contact with customers, quick reaction time, focus on the here-and-how, etc.</p> <p>The task of small business management is to analyze the present circumstances of the business, to set goals, to establish standards, to make things happen, to solve problems, to deal with people, to find resources, and to think about the future.</p> <p>The competencies which small business managers need include:</p>	<p>Explain the purpose of the course and what participants should hope to accomplish by referring to the management competencies listed for the course.</p> <p>Explain what management means. Give the definition, plus related examples of management.</p> <p>Explain what small business management means. Give the definition, plus related examples of small business management</p> <p>Explain what the task of small business management is. Give the definition, plus related examples from the instructor's experience.</p> <p>Show TP 1-1: Small Business Management Competencies and distribute HO 1-1. Ask</p>

CONTENT	PROCESS
<ul style="list-style-type: none"> • Goal setting behavior • Strategic management • Dealing with people • Training and coaching skills • Communication skills • Management skills • Decision-making, problem-solving skills. <p>By the time you have finished this course, you should have added to your skills and knowledge about how to manage a small business.</p> <p>The focus of the course is upon building problem-solving skills.</p> <p>C. Methods</p> <p>The instructor should brief the participants on the teaching methods used in the class, and the responsibilities that students have under each of these methods. Discuss each of the transparencies in detail, providing examples of how these methods will be used in the course.</p>	<p>the participants to provide examples from their experiences.</p> <p>Ask participants' views of what they hope to accomplish in this course. Listen to their needs, and if they are not already addressed as part of the course objectives, see if they can be accommodated by modifying the course structure.</p> <p>Show TP 1-2: Problem Analysis Work Guide, which is taken from a case about Bill Harold (see Unit 2, HO 2-1). Talk through the eight-step methods by which one solves a problem. Ask one or two students what kind of problems that they have in their businesses. Show how they would analyze them using HO 1-2.</p> <p>Show TP 1-3: Experiential Learning.</p> <p>Show TP 1-4: Experiential Exercises.</p> <p>Show TP 1-5: A Framework for Case Analysis.</p> <p>Show TP 1-6: The Case Class.</p> <p>Show TP 1-7: Do's and Do Not's for Case Discussions.</p> <p>Show TP 1-8: Student Responsibilities in Case Learning.</p>

CONTENT	PROCESS
<p>D. Content</p> <p>The instructor should review the content listed in the course topical outline. Discuss the nature of management. Management, as a social science, does not provide one answer which will work in every situation. The manager must learn to gather information; and analyze this information; extract related patterns of performance; relate these patterns to general concepts; make a decision; and implement a decision</p> <p>E. Assignment</p>	<p>Show TP 1-9: The Teacher's Task in Management Classes.</p> <p>Show TP 1-10: The Teacher's Responsibilities in Case Teaching.</p> <p>Show TP 1-11: Action Skills Reinforced by Cases.</p> <p>Review the content of each of the units for the course.</p> <p>Show TP 1-12: Management - An Inexact Science.</p> <p>You may ask participants to read Bill Harold case provided in Unit 2 (HO 2-1, first three pages).</p>

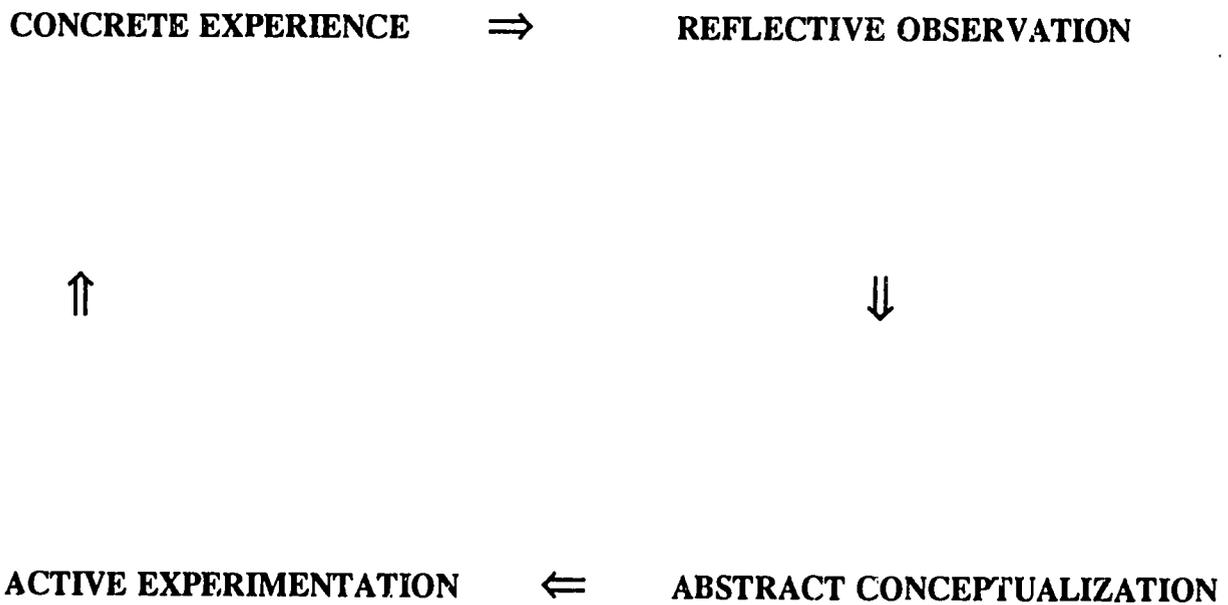
MANAGEMENT COMPETENCIES

- **SET REALISTIC GOALS FOR THE BUSINESS**
- **TRAIN EMPLOYEES TO BE EFFICIENT WORKERS**
- **USE COMMUNICATIONS SKILLS IN THE BUSINESS**
- **MANAGE ACTIVITIES OF THE BUSINESS**
- **USE DECISION-MAKING AND PROBLEM-SOLVING SKILLS**
- **NEGOTIATE EFFECTIVELY**
- **MANAGE SMALL BUSINESS OPERATIONS**

PROBLEM-ANALYSIS WORK GUIDE

- 1. STATE THE PROBLEM**
- 2. GOALS IN JEGPARDY**
- 3. KNOW FACTS**
- 4. FORCE FIELD ANALYSIS**
- 5. ALTERNATIVE SOLUTIONS**
- 6. ANALYSIS OF ALTERNATIVES**
- 7. DECISION**
- 8. ACTION PLAN**

EXPERIENTIAL LEARNING



EXPERIENTIAL EXERCISES

- **SMALL GROUP EXERCISES**
- **ROLE-PLAYING EXERCISES**
- **COMPUTER SIMULATIONS**
- **SKILL DEVELOPMENT:**
 - **NEGOTIATION SKILLS**
 - **COMMUNICATION SKILLS**
- **WORK EXPERIENCE**
- **INTERNSHIPS**
- **CO-OPERATIVE PROGRAMS**
- **CONSULTING PROJECTS**
 - **SMALL BUSINESS CASES**
- **FIELD EXERCISES**
- **CASES**
 - **"LIVING CASE"**
 - **CASE WRITING**
 - **VIDEO CASES**

A FRAMEWORK FOR CASE ANALYSIS		
STEPS	TASKS	METHODOLOGY
1. Comprehend case situation	Speed read case Read case carefully	Take notes Underline
2. Diagnosis of strategic issues and key problem	Categorize and analyze data Identify strategic issues and key problems	External analysis Industry analysis Trend analysis Decision tree analysis Gap analysis Portfolio analysis Strategic mapping Internal analysis SWOT analysis Financial analysis Breakeven analysis Organizational analysis
3. Define strategic issues and key problems	Develop hypotheses Explicitly define issues and problems	Brainstorming
4. Generate strategic alternatives	List strategic options	Experience Decision models Research Creativity
5. Evaluate and select strategic alternative	Recommend preferred alternatives	
6. Defend implementation	List questions about workability of solution Develop a defense	

THE CASE CLASS

- **STUDENTS ACCEPT AND MAINTAIN RESPONSIBILITY FOR DISCUSSION**
- **STUDENTS MAKE A CHOICE ABOUT THE CASE DECISION**
- **USE OF THEMES - TOPICS, AREAS OF ANALYSIS, DECISIONS**
- **QUESTIONS**
- **CONFLICT**
- **INSTRUCTOR AS LISTENER**
- **HUMOR**
- **FUN**
- **TEACHER'S MOVEMENT**
- **SHORT LECTURES**

"DO'S" FOR CASE DISCUSSIONS

1. **PREPARE BEFORE CLASS**
2. **PUSH YOUR IDEAS**
3. **KEEP AN OPEN MIND**
4. **RELATE OUTSIDE EXPERIENCE**
5. **BE PROVOCATIVE**
6. **LEARN FROM OTHER STUDENTS**
7. **RECOGNIZE FLOW OF DISCUSSION**
8. **PREPARE A LEAD-OFF QUESTION**
9. **BE CONSTRUCTIVE**

"DO NOT'S" FOR CASE DISCUSSIONS

1. **DO NOT MAKE SUDDEN TOPIC CHANGES**
2. **DO NOT REPEAT YOURSELF**
3. **DO NOT REPEAT OTHERS**
4. **DO NOT USE UNFAIR HINDSIGHT**
5. **DO NOT BE PUT OFF BY BAD EXPERIENCE**
6. **DO NOT OVERPLAY ONE THEME**

STUDENTS RESPONSIBILITIES IN CASE LEARNING

- 1. EXPERIENCE CASE SITUATION**
- 2. ENJOY YOURSELF**
- 3. ENTER THE CASE DISCUSSION**
- 4. HELP MANAGE THE GROUP
DISCUSSION**
- 5. ATTEND CLASS REGULARLY**
- 6. MASTER THE FACTS BEFORE EVERY
CLASS**
- 7. ANALYZE MOST CASES BEFORE
CLASS**
- 8. TOLERATE THE INSTRUCTOR**

THE TEACHER'S TASK IN MANAGEMENT CLASSES

PROVIDE STUDENTS WITH:

- **KNOWLEDGE**
- **TECHNIQUES**
- **SKILLS**
- **APPROACHES**
- **PHILOSOPHIES**

THE TEACHER'S RESPONSIBILITIES IN CASE TEACHING

- **CAREFUL AND COMPLETE PREPARATION OF THE CASE (SET STANDARD)**
- **CONCERN FOR THE STUDENT**
- **DEVELOP A SET OF TEACHING OBJECTIVES**
- **DEVELOP A TEACHING PLAN**
- **MAKE THE COURSE A SATISFYING DEVELOPMENT EXERCISE**

ACTION SKILLS REINFORCED BY CASES

- 1. THINK CLEARLY IN COMPLEX, AMBIGUOUS SITUATIONS.**
- 2. DEVISE REASONABLE, CONSISTENT, CREATIVE ACTION PLANS:**
 - REALISTIC**
 - CONSISTENT**
 - CREATIVE**
- 3. APPLY QUALITATIVE AND QUANTITATIVE TOOLS.**
- 4. RECOGNIZE THE SIGNIFICANCE OF INFORMATION.**
- 5. DETERMINE VITAL MISSING INFORMATION.**
- 6. COMMUNICATE ORALLY IN GROUPS.**
- 7. WRITE CLEAR, FORCEFUL, CONVINCING REPORTS.**
- 8. GUIDE STUDENTS' CAREERS.**
- 9. APPLY PERSONAL VALUES TO ORGANIZATIONAL DECISIONS.**

MANAGEMENT - AN INEXACT SCIENCE

THE SOLUTION TO A MANAGEMENT PROBLEM

"IT ALL DEPENDS"

UPON:

SITUATION

PEOPLE

ORGANIZATION

ENVIRONMENT

ETC.

MANAGEMENT COMPETENCIES

Management is the capability to get things done through people.

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- Set realistic goals for the business.
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 - Schedule making
 - Determination of wage levels
 - Hiring and firing
 - Training and development
 - Understanding human behavior at work
 - Dealing with groups
 - Evaluation
 - Coaching
 - Team building
 - Confidence building
- Use communications skills in the business.
 - Conflict resolution
 - Communication channels
 - Persuasion
- Manage activities of the business.
 - The organization of people, resources, machines and operations
 - Leadership and supervision
 - Employee relations
 - Managing growth
 - Managing change

- **Negotiate effectively.**
 - **Develop strategies**
 - **Focus on the interests involved**
 - **Generate a range of alternative solutions**
 - **Avoid common obstacles and mistakes**

- **Manage small business operations.**
 - **Develop operations strategies**
 - **Develop a framework for forecasting demand**
 - **Identify the importance of inventory management**
 - **Construct performance measurement systems**
 - **Control operations**

STUDENT RESPONSIBILITIES IN CASE LEARNING

1. **Experience case situation.** Most cases describe situations of actual or disguised organizations. This gives students the opportunity to step vicariously into an organization's situation and feel the excitement, responsibilities, and tension of a real management situation.
2. **Enjoy yourself.** The case method places duties and pressures on students. Many shy away from the prospect of speaking before the class, and many dislike the routine of having to prepare before every case. However, every student is in the same situation and careful performance of the duties are vital to the earning experience. Studies are more pleasant for students who relax, enjoy the amusing parts of any predicament, and develop a class *esprit de corp.*.
3. **Enter the case discussion.** Good students not only participate, but make contributions to the class discussions which often alert the instructor and fellow students to new steps for the analysis.
4. **Help manage the group discussion.** Students must consciously attempt to develop a lively, interesting discussion.
5. **Attend class regularly.** The case discussion is the centerpiece of case teaching; students who do not attend class gain little.
6. **Master the facts before every class.** Students may not have time to fully analyze each case before the class. However, some minimal preparation is necessary to follow the discussion and to make even superficial contributions. The lead-off question is impossible to answer if the facts have not been mastered.
7. **Analyze most cases before class.** Students should be beyond a mastery of the facts and analyze most cases during the semester (i.e., identify the issues and formulate logical, consistent action plans for the case's situation).
8. **Tolerate the instructor.** The task of the instructor is at least as difficult when using cases as when using lectures. The case facts, alternate analyses, and relevant industry data must all be thoroughly mastered.

UNIT 2

DECISION-MAKING AND PROBLEM-SOLVING SKILLS

UNIT 2

Title: **DECISION-MAKING AND PROBLEM-SOLVING SKILLS**

Purpose: This unit is designed to help the participant to work through an illustrative case in problem solving which goes through the recommended method in this area.

Objectives: Upon completion of this unit, the participant will:

- have worked through an eight-step method for solving problems

Materials: Handout 2-1: Bill Harold Case
Transparency 2-1: Problem-Solving Process

Product: Case notes related to the specifics of the problem-solving method.

Assignment: Have participants review and analyze the results of this unit to apply to an actual problem in their own small business.

Note to Instructor: Additional case preparation materials are provided.

Estimated Time: Case analysis, demonstration of the eight-step problem-solving method, and application to the participant's own small business. 2 hours

UNIT 2
 DECISION-MAKING AND PROBLEM-SOLVING SKILLS
 TEACHING OUTLINE

CONTENT	PROCESS
<p>Concepts and Practical Application</p>	<p>Distribute HO 2-1 and run the Bill Harold Case which walks the student step-by-step through the problem-solving method introduced earlier in the course. This exercise provides the student with excellent skill-building and training on this topic.</p> <p>The case shows the student the practical utilization of problem-solving. It is important that the student spend the necessary time to understand this method, and how to relate it to his/her business.</p> <p>Review TP 2-1: Problem-Solving Process. Ask the students if they think that this is a good representation of the problem-solving process. Do the students use this method? Why or why not?</p>

PROBLEM SOLVING CASE*

Bill Harold

Problem-solving is one of the principal skills needed by the manager. He is called on hourly, daily, monthly, and yearly to solve or help solve small, large, or very large problems which affect the organization's life.

The nature of the problem to be solved or the decision to be made will vary depending, in large part, on the level in the organization in which it arises. At lower levels, solutions to problems tend to be of the either black-or-white, go/no-go variety. They tend to be clear cut, are often technical problems, and can be solved on the basis of fact. They are in immediate need of solution, and often the "best" solution consists of "slapping a band-aid on it" and keeping the operation rolling. Decisions about problems at the lower levels can frequently be "programmed." (When this occurs, do this.) Some managers use a "decision table" that lists problems down one side and conditions across the top. The point where the two columns join, states the solution.

As problems come into view in upper levels, they tend to change considerably. Both the problems and their solutions become more "gray." These problems are often large and complex, nontechnical, or a mixture of technical and nontechnical; judgement and intuition play a large part in the decisions reached. Probabilistic, tentative, approximate answers are sought to long-range, far-reaching problems.

We will use a case illustration to walk you through the steps we will use in the problem-solving process. Later on, you will be asked to identify in some detail a problem you face or an objective you would like to reach.

AN ILLUSTRATIVE CASE IN PROBLEM-SOLVING

Bill Harold was the manager of the Proofing, Reproduction, and Registration Section for the Mathews Corporation. His section, though small, was a key one in the organization because all orders had to come into it before being confirmed to the customer and the agreement sold to the customer being placed into effect.

The letters of agreement signed by the customers after being filled out by the sales agents were first checked for accuracy and completeness, then reproduced, registered (a formal legal requirement), and confirmed to the customer. The sales agents working in a large metropolitan area usually brought the letters of agreement in themselves. The normal procedure was to assign each letter a number on receipt by the section; they were then handled in the order indicated by the number.

There were no seasonal changes; the total number of entries for each month tended to be about the same. If the letters of agreement came in "bunches," it was because the sales agents waited until they had a batch rather than deliver them for processing as they were received.

The receptionist for the section had adopted the practice some before of putting "urgent" orders on top of the daily piles of materials awaiting processing. This informal practice worked well as long as there were few of an urgent nature. But, more and more orders became "urgent" when the sales agents saw that having this priority would get their letters special attention. Finally, there were more orders "on top of the pile" than there were in it. At this point, the receptionist had asked for help, whereupon Bill Harold established a new system of granting formal priority. An "A" priority, signed by the zone manager on a special form, was given immediate attention; all other orders were to be handled routinely in their order of arrival.

This new procedure, which was strictly enforced, worked well for a time and took the "heat" off of the receptionist. There was some grumbling about it at the time, but this subsided after a short while. Note that it "worked well for a time." In what seemed to be an astonishing short period, however, 86 percent of all orders to processing came in with an "A" priority request. Under such conditions, as before, the truly urgent cases were delayed. In a few cases, this had caused highly visible problems and an expressed concern by the top management as to the operations of the section.

To meet one of these emergency problems and to placate criticism of the existing procedures, Bill Harold installed a modification of the priority system, whereby an "AAA" priority was allowed when so requested by the district managers. This soon had to be changed to "the District Manager or his specified deputy," when the district managers complained about handling his detail themselves.

Bill Harold noted, with some alarm, that these "AAA" priority requests were also beginning to rise. Practically all of the other orders were now "A" priority; nothing came in for routine handling any more. Bill thought that his would, no doubt, soon lead to the need for a "super-super" priority, and eventually to "super-super-doooper" priority system, which probably would lead to the same result as past efforts.

The system was clearly getting out of hand and promised to get worse. Bill Harold was distressed at the future prospects. At this point, he decided to analyze this problem, using the design given here. Bill's progress in working on it will be used to illustrate each step in the problem-solving process.

(Choosing this particular problem to serve as an illustration should in no way guide or limit your selection of your own problem to work on. It is merely used to make each step clearer to you.)

* Zoll, Allan A. Explorations in Managing, Copyright ©Allan A. Zoll. Published by Addison-Wesley Reading, MA. 1974. Reproduced and translated with the permission of the author.

A MODEL FOR PROBLEM-SOLVING

To help you think through the steps in problem-solving* and to guide your efforts on your own problem, we will go through eight steps you should take:

1. State the problem
2. Set your objectives
3. List the known facts
4. Make a force-field analysis of the situation
5. List alternative solutions
6. Make a value analysis of the most promising alternatives
7. Make your decision and test it
8. Make an action plan

Whenever a list of the broad steps to be taken is given like this, there is the implication that such a process is linear--that it followed step-by-step from beginning to end. But, this is not so. Problem-solving is a dynamic process during which you go back and forth, retracing your previous steps, moving on only to go back to a previous step once again. When we list the known facts, for example, we may find that we have to go back and restate the problem differently. When, we try and make a value analysis of alternatives, we may have to go back and get more facts. Therefore, when we talk about these steps in the process, and when you go through them in the analysis of your problem, expect to be dealing with a dynamic process.

An example of a form which you can sketch out and use in laying out your analysis is shown on the next page. Using such a form keeps your efforts on one sheet of paper in front of you. Alternatively, you can work on each step here in the book or on separate sheets of paper. We will follow the form in our discussion. Now, let's look at the steps in detail. (If you decide to work on an objective you wish to reach rather than a problem, start with step 2.)

1. State the Problem

Try writing down the problem in simple language first. Then, write down every assumption you can think of that you are making in the problem-statement. What are you taking for granted? What if this is not so? (If you need more space, use a separate sheet of paper for your responses.)

*This variation of steps in the process and the form for recording them have been adapted from a model developed by Max Canterbury, a very creative management teacher at The Boeing Company.

Problem-Analysis Work Guide

1. State the problem	2. Objectives. State the goal that is jeopardized by this problem. (If you had no problem, describe a key end-result you very much hope to accomplish.)	3. List the known facts. Note the pertinent facts about the problem. Write a brief history that would help account for your present dilemma.
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4. Force-field analysis <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Driving forces <div style="text-align: center; margin-top: 20px;">→</div> <div style="text-align: center; margin-top: 20px;">→</div> <div style="text-align: center; margin-top: 20px;">→</div> </div> <div style="width: 45%; border-left: 1px solid black; padding-left: 5px;"> Restraining forces <div style="text-align: center; margin-top: 20px;">←</div> <div style="text-align: center; margin-top: 20px;">←</div> <div style="text-align: center; margin-top: 20px;">←</div> </div> </div> <div style="margin-top: 20px; font-size: small;"> Lengthen arrows where force should be strengthened Shorten arrows where force can be decreased </div>	5. List alternative solutions. Brainstorm with yourself (or with others) all the possible things you might do to solve this problem. Then list the most promising here.	6. Value analysis alternatives					Check alternatives most desirable
	Failure risk; probability, cause, and remedy	Check favorability factors*					
		1	2	3	4	5	

7. Decision. Think of several ways of checking the decision out. Bounce it off a friend. Try it out on a sample basis.	8. Action plan. Lay out the steps for carrying out the decision.
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* Check column showing favorability factors of each alternative: 1= Reduce restraint, barriers; 2= Contributes to goal; 3= Least effort and cost; 4= Least time; 5= Least risk
 A suggested layout for individual problem-solving. This form is followed in the text.

Can the problem be stated in even simpler words? Does that change the problem?

Is the stated problem a small symptom of an even larger problem? Is that the one you should be working on?

Restate the problem. (You will probably rework the statement several times during your analysis.)

Step 1 in illustrative case

Bill Harold tried to write down the problem, stating it simply. The statement he arrived at did reflect the immediate problem he saw.

"To keep the present priority system from getting out of hand."

Bill then tried to think about all of the assumptions he was making. He saw three:

1. A system for establishing priorities is needed.
2. Emergency situations and special problems arise which require special handling.
3. A priority system can be made to work.

He felt that all of these assumptions were true, and he didn't see the need for restating the problem differently at this time.

2. Set Your Objectives

State the goal that is jeopardized by this problem. (If you had no problem, describe a key end-result you very much open to accomplish.)

State your objectives as simply as you can. What will occur if the problem is solved or the objective is reached? What is bothersome about not being there now? How will you know when you have reached it? When? How much improvement? What will be the probable cost in time, money, and energy in reaching it? Is the objective really worth reaching?

What would make the problem disappear entirely instead of being solved? What giant steps could be taken to eliminate it? Why don't you take those steps?

Defining your objectives will help you to keep the problem in focus as you try to solve it. You may well come back to this step and redefine the key end-results you hope to accomplish.

Should you go back and restate the problem at this point? Should the problem be restated by being subdivided into several parts? By being combined with other small problems?

Step 2 in illustrative case

In his first attempt to define his objectives, Bill came up with the following:

"Objectives: To make the priority system work."

As Bill thought about the key end-result his section was trying to reach, his objective became broader. The priority system was important, but it was only one facet of the section's operations—a troublesome facet, but only one. Bill rewrote his objective:

"Objective: To adopt a system for the efficient handling of proofing, reproduction, and registration which makes provision for the occasional special case."

This statement seemed to Bill to place the priority problem in perspective. Then, he looked back over his statement of the problem. It now seemed to Bill that he had stated but a symptom of the larger problem, which he restated this way:

"The current system for handling proofing, reproduction, and registration (hereafter called PR & R) is not working effectively."

3. List the Known Facts

Note the pertinent facts about the problem. Write a brief history that would help account for your present dilemma. List in detail what you know about the situation and what you don't

know, but need to. Make comparisons of what is wrong and what is right; of what has changed and what has not; of where the problem is and where it is not; of when the problem is happening and when it is not. How did it begin (gradually or suddenly)? Who first noticed it? What are the possible causes? What are the probable causes? Single or multiple causes?

Describe the present situation in some detail. What are the road blocks that are keeping you from getting to where you want to be?

What are the key unknowns about the situation? How could these become known? Through studies, statistical gathering of data and analysis, experiments, interviews, and other sources? Who will search for these unknowns? When?

In light of this fact-gathering step, should the problem-statement or your objectives be restated?

Step 3 in illustrative case

Bill reviewed the situation as presented to you earlier. One thing about it caught his attention--the informal system of granting priority had worked well for a long time, but now wasn't. What had happened to cause this to be a problem?

Bill decided to gather more facts by examining records or production of the section and by interviewing a sample of people within the office and a few of the sales agents. Bill quickly discovered that the records of production were not kept in any methodical way. (Bill made arrangements to have a final count of submissions by agents and confirmations to customers kept on a weekly basis. These entry and exit figures for the system would give a much better feel for what the operations were handling.) As sketchy as the records were now, they did seem to show an increase of about 15 percent per year for the past three years. This was confirmed by the sales records for the firm. There had been no increase in staff of the section.

In following the progress of orders being processed within the section, and by talking to people at each step, Bill realized several points. First, many of the people within the section were new, due to normal attrition over the past several years. Second, in talking to the proofing unit, he learned that the sales agents were expecting more and more corrections and supply of missing data to be performed by the PR & R staff. Missing data were obtained from reference books (which were also available to sales agents). Some of the missing and incorrect data had to be obtained from the customers, which took much effort and was time-consuming. The attitude of the PR & R staff was that this was just part of their job to ensure correct information.

From interviews with the sales agents, Bill learned that many of them, too, were new. On joining the firm, they had assessed the existing situation, which included the necessity for obtaining priority status on all orders, and had, therefore, followed his practice. The sales agents generally didn't like the detail required in filling out the paperwork to submit, and they found that problems with incomplete data would be handled by the proofing staff (nonperformance was rewarded). Filling out all of the required details took time away from making other sales calls. (Proper performance was punished.)

When customers contacted the sales agents about delays in receiving their confirmations, the agents could and did blame "those bureaucrats doing the paperwork for the firm." These contacts again stressed to the agents the need for obtaining a priority on work they turned in. They were able to make a convincing case for this need to the person responsible for making the formal request for the priority.

Bill then stepped away from the function and raised some searching questions about it. If this section didn't perform its assigned duties, what would happen? Who would do them, or would they be done at all? Are all of the duties really necessary? How could they be modified or eliminated?

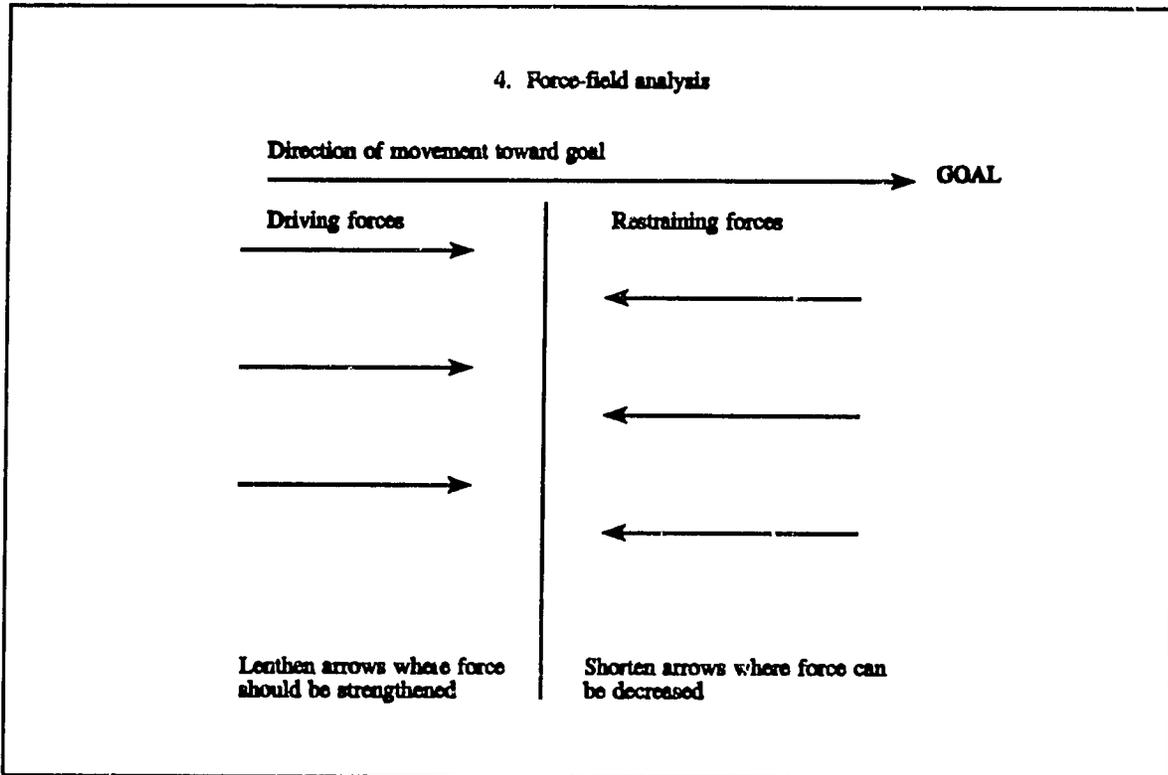
This analysis provided little in new insights as to how their problems might be overcome through elimination, primarily because of the legal requirements for proofing accuracy and for registration of each request before confirmation. It seemed most efficient to handle these centrally and together. The reproduction activity could be organizationally reassigned, but this did not seem useful at this time.

After getting these additional facts, Bill Harold went back and took another look at the statement of the problem and his objectives. He decided that the problem-statement was still okay, but decided to add to the objective:

"Objective: To adopt a system for the efficient handling of proofing, reproduction, and registration which makes provision for the occasional special case, and in which both the PR & R Section and the sales agents perform their assigned tasks to make the system work."

4. Make a Force-Field Analysis of the Situation

This is probably a new idea to you, so let me explain it. Some years ago, Kurt Lewin and others became interested in what came to be called "the field theory" in sociology.* One of their ideas, that of doing a force-field analysis, is a simple, but extremely useful, idea for all managers. A sample force-field analysis follows:



A force-field analysis lets us analyze the situation we face when we introduce change, lay plans to reach some goal or objective, or otherwise wish to alter the present state of things. A case example follows:

JOE WILSON

Joe Wilson is one of your subordinates and has been with you for eight months. His work is well above your expectations, and he seems to get along well with the others on the staff and with those in related units with whom he is in contact. But, Joe has one way of behaving which

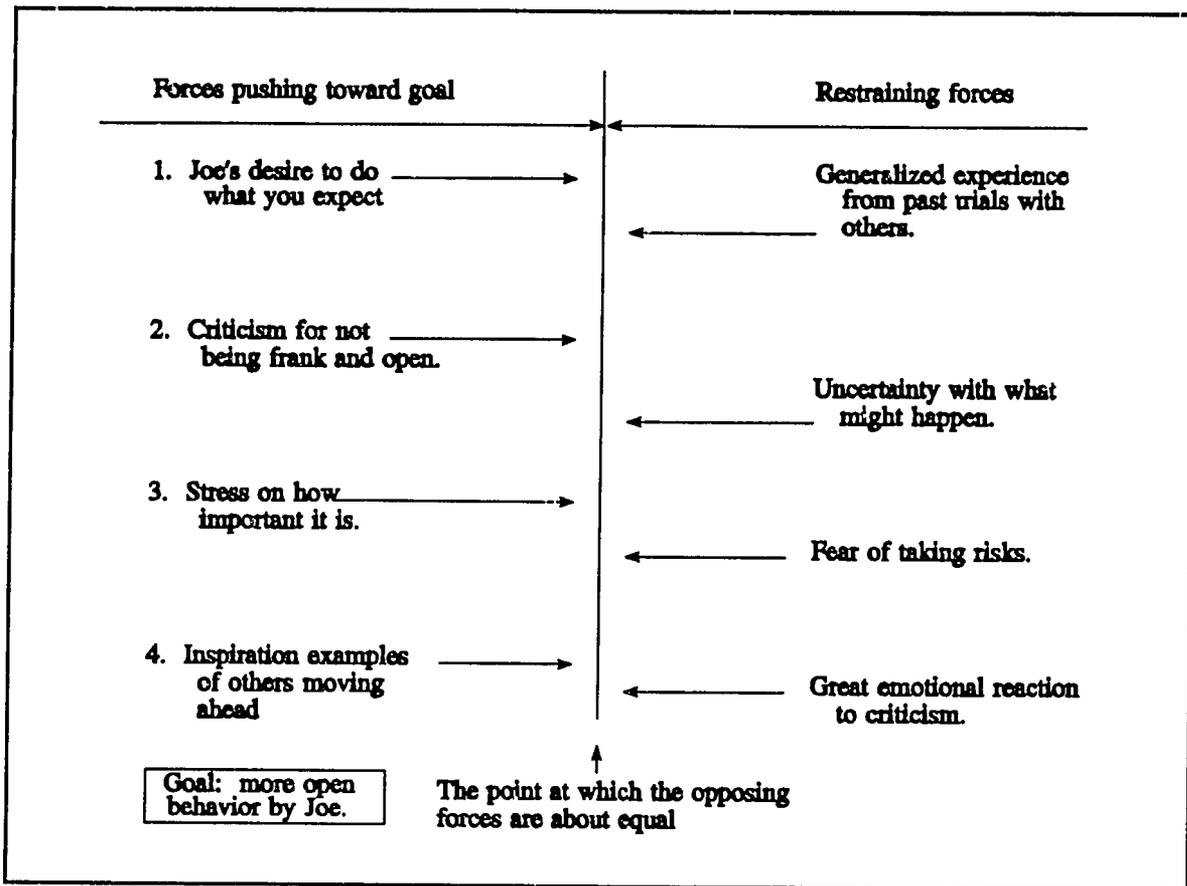
*Kurt Lewin in Dorwin Cartwright, ed., *Field Theory in Social Science*. New York: Harper & Row, 1951.

is a little annoying to you. Whenever he is around he, he "clams up" and will not be free and open in his relations with you. This has caused no serious problem as yet, but it might if he withholds from you things you should know about.

You have tried to work on this problem by encouraging him to speak up and be more open with you, and you have even made a special note on his coaching form and have discussed this with him at his last coaching session. You feel sure that he wants to do a good job and live up to your expectations. You have pointed out how others are frank and open and how this has helped them get ahead. But somehow, you can't seem to push the right button with Joe.

This is certainly not an unusual situation or an unusual posture for a boss to take. The situation seems simple enough--we have a goal in mind for Joe (to act more openly), and we are exerting our influence on him to move him toward his goal. The forces that act as pressure on him to move in this direction are: (1) Joe's desire to do what you expect, (2) criticism for not being frank and open, (3) stress on how important it is, (4) inspiration examples of others moving ahead. All of these forces are "pushing" to move Joe, but he doesn't budge. Does this situation sound familiar?

The notion behind a force-field analysis is to examine not only the forces during toward the goal, but also the restraining forces which are holding movement back. In Joe's case, the force-field analysis might look like this:



Without an analysis of the forces driving toward and forces restraining movement toward the goal, we would tend to think that to make the change come about, we need only to push harder. But when we only increase the driving forces, what happens? Right! The restraining forces build in strength as well, and little movement occurs. It would be more helpful to understand the restraining forces and see what might be done to reduce or remove them. Then, movement toward the goal is more possible. How could you reduce the restraining forces in Joe's case?

Now, let's take a larger example. Let's say that your goal is "to increase the productivity of the work force." A diagram of the driving and restraining forces in this case might look something like this:

opposing restraining forces? After you have completed this step, should you go back and restate the problem or the objective; should you go back and restate the problem or the objective; should you get some more or different facts?

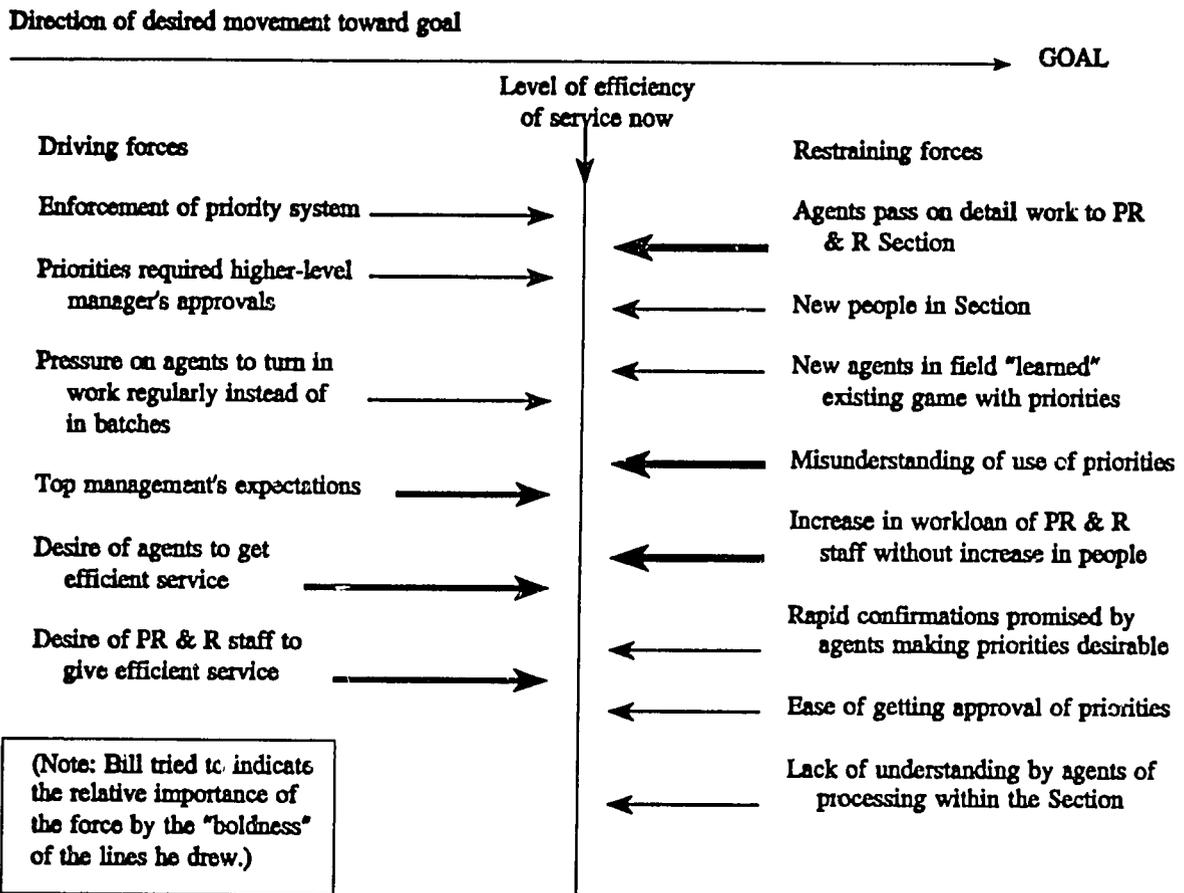
Step 4 in illustrative case

In making a force-field analysis of his stated problem, Bill Harold first stated his objective and then made a list of the things which were driving toward that objective and the things which were restraining movement toward that stated objective.

Objective (or goal): To adopt a system for the efficient handling of proofing, reproduction, and registration which makes provision for the occasional special case, and in which both the PR & R section and the sales agents perform their assigned tasks to make the system work.

Bill's force-field analysis is shown on page 41.

After making this force-field analysis, Bill saw two things more clearly. First, he realized that the forces pushing for more effective service were coming from top management and the PR & R staff almost exclusively. Second, it was apparent that these efforts were being overwhelmed by the restraining forces operating against reaching the goal.



5. List Alternative Solutions

Brainstorm with yourself all the possible things you might do to solve this problem. In "brainstorm" this step, you might also want to get others involved; sometimes imaginative ideas

spark other good ideas. However, the "imagineering" people would tell us to withhold critical judgments at this point, because judgments will restrain us from getting all possible ideas out.

Make your lists of all the possible solutions on slips of paper, the blackboard, etc. Then write your alternatives in the space below.

- a) _____
- b) _____
- c) _____
- d) _____
- e) _____
- f) _____
- g) _____
- h) _____

After you have listed all the possibilities, use your critical judgment to select the most reasonable alternatives for further analysis.

Step 5 in illustrative case

At this point, Bill thought it was time to get the thinking of others on possible actions to be taken. He got three of his key people together and reviewed his findings so far. Then he asked for their help in listing alternative actions. Fifty-seven ideas were listed in all, but when each was looked at critically, there seemed to be eight best alternatives toward a solution. These were:

- a) The section should either refuse to handle or turn back incomplete submissions from the sales agents.
- b) The section staff should be increased by 20 percent immediately.
- c) The basis of establishing priorities should be changed. Selected members of the section staff would assign priorities after hearing the request and deciding on its legitimacy.
- d) Suggest training for the sales agents as to:
 - 1) What is a reasonable time for obtaining confirmation (such as seven to ten working days).
 - 2) How to fill in data accurately on letter agreements.

- 3) Appropriate use of priorities for defined special cases.
- e) Provide training for the section staff--particularly in proofing--to help them understand that they were not to do the sales agents' jobs for them.
- f) Persuade and encourage the sales staff to turn in letters of agreements as received instead of waiting until they have a batch of them.
- g) Begin rewarding sales agents who turn in their letters promptly and accurately. Provide recognition back to their boss for good work.
- h) Get prompter feedback from the sales agents when service is taking too long. Feedback now is being given in the form of seeking priorities for everything, which clearly meant that the system wasn't working.

6. Make a Value Analysis of the Most Promising Alternatives

Now that you have selected some possible alternatives, step back from the analysis. Take time out to question your whole approach. What makes you think that his problem really needs solving or that the stated objective need be met? What makes you think you have the needed facts in this situation? What assumptions are you making which limit your view of the problem? The following form can be used to further analyze the best alternatives. (Note that lines (a) through (h) refer to the alternative solutions listed in step 5.)

6. Value analysis of alternatives						Check alternatives most desirable
Failure risk: probability, cause, and remedy	Check favorability factors*					
	1	2	3	4	5	
a)						
b)						
c)						
d)						
e)						
f)						
g)						
h)						

* Check column showing favorability factors of each alternative: 1= Reduce restraint, barriers; 2= Contributes to goal; 3= Least effort and cost; 4= Least time; 5= Least risk

As you go through this form, first think of all the negative points to each alternative. What is the risk of failure? What would be the impact of failure of this solution (cost, delays, look foolish, etc.)? What is the probability of failure? What would be the cause of failure? What could be done to prevent failure? What argument would probably be used to resist this solution? How sound would the argument be? Who would resist this solution? Why?

Next, think through the factors that made the solution desirable. Would the solution reduce restraints and barriers? Would it contribute to meeting your goals? Would it require the least effort and cost? The least time? The least risk?

When you have looked at all of the plus and minus factors, the most desirable alternative should be readily apparent. Perhaps there are two, or even three, desirable alternatives to choose from.

Step 6 in illustrative case

Bill's small group then began to look carefully at each of the eight proposals to analyze their real value in meeting the stated objective. Here are some notes on their discussion:

- a) (Either refuse or turn back incomplete submissions.) This move would certainly get attention (probably all the way to the president's office) if it were to be started suddenly. But having more accurate submittal would certainly improve the quality of service being given and would lessen the need for additional staff. Once the idea was accepted, little extra time and effort would be required on the part of the agents. If the idea was properly introduced, and if the agents know how to do what was expected of them, the risk of failure of this course of action should be small.
- b) (Increase the section staff by 20 percent.) An increase would certainly be justified, based on the increased volume of work handled. But adding people should probably be the last resort. If the system operated as it was meant to, the need for additional people would certainly be smaller than it seems to be now. Asking for a 20 percent increase would probably not be approved; therefore, his alternative is risky. Also, it would be a costly alternative.
- c) (Have section staff assign priorities.) The staff all agreed that this would not contribute toward the objective. The plan sounded good at first, but in discussing it, the group began to see that they would just be going back to the original system--which hadn't worked. Without other changes, the staff would be in a continual "hassle" with the sales agents.
- d) (Suggested training.) This alternative seemed to contribute the most to the objective, with a low risk of failure--if the training was conducted properly. However, the staff finally

agreed that it was not their responsibility to require or conduct training. This was the responsibility of the managers of the sales agents. The staff's responsibility was to point out the need for following a new, agreed upon system; to point out in detail what the new system would require on the part of the sales agents; and then to leave it up to the managers of the sales agents how they were going to implement the new approach. If the managers wished to draw on the resources of the PR & R group, this was fine.

- e) (Training for the section staff, particularly in the proofing unit.) Rather than institute a formal training program, the group agreed that once the new procedures were formulated, they should be explained down through each level of the section. This would minimize the risk of failure, be less costly, and would take the least effort. The group felt it important that everyone in the section understand the new arrangement.
- f) (Encourage the sales agents to turn in letters as received.) When the group began discussing this idea, they realized that they didn't know--and Bill hadn't investigated--why the agents were turning in their letters in this manner. Why did they do this now? Was it inconvenient for them to turn them in more regularly? Did they just like to have a stack accumulate to give them a feeling of accomplishment? Or why? There was some reason why this was occurring, and they needed to get some clues as to what this was. Bill made a note to investigate this point.
- g) (Positive reinforcement for good work.) This was seen as a neglected area. The group saw that they were so busy dealing with things which weren't going right, they had no time to reinforce what was going well. Only crises got attention. The group agreed that this approach should be included in any final plan. It would help to accomplish their objective; with a small risk of failure, it was not costly, and it required little effort and time to accomplish.
- h) (Feedback from the sales agents.) The group agreed that the section should provide more feedback about problems and difficulties being encountered by the sales group. There was no deliberate way now used to get information directly. This move was regarded as necessary to head off future situations like the one that had finally got out of hand.

Following this discussion, the group agreed on the decision to include a combination and modification of several of the alternatives discussed. Their decision will be presented after a discussion of the next step.

7. Make Your Decision and Test It

At this point, you should be able to select the one most desirable alternative and decide to go that way. Can you think of several ways your decision can be checked out to ensure that it will do

what you hope? Should it be discussed with others? Can it be tried on a sample basis? What reaction or results from a test will you accept as a "go/no-go" signal? Write your answers in the space provided.

Step 7 in illustrative case

The new procedures to be followed were:

1. The proofing section would establish standards of acceptance for letters of agreement, indicating which details they would supply and which *must* be included when the letters are received. If the required information was not included, the letter would be turned back to the sales agent for correction.
2. Each sales agent would be responsible for asking for priority to be assigned to any of his letters. This priority would be respected.
3. Information would be obtained for each sales agent about steady deliveries versus batch deliveries for processing. (The reason for the use of batch deliveries would be explored, and obstacles would be removed.)
4. Information about the record of each sales agent in the number of turn-backs, priorities, and steady deliveries would be sent back to the agent and his manager, with special recognition of good work.

Once the new procedures were approved by higher management, the staff of the PR & R section would get a complete briefing on how the procedures would be followed. This would take place as a special effort, but within the regular contacts with people down through the organization. The sales managers would have the new system explained to them, and an agreement would be reached on an effective date (two or three weeks away). An offer would be made by the section staff to be used in any way the sales managers wished to communicate the new procedures.

A budget increase would be requested from higher management in order to permit an increase of five percent to the staff of the PR & R section.

The key staff of the PR & R section would plan a defined contact system with sales managers and sales agents on a regular check-off basis and would report back on developing problems with the new procedures or in any other areas of their operations.

Bill Harold agreed to discuss the proposed plan with three of the sales managers to get their reaction. They would be encouraged to discuss it with several of their sales agents and provide information back to Bill. If no serious objections turned up, the plan would be submitted for approval.

8. Make an Action Plan

Lay out the specific steps needed to be taken to implement the proposed action. Who needs to be "sold"? Who needs to approve it? What assets will be needed? Who will be affected? How will the change be introduced? What level of support and agreement can you expect? How will you deal with opposition? Write out your plan in the space provided.

Hopefully, you have involved those directly affected as you went along. Now, carry out the action plan.

Steps 8 in illustrative case

Bill's steps to test the plan with the sales managers turned up no problems. As a matter of fact, the sales managers generally felt that something had to be done with the current priority system and were glad to see a new plan. They particularly liked placing the responsibility on the agents to determine their own priorities and to get reports on how their men were doing. "This is putting the responsibility where it belongs," one manager said, "instead of creating more and

more rules which would fall of their own weight." The managers reported no problems in the reactions of the agents.

Bill's action plan was as follows:

1. To get approval from his department head through either an informal discussion or a formal presentation, whichever his boss wished.
2. A presentation on the new plan would be made to the General Manager of Sales on his boss's level, and to the head of the legal group, which was responsible for the legal aspects of the section's operations. With their concurrence, a presentation will be made the following week to those reporting to the General Manager of Sales. At this point, the plan would be explained further down through their organization as they desired--providing notes for subsequent meetings, published materials explaining the plan, or further presentations by the staff of the PR & R section.
3. The effective date would be set in the meeting with the General Manager of Sales (step 2).

Bill Harold asked for an appointment with his department head to arrange the first meeting.

How well do you think Bill Harold has handled his problem? Will his action solve it, in your view? Why or why not?

SOLVING YOUR OWN PROBLEM

Now that the steps in the problem-solving process have been discussed and illustrated, it's time that you tried one yourself. The problem you select to work on can be either an organizational problem, such as the illustration given, or a personal one. The problem you select for your first attempt at using the model shouldn't be too large or complex or have too many unknowns, which would take much research. Nor should the problem you select be too small and insignificant. These are rather vague limits, I know, but go ahead and select one and take it through the steps.

Begin with a statement of the problem--which will undergo some reworking, of course--and go on through the model to specific plans to implement the action. You will become well aware that problem-solving isn't a linear, step-by-step process; rather, as you progress you return over and over again to rework previous steps.

I certainly don't expect you to follow these eight steps all the time, or even continue to use this particular model. But doing so, at least in the beginning, will assure you that everything is considered in its approximate sequence.

Before we leave our discussion of problem-solving, let's consider two other aspects: first, how "people" problems may differ from technical problems; and second, the manager's role in managing the problem-solving process through effective delegation. These considerations may help you with the problems you face.

People Problems Are Often Different

You may have selected a "people" problem to work through as your problem-solving case. If so, you may have found that you were able to work the problem out through the model, even though the model may not have quite "fit" your problem. But Alvar Elbing reminds us that the "logic" of the technical problem-solving model can be a block to the development of a model more appropriate to real-life, "human" situations. Here are some important differences he notes:

1. In technical problem-solving, the "cue" which calls our attention to the problem in the first place *is the problem*. Something is wrong, and what is wrong is probably obvious to all. But in human problems, the relationship between the fact that *something* is wrong and just what *is* wrong is not all obvious.

We may work away at surface problems only to find that as fast as we deal with one symptom, another arises to take its place. Thus, the step of "defining the problem" is often not simple and can be very complex.

2. Technical problems lend themselves to more precise definition because of specialized terms, precise measurements available, and specific standards which can be applied. But this is rarely the case with human problems.
3. The step of "getting the facts" can also be complex. There are a great many "unknowns" in dealing with people problems, and some of these are even unknown to the people who are having the problem.
4. The choice from among alternative solutions must involve a perceptive and realistic prediction of the probable feelings and reactions of the individuals involved. It must also take into account some rather nebulous factors of extreme importance, such as the quality of relationships and the level of trust.
5. Implementation of the decision also becomes quite different and can become a challenging problem in itself. Unlike a technical solution, which can often be mechanically carried out, the people involved in a decision to a human problem must understand the decision and how it will affect them; and they must see how their human needs will be met through participating in the solution. Therefore, unless attention is paid to these factors,

implementing a decision which is meant to solve a human problem may create more problems, perhaps bigger than the one meant to be solved.

Problems involving behavior often cannot be solved directly, as can problems about things. The proposed solution can only attempt to *stimulate* the behavior desired to overcome or reduce the problem.*

The main difference between "technical" problem-solving and "human" problem-solving is in the nature of the resource. The human resource is the only resource that cares how it is used.

Managing the Problem-Solving Process

Even more important than helping you as a manager learn how to solve problems would be helping you learn to better manage the problem-solving process. The "doers"--planners, designers, workers, etc.--should be doing the problem-solving.

To manage the process sounds like a simple procedure. And sometimes it is. The steps involved are:

The manager's role

1. *Define the problem.* As you perhaps saw in working your problem through the model earlier, this step is not necessarily a simple one. Determining what results are required is another way of defining the problem.
2. *Describe the objective to be gained from a solution.* What will be considered to constitute a successful solution? What would be a reasonable achievement? What is essential to have happen? Can desired "global" results be spelled out in detail?
3. *Assign responsibility, resources, review dates, and deadlines.* This is the act of delegation. (Note that we do not ask for solutions at this point, but *proposals for a solution.*)

The "doers" role

- a) Figure out different ways it might be fixed.
- b) Determine the best plan for fixing it.
- c) Develop details and methods to be used.
- d) Determine resources required.
- e) Present findings and recommendations to the manager.

*Adapted by permission from Alvar O. Elbing. "The Danger of Applying a 'Technical' Mind to Human Decisions," *European Business*, (Spring, 19973): 48-52. (*European Business*, 28 bd. Raspail, Paris, published by the Société Européenne d'Édition et de Diffusion)

The manager's role, again

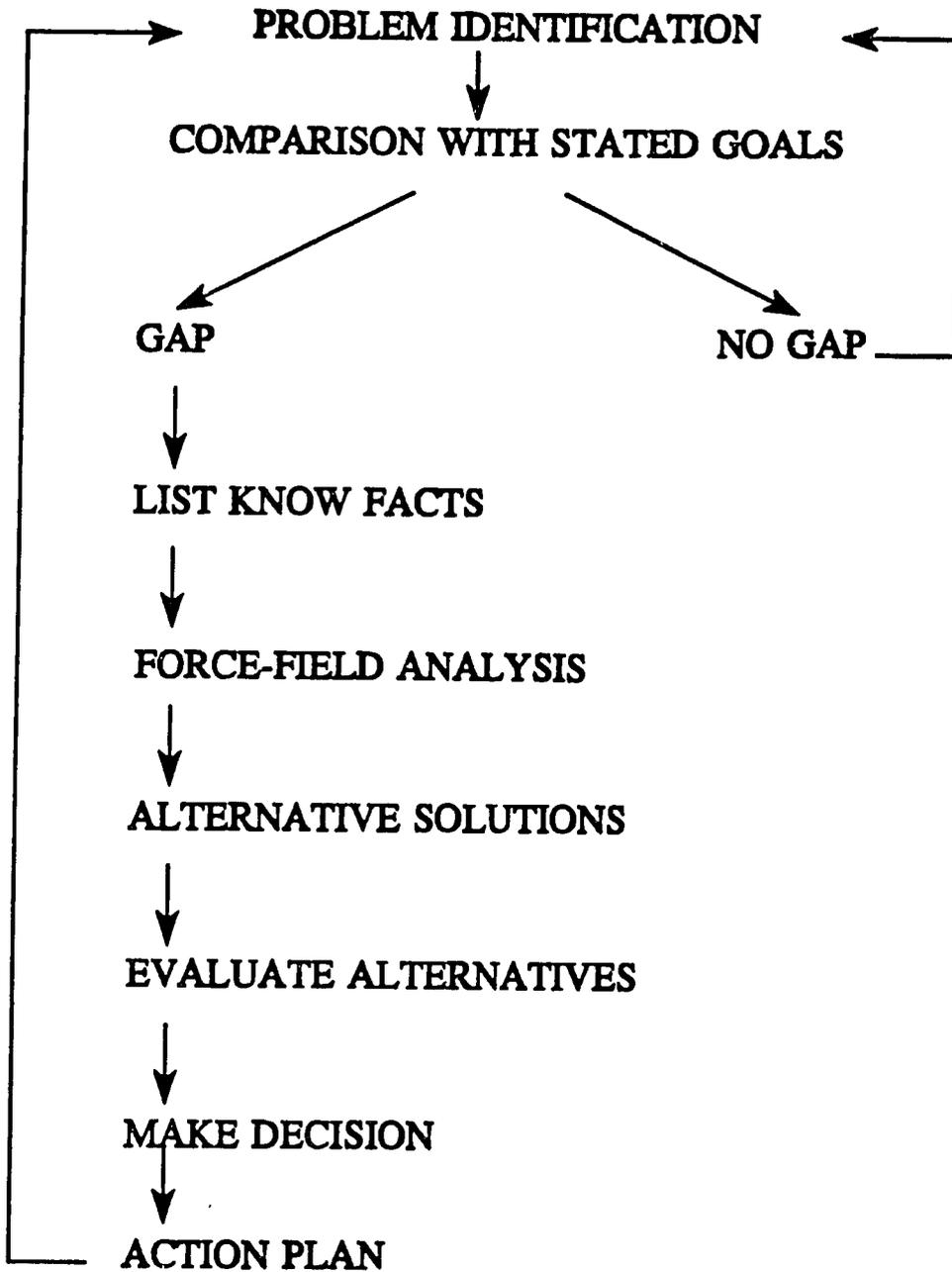
4. *Make management decision to proceed or not.* If the proposed direction seems feasible and reasonable as to cost and effort, obtain other approvals as necessary etc.
5. *Assign resources and obtain commitments to the planned approach.*
6. *Review progress at appropriate intervals.**

By managing the process rather than trying to solve all of the problems that arise, you can extend your abilities and get more problems solved. Some of the major problems must be solved by you personally, but many others can be delegated.

In the problem-solving case presented earlier about the runaway priority system, after you had worked the problem enough in its initial stages to be able to define the problem and your objectives in solving it, you might have given it to someone on your staff to carry out the remaining steps. In so doing, you would be both developing people and getting a lot more problems solved. A manager must look for ways to extend his capabilities. Delegation of the problem-solving activity is one way to do so.

*Adapted from the basic idea of Joe Lindsley, a skilled problem-solving manager at The Boeing Company.

PROBLEM-SOLVING PROCESS



UNIT 3
GOALS AND GOAL-SETTING

UNIT 3

Title: GOALS AND GOAL-SETTING

Purpose: This unit is designed to help participants to understand the importance of setting goals for small business companies, and to gain practice in this area.

Objectives: Upon completion of this unit, the participant will:

- understand the guidelines for writing goals
- gain practice in establishing objectives
- develop goals for the small business they presently operate
- understand the tools that small business owners have to accomplish their goals

Materials:

Transparency 3-1:	Clear Goals
Transparency 3-2:	Lack of Goals
Transparency 3-3:	Setting Goals
Transparency 3-4:	Guidelines for Writing Goals
Transparency 3-5:	Tools to Accomplish Goals
Handout 3-1:	Setting Goals Worksheet - Exercise 1
Handout 3-2:	Establishing Goals - Exercise 2
Handout 3-3:	Small Business Company Goals - Exercise 3

Product: A specific set of goals generated for the participant's small business company.

Assignment: Review and refine the goals generated for the participant's small business company.

Note to

Instructor: The running and completion of the exercises is straightforward. The instructor should review the goals listed by the participants in Exercise 3 to make sure that these goals fulfill the requirements of "good" goals, and are realistic for the present conditions in the participant's industry in Poland.

Estimated

Time:

Lecture and discussion on goals	approximately 15 minutes
Completion and discussion of exercises	approximately 45 minutes

**UNIT 3
GOALS AND GOAL-SETTING
TEACHING OUTLINE**

CONTENT	PROCESS
<p>A. Concepts</p> <p>1. The importance of personal and business goals.</p> <p>2. Factors to consider when setting goals.</p> <p>B. Guidelines</p> <p>1. Guidelines for writing objectives.</p>	<p>Show TP 3-1: Clear Goals Show TP 3-2: Lack of Goals Ask participants to raise their hands if their companies have written goals. Have them discuss why they do or do not have written goals.</p> <p>Show TP 3-3: Setting Goals Discuss why these factors are important</p> <p>Show TP 3-4: Guidelines for Writing Objectives.</p> <p>Run Exercise 1: Setting Objectives Worksheet and distribute HO 3-1. Discuss the individual items in this exercise with the students.</p> <p>Run Exercise 2: Establishing Objectives and distribute HO 3-2. This exercise is meant to reinforce the characteristics that goals should have. Go over the results of the exercise very closely.</p> <p>Run Exercise 3: Small Business Company Goals and distribute HO 3-3 This exercise is designed to get the students to apply the course discussion on goals to their own businesses. It is very important that the students give adequate thought to this exercise. They should take their initial results home, and analyze and refine them.</p>
<p>2. Tools to Accomplish Goals</p>	<p>Show TP 3-5: Tools to Accomplish Goals</p>

CONTENT	PROCESS
<p>3. Polish examples</p> <p>C. Assignment</p>	<p>This transparency should lead to discussion of how the students do, can, and should apply these tools to accomplish the goals that they set for their small business in the previous exercise.</p> <p>Show video segments from the "Polish Success Stories" prepared and published by Economic Foundation Solidarnosc in Gdansk, which demonstrate goal setting.</p> <p>You may wish to ask participants to read the exercises prior to the next class to facilitate use of the exercises in class time. See Handouts 4-1, 4-2, 4-3, and 4-4.</p>

CLEAR GOALS

- **DIRECTION**
- **DESIRE**
- **COMMITMENT**
- **ENTHUSIASM AND ENERGY**
- **KNOW-HOW**
- **CONFIDENCE**
- **DETERMINATION**
- **GOOD CONDITIONS**
- **ACCOMPLISHMENTS**
- **SUCCESS**

LACK OF GOALS

- **FRUSTRATION**
- **INDECISION**
- **MISTAKES**
- **FEAR**
- **WORRY**
- **PUTTING THINGS OFF**
- **MAKING EXCUSES**
- **LAZINESS**
- **POOR CONDITIONS**
- **FAILURE**

SETTING GOALS

FACTORS TO CONSIDER WHEN SETTING GOALS:

- **WHAT IS TO BE ACCOMPLISHED?**
- **HOW WILL PERFORMANCE BE MEASURED?**
- **WHAT IS THE STANDARD TO MEET?**
- **WHAT IS THE TIME PERIOD?**
- **WHAT ARE THE PRIORITIES?**
- **WHAT ELSE NEEDS TO BE COORDINATED?**

GUIDELINES FOR WRITING GOALS

- 1. IT STARTS WITH THE WORD "TO," FOLLOWED BY AN ACTION VERB.**
- 2. IT SPECIFIES A SINGLE KEY RESULT TO BE ACCOMPLISHED.**
- 3. IT SPECIFIES A TARGET DATE FOR ITS ACCOMPLISHMENT.**
- 4. IT IS SPECIFIC AND QUANTITATIVE.**
- 5. IT SPECIFIES ONLY THE "WHAT" AND "WHEN."**
- 6. IT RELATES DIRECTLY TO THE ORGANIZATION'S GOALS.**
- 7. IT IS UNDERSTANDABLE BY THOSE WHO WILL TRY TO ACHIEVE IT.**
- 8. IT IS REALISTIC AND ATTAINABLE, BUT STILL REPRESENTS A SIGNIFICANT CHALLENGE.**

TOOLS TO ACCOMPLISH GOALS

FORECASTING: **Production numbers, overtime,
scrap, glove expense budget,
scissors, rags, ID, tape, etc.**

BUDGETS

BREAK-EVEN COSTS

FINANCIAL ANALYSIS

MATERIALS PLANNING

INVENTORY CONTROL

PEOPLE

DAY-TO-DAY OPERATIONS

DATA

PLANNING

ORGANIZING

LEADING

MOTIVATION

CONTROLLING

PRODUCTION IMPROVEMENT

**FINANCIAL AND ADMINISTRATIVE CONTROLS -
STANDARDS, RATIOS**

SETTING GOALS WORKSHEET
Class Exercise 1

	Action verb?	Result?	Target date	Measurable?
1. To improve the communications and working relations among key employees for that high quality work can be produced.				
2. To develop an improved method to maintain all material-handling equipment. Have in operation by December of this year.				
3. To reduce rejects in electronic component K-234G to 2 percent by August of this year.				
4. To continue cost-saving study and implement its recommendations upon completion.				
5. Within 3 months, have all grievances processed, recorded, and answered within 48 hours of receipt.				
6. To increase production per man-hour this year by 2 percent over the last year's overage.				
7. To begin a procedure for proper distribution of job description sheets.				

UNIT 4

Title: INFORMATION AND COMMUNICATION

Purpose: This unit is designed to help the participants to understand the essential roles which communication and information play in the management of successful small business companies.

Objectives: Upon completion of this unit, the participant will:

- appreciate the differences between one-way and two-way communication systems,
- have an awareness of persuasion skills,
- acquire conflict-reduction skills,
- understand the importance of the small business company's environment and culture.

Materials:

Transparency 4-1:	Improving Persuasion Skills
Transparency 4-2:	Conflict Resolution
Transparency 4-3:	Entrepreneurial Environment
Handout 4-1:	Information Needs - Exercise 1
Handout 4-2:	Communication Systems - Exercise 2
Handout 4-3:	Role/Play - Trouble in Manufacturing - Exercise 3
Handout 4-4:	Entrepreneurial Environment
Handout 4-5:	Rate Your Workplace Culture - Exercise 4

Product: An analysis of the information needs of the participant's small business company.
A diagnosis of when one-way and two-way communication systems are most effective in small business companies.
A set of conflict resolution skill guidelines.
A rating of the participant's small business company workplace culture.

Assignment: Have participants review and analyze the outcomes of the exercises in this unit to develop a plan to implement pertinent findings in their own small business company.

Prepare cases for the next unit.

Note to Instructor: Each of the exercises contains instructions for you and the student
Be sure to read through these in advance.

Estimated Time: Lecture and discussion approximately 25 minutes
Running and discussion of the four exercises approximately 2 hours

UNIT 4
 INFORMATION AND COMMUNICATION
 TEACHING OUTLINE

CONTENT	PROCESS
<p>A. Essential Data for Effective Operations.</p>	<p>Run Exercise 1 and distribute HO 4-1: Information Needs. This exercise asks the participants to relate their information needs for their own small businesses. Discuss this exercise in some detail.</p>
<p>B. Methods of Communication.</p>	<p>Run Exercise 2: Communication Systems in Organizations and distribute HO 4-2. This is an extended exercise usually produces excellent results. Have the students work through the exercise, and then discuss their own experiences with one- and two-way communication.</p>
<p>1. Persuasion</p>	<p>Show TP 4-1: Improving Persuasion Skills. Have one or two students discuss a persuasion situation that they found themselves in. Who is the most persuasive person that someone has met? Why was this person so persuasive?</p>
<p>2. Conflict</p>	<p>Run Role Play 3: Trouble in Manufacturing and distribute HO 4-3. Assign different roles to each class member using the role sheets in HO 4-8. Tell the class when to begin and when time is up</p> <p>This is a role-playing exercise which does an excellent job in representing a work conflict situation. After completion of the exercise, have the students relate this exercise to their own experiences with conflict.</p> <p>Show TP 4-2: Conflict Resolution. This list discusses the techniques usually used in conflict situations. Have the students discuss</p>

CONTENT	PROCESS
	<p>their own experiences with conflict resolution.</p>
<p>3. Environment of the Organization</p>	<p>Show TP 4-3: Entrepreneurial Environment and distribute HO 4-4.</p> <p>Run exercise 4-4: Rate Your Workplace Culture and distribute HO 4-5. This exercise is more meaningful for small businesses that have more than just a few employees. However, it is also of use to the smaller businesses, since it warns of a problem that comes with the growth of a small business.</p>
<p>C. Polish Case Studies</p>	<p>Use Examples from the Polish "Success Stories" published by Economic Foundation NSZZ Solidarnosc, Gdansk to demonstrate communication problems, and the solutions used to solve them.</p>
<p>D. Assignment</p>	<p>You may ask participants to read some of the handouts provided in Unit 5 prior to the next class. See HO 5-2; HO5-3; HO5-4; HO5-6.</p>

IMPROVING PERSUASION SKILLS

- **ESTABLISH CREDIBILITY**
- **USE A POSITIVE, TACTFUL TONE**
- **MAKE YOUR PRESENTATION CLEAR**
- **PRESENT STRONG EVIDENCE**
- **TAILOR YOUR ARGUMENT TO THE LISTENER**
- **APPEAL TO THE SUBJECT'S SELF INTEREST**
- **USE LOGIC**
- **USE EMOTIONAL APPEALS**

CONFLICT RESOLUTION

- **COMPROMISE**
- **POWER**
- **INTEGRATION**
- **DENIAL**
- **SUPPRESSION**

ENTREPRENEURIAL ENVIRONMENT

1. *The presence of explicit goals.*
2. *A system of feedback and positive reinforcement.*
3. *An emphasis on individual responsibility.*
4. *Rewards based upon results.*

A "Hands-on" Approach:

1. **Encourage action.**
2. **Use informal meetings whenever possible.**
3. **Tolerate failure and use it as a learning experience.**
4. **Be persistent in getting an idea to market.**
5. **Reward innovation for innovation's sake.**
6. **Plan the physical layout of the enterprise to encourage informal communication.**
7. **Expect clever "bootlegging" of ideas.**
8. **Put people on small teams for future-oriented projects.**
9. **Encourage personnel to circumvent rigid procedures and bureaucratic red tape.**
10. **Reward and/or promote innovative personnel.**

COMMUNICATION SYSTEMS IN ORGANIZATIONS***Exercise 2****Objectives**

1. To identify the consequences of using different kinds of communication systems.
2. To assess the kinds of trade-offs a manager must make in determining what kind of system to use.
3. To attempt to determine the effectiveness of different systems in different situations.

Pre-meeting Assignment

None

Introduction

In discussing the various kinds of communication systems that are available to the manager, many textbooks describe the different systems in normative terms. For example, a frequent statement is that "two-way communication is better than one-way." But, a perceptive manager should look beyond such simplistic statements, and in this exercise we will do so by establishing two kinds of communications systems and by attempting to look objectively at the characteristics of the different systems. We will look at:

A *one-way system* in which communication flows only from the communicator to the receivers.



Figure 1-1 One-way system

*Knudson, Harry R. Management: An Experiential Approach, 2/E, pp 9-21. Copyright © 1991 by McGraw-Hill, Inc. Reproduced and translated with permission of McGraw-Hill, Inc.

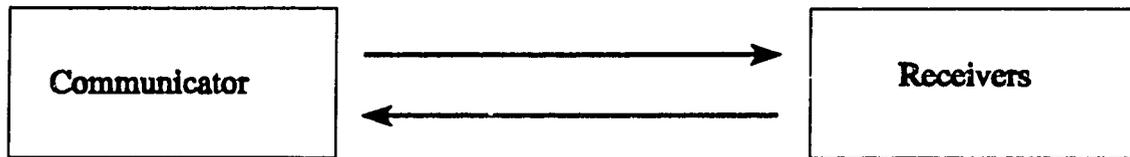


Figure 1-2 Two-way system

A *two-way system*, in which communication can flow from the communicator to the receivers and back to the communicator.

Listening to a radio broadcast is an example of a one-way communication system. The listener has no way to communicate to the transmitter. Engaging in a discussion in class is an example of a two-way communication system. Communication is possible both ways, between the communicator and the receiver and between the receiver and the communicator.

After examining the communication systems, we shall determine the characteristics of each and assess the evident strengths and weaknesses. We are taking this approach to get a better understanding of the kinds of trade offs that a manager should make when choosing one communication system rather than another.

Obviously, a great many variations of the "pure" one-way or two-way systems are possible. To illustrate the system's characteristics more clearly, we have purposely chosen the most simple systems.

PROCEDURE

1. The entire group meets together.
2. Select one person to as the *communicator*.
3. Select another person to as the *administrator* of the exercise.

A diagram constructed with these characteristics *could* look like the one in Figure 1-3. The purpose of the first part of the exercise is to establish a one-way communication system.

4. The communicator should now describe his or her diagram to the rest of the group, taking as much time as necessary. Each group should reproduce as accurately as possible the diagram described by the communicator. Use the following page entitled "One-way system" to reproduce the diagram.

5. After the communicator has finished describing the diagram, members of the group should answer the following questions and record their answers in the column labeled, "One Way."

THE COMMUNICATOR - SPECIAL INSTRUCTIONS

Your assignment is to communicate verbally the details of a simple diagram that you will devise in the next few minutes.

Draw on the page headed "One-way system" a diagram with the following characteristics:

1. It will be composed of seven assorted rectangles, triangles, and squares.
2. Each part of the diagram, except the first and last parts, will touch two other components.
3. Parts of the diagram will touch at midpoints, ends, or corners.
4. Rectangles will be twice as tall as they are wide.
5. All triangles included will be equilateral triangles.

(Your drawing incorporating the above characteristics should be completed in no more than three minutes.)

	<i>One way</i>		<i>Two way</i>	
	Yes	No	Yes	No
1. Are you reasonably confident that the figure you have drawn is exactly like that of the communicator?				
2. Were you frustrated, tense, uncomfortable, etc., because you were unable to communicate as effectively as you wished during the experiment?				
3. Without looking at your watch or a clock, estimate to the closest half minute the elapsed time since the start of the exercise.	<i>Time estimate</i> _____		<i>Time estimate</i> _____	

TWO-WAY SYSTEM

The next part of the exercise will utilize a *two-way* communication system.

The objective will be the same as in the first part of the exercise - reproduce as accurately as possible a diagram which will be verbally described by the communicator.

1. The communicator will now verbally describe another diagram he or she has constructed, this time, facing the rest of the group. Each individual should reproduce the diagram on the page entitled, "Two-way system."
2. Because this is a two-way communication system, each member of the group is free to communicate *verbally* with the communicator or with any other member of the group. For example, if the communicator's directions are not clear, ask for clarification. Your objective is to reproduce the diagram as accurately as possible, so communicate as much as is necessary to achieve this objective.

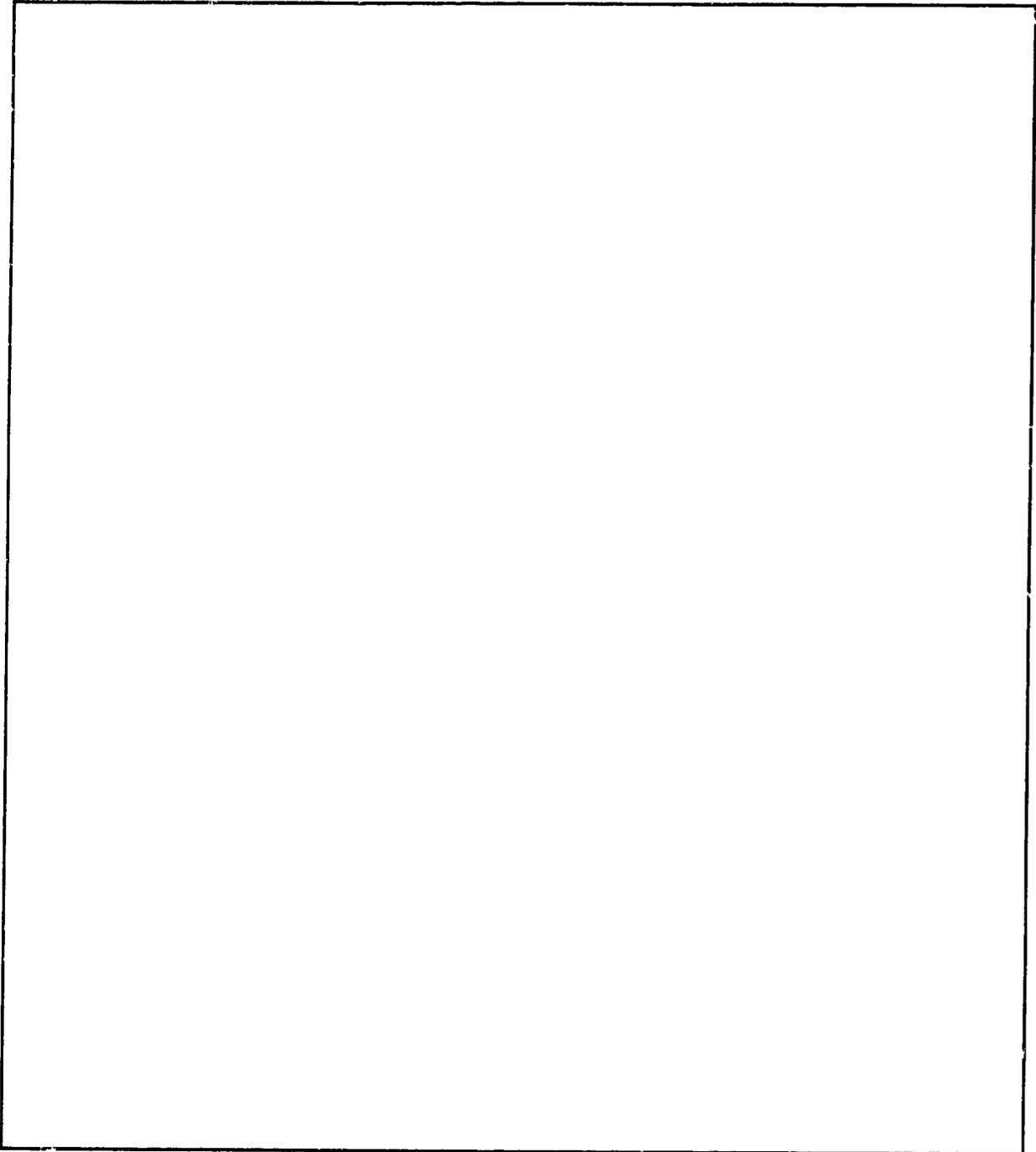
THE COMMUNICATOR - SPECIAL INSTRUCTIONS

Using the same constraints outlined before on page 10, construct a *different* diagram to describe to the group. Do not take more than 2 to 3 minutes to devise this new diagram. Do this on the page after next, titled, "Two-way system."

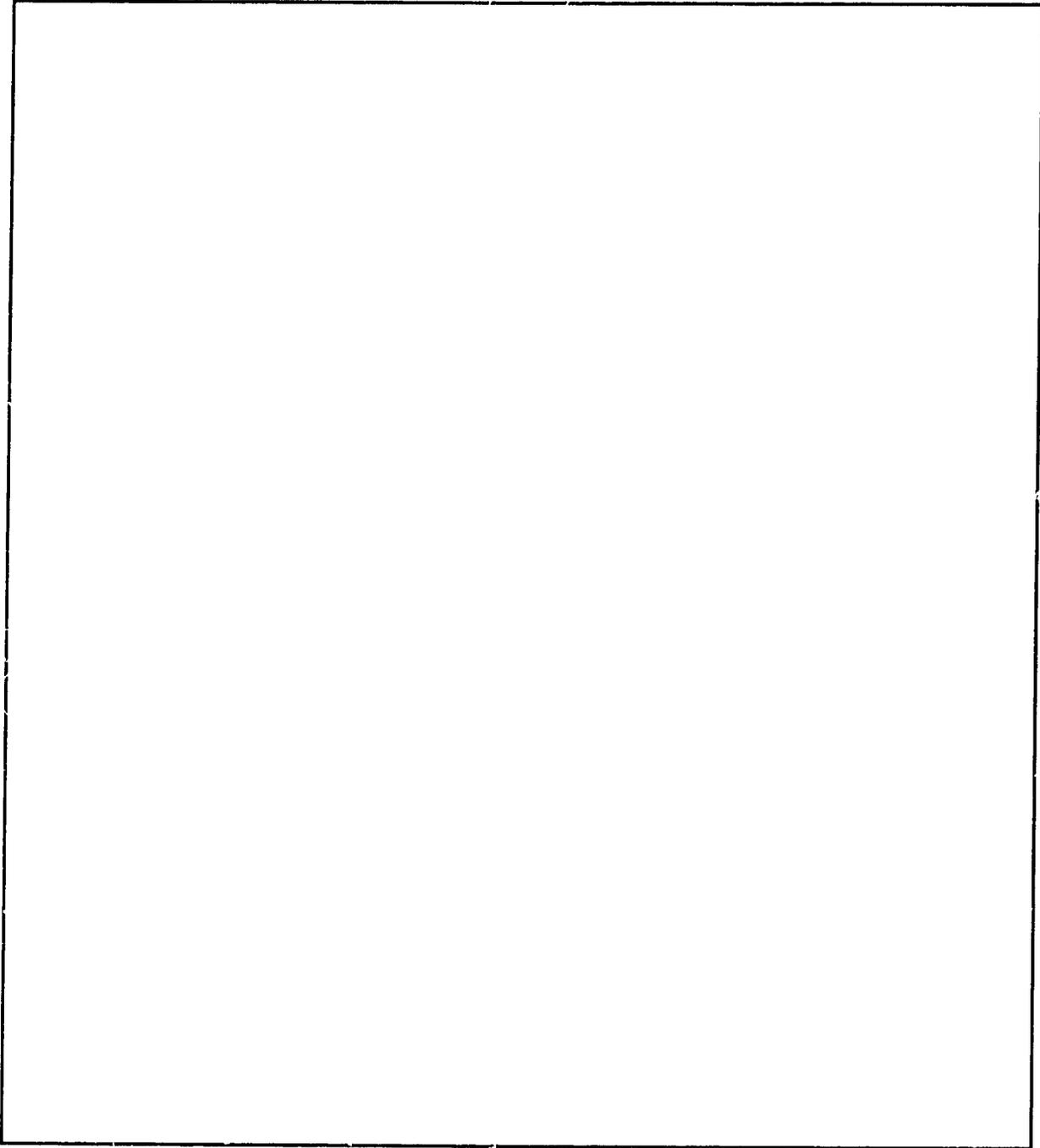
COMMUNICATIONS RESTRICTIONS

In this part of the experiment *nonverbal* as well as verbal communications are permitted. However, the communicator *cannot* draw the diagram on a blackboard, trace the figure in the air with the fingers, show the group the drawing, etc.

ONE-WAY SYSTEM



TWO-WAY SYSTEM



3. During this part of the exercise, take as much time as the communicator *and the group* feel is necessary to achieve the desired objective.
4. When this part of the exercise has been completed, go back to the previous questions and answer them for the two-way part of the exercise.

We are interested in looking at several factors in this experience:

Accuracy: What was the relative effectiveness of the two systems?

Frustration: How much frustration was developed by the two systems?

Confidence: How much confidence do the systems engender in the participants?

Time: How do the two systems compare in the amount of time required?

In order to permit us to look at these factors, *the administrator* should now get some information from the entire group about both parts of the exercise. The administrator will ask the group the questions on the following page for both the one-way and the two-way parts of the exercise and record the *composite* answers in the appropriate places.

Individuals in the group should record both their own answers and the composite answers for the entire group on the form on page 80.

To determine *accuracy*, the communicator should draw both of the diagrams on the blackboard visible to all so that each person can determine if his or her drawing is an exact reproduction. In determining *accuracy*, we are concerned with *exactness*. If your drawing does not agree *exactly* with that of the communicator, answer this question negatively.

ANALYSIS AND DISCUSSION

1. Form into smaller groups of five or six.
2. Look at the data from your own experience. What kind of conclusions do you reach about the strengths and weaknesses of the two systems, with regard to:

Accuracy:

Frustration:

Confidence:

Time:

TOTAL GROUP RESPONSES

	One Way			Two Way				
	You		Your group	You		Your group	Other groups*	
<i>Accuracy:</i> How many in the group have <i>exactly</i> the same diagram as the communicator?	Yes	No		10-14 % Accurate	Yes	No		75-85 % Accurate
<i>Frustration:</i> Were you frustrated, displeased, unhappy, etc., because you could not communicate with the communicator?	Yes	No		90+% Feel frustrated	Yes	No		50-65% Feel frustrated
<i>Confidence:</i> Are you confident that your figure is quite accurate?	Yes	No		15-30% Are confident	Yes	No		70-85% Are confident
<i>Time:</i> Estimated time elapsed. Actual time elapsed.			(To be supplied by administrator)	9.8 min 6.1 min			(To be supplied by administrator)	14.7 min 15.0 min

* Data under the headings, "Other groups" are the results of a great many trials of the exercise with many different kinds of groups in a number of countries: students, managers, nurses, teachers, public administrators, military officers, engineers, physicians, bankers, etc.

What other significant characteristics of the two systems did you observe?

One Way

Two Way

3. Consider the following questions:

- a. Look at the data for your group in comparison with the data of other groups. What differences and similarities do you see? How do you account for these?
- b. Did frustration occur in the two-way system? If so, how is it different from frustration found in the one-way system?
- c. Which kind of frustration is easier for the manager to deal with?
- d. How does the role of the communicator differ in the two systems?
- e. How did the interaction between the communicator and the group differ in the two systems? What effect did this have on the communicator? On the group?
- f. Under what kind of conditions would a one-way system be advantageous?
- g. Under what circumstances would a two-way system be advantageous?

- h. What are the trade-offs a manager must make in choosing between a one-way and a two-way system?

One Way

Costs	Benefits

Two Way

Costs	Benefits

CONCLUSIONS

While we have no way of knowing what kind of an experience you had in this exercise, there are some things that regularly occur as the result of this project, and some general conclusions can be drawn that should be useful to the manager.

The most obvious conclusion from the exercise is that neither a one-way nor a two-way communications system is "better." Each of the two kinds of systems has some benefits and some costs; and a manager must constantly evaluate the trade-offs between costs and benefits in each individual situation. If your experience was similar to that of many other groups, it should be apparent that one of the trade-offs that must be made is that between accuracy and time. The one-way communication system usually produces a low percentage of accuracy, but it also takes a relatively small amount of time. The two-way system, on the other hand, produces a high percentage of accuracy but also takes an appreciable amount of time relative to the one-way system. Usually, the amount of time consumed is more than twice that used in the one-way system. Thus, the manager is faced with the trade-off of whether the increase in accuracy is worth the increase in the amount of time that must be taken.

We will look at the factors of confidence, accuracy, time, and frustration in the two systems in detail later, but at this point a primary conclusion from the exercise should be that neither system, or any variation of the two systems, will result in *all* benefits and *no* costs. There is always a trade-off involved.

Looking at the figures from other groups, the following conclusions can be drawn:

1. Two-way communication is much more accurate than one-way communication.
2. Two-way communication promotes a much higher feeling of confidence than one-way communication.
3. Two-way communication has a lower frustration level, and this frustration is of a significantly different kind than that generated in the one-way system.
4. The two-way system takes appreciably longer than the one-way system.

In the one-way system, the frustration that occurs is *between* the communicator and the group. In the two-way system, the frustration is among the members of the group because, for example, of differences in the speed with which the individuals reproduce the drawing, resulting in the fast people becoming frustrated because the others are so slow, the tendency of one individual to ask too many questions, the way in which questions are asked of the communicator, and other factors that are generated simply because the communications restrictions are lifted. Individuals communicate not only with the communicator but with each other and because of the large number of communication possibilities that are open, the level of frustration may be significant. But again, it is important to note that this is a different kind of frustration than that experienced in the one-way system where frustration arises *between* the communicator and the

group because communication is restricted. In the two-way system, frustration arises *within* the group because people are not communicating the way that others would like them to.

As noted, one cost of the two-way system with its relatively high accuracy and confidence is the much greater amount of time required. Two to two and one-half times longer may represent a very significant cost to the manager. Interestingly, people are usually much more accurate in their estimate of elapsed time in the two-way system than they are in the one-way system. Perhaps this high estimate of time in the one-way system has something to do with the high amount of frustration and the low confidence generally associated with that kind of system.

An additional aspect concerning confidence should be noted. In the one-way system, many more people are confident than are accurate. Because they are confident, these people are ready to act even though the information they possess is inaccurate. This can cause problems in the organization. Perhaps an even more serious problem, however, is simply the low level of confidence. If 70-80 percent of the people are not confident, they have no way of checking to see if they are in fact, accurate, yet have to act upon the information they now have, they are in an exceedingly difficult position. Most people are unable to function effectively in this kind of situation for extended periods of time.

Another interesting point to note is that the one-way system appears to be quite orderly because no one is questioning the communicator. It is a "neat" system and one in which a great deal of prestige accrues to the communicator. To an observer, it appears that the communicator must be a very competent person because everybody is listening. This may be an important factor to a manager in choosing which communication system to use depending upon how highly he or she values the appearance of personal prestige and competency.

In general, then it would seem that the one-way system is better for a manager who (1) is satisfied with a low accuracy, (2) is not concerned about frustration, confidence, and morale problems in the organization, (3) wants to keep the amount of time involved in communicating as low as possible, and (4) wants the process to appear neat and orderly. There are many kinds of situations in which these characteristics could be operating.

The two-way system would be chosen by a manager who (1) wishes a high degree of accuracy, (2) is concerned about having high confidence, low frustration, and high morale in the organization, (3) is not concerned about the amount of time the communication process takes, and (4) is willing to pay the associated costs involved. Similarly, there are many kinds of situations in which these characteristics are operating.

Perhaps the single, most important distinction between the two systems, however, is that in the two-way system the communicator finds that he or she is susceptible to psychological attack. In the one-way system, for instance, the communicator makes mistakes. He or she is

aware of the mistakes, and the group is also aware of the mistakes. But, the group has no way of telling the communicator about these mistakes.

However, in the two-way system, the communicator makes mistakes, and the group has many opportunities to point out the mistakes. In this process of pointing out mistakes, many communicators feel that they are under a great deal of pressure. In addition to asking questions about what we would call the technical nature of the diagram, many of the questions and comments from groups reflect upon the abilities of the communicator to communicate and, more broadly, upon his or her managerial ability. For example, a question might be phrased, "Does that triangle touch the rectangle at 45 degrees to the left or 45 degrees to the right?" On the surface this is a simple, direct question, but implied in the question is the strong feeling that the communicator doesn't know the difference between left and right and probably isn't too sure what a 45-degree angle is either. Given a number of questions like this, it is not uncommon for the communicator to feel severely pressured. In a few instances, communicators could not complete the two-way part of the demonstration because the pressure they felt was greater than they wish to experience. And, remember this is in a "no risk" situation. If the consequences of accuracy were high, i.e., if it were really important to one's career or to the success of the organization, then the pressures would be even greater.

An important factor in the issue of psychological attack is how the communicator handles the questions. A communicator who doesn't become defensive should have less trouble than one who takes each comment quite personally. Feedback in the form of questions and comments is a combination of technical data and evaluative data about the ability of the communicator. Ideally, the feedback deals 100 percent with technical data, but this is not the usual circumstance. Each of us as an individual has a certain proportion of evaluative data about ourselves that we are willing to receive from others in order to get the technical feedback we need to increase accuracy. In a two-way communication system, the opportunity is provided for both kinds of feedback; and if the evaluative portion of that gets too high, we find ourselves terribly uncomfortable and may choose to exercise our authority and end the two-way system, even at the sacrifice of our original objective.

Groups often become concerned about the mechanics of the exercise and are intrigued by how results might differ if the procedure differed. Generally, the mechanics do not have a great effect on the outcome. For example, doing the two-way system first seems to have very little effect on the kinds of results obtained. The time required in the one-way system, if the two-way is done first, is generally shortened because of the learning that takes place in the two-way. But, in total the two-way still takes more than twice as long as the one-way. Similarly, the size of the group has an effect on the time required but the *relative* differences between the time used in the one-way system and the time used in the two-way system remain about the same.

Questions about the skill of the participants are often asked. Does a very articulate communicator make a difference? Yes, but in our experience, not an appreciable difference. No

matter how skillful the communicator is, the same general conclusions usually result concerning the relative characteristics of the two kinds of systems. In perhaps the worst demonstration that we have personally conducted, the communicator was so poor that no one in the entire group reproduced the drawing accurately. This was a very unique experience and undoubtedly that communicator's ability to verbalize was a factor in the extremely low accuracy rate. However, we have had some extremely articulate individuals as communicators who have not appreciably affected the outcomes so far as we could tell.

The artistic or drawing skill of the group seems to have little effect upon the results. This exercise is regularly used with engineering students who are trained in drawing, but the results obtained are generally very similar.

Often, too, questions are asked about the homogeneity of the group. If the group has a similar language, as for example a group of architects, engineers, or doctors, will this affect the experiment? Again, our results show that it will not. We do find, however, that individuals of different backgrounds tend to see the diagrams from their own perspective. For example, in one group of railroad men where the diagram was composed mostly of rectangles, the communicator related the diagram to a train wreck with each rectangle representing a box car lying on the tracks at a different angle. In a group of agricultural administrators, also using a diagram made up mostly of squares and triangles, the communicator likened the diagram to fields of grain. With a group of computer specialists, the communicator saw everything as a computer bank and its related attachments. Thus, while we haven't seen any significant differences in results from groups with commonality of backgrounds or training, we do find that the frame of reference of the communicator has a great deal to do with the way that he or she visualizes the diagram and consequently describes it to the group.

One factor that does make a difference in the results regarding accuracy, time, and confidence is the complexity of the diagram. The exercise becomes much more difficult when using some highly complex diagrams of fifteen or sixteen figures, including squares, rectangles, circles, and triangles. Accuracy and confidence decrease and the amount of time increases in both systems. The relationship between the two systems stays about the same as in more simple versions.

For people who are working in their second or third language, time and frustration tend to increase and confidence and accuracy decrease, depending on the skill of the group in that second or third language. For example, working with a group of executives from a variety of countries, for each of whom English was a second or third language, we found that the exercise was extremely complex. The communicator in this instance confused the English words "square" and "rectangle." He was thinking "square" but saying "rectangle." In the one-way part of the exercise, of course, there was no way for this to be discovered and accuracy in that portion of the exercise was zero. In the two-way portion, this problem was sensed by the group and eventually resolved, but at a great cost in time and pressure on the communicator.

Basically, all these mechanical aspects of the way that the exercise is processed seem to have little effect on results obtained. Two-way communication systems always seem to get much, much higher accuracy than one-way system. One-way systems always seem to take appreciably less time than two-way systems, etc.

In a broader sense, managers should recognize some of the kinds of trade-offs they must make as they select the kind of communication system they will use. The type of system used is one area in which managers have a great deal of control regardless of their level in the organization, and they should be certain to choose the system having the characteristics that are most beneficial for their particular situation.

APPLICATION OF LEARNING

Reflect upon the experience that you have had in this exercise. Think about what has happened and try to isolate two or three major points of learning you have acquired and what these learning mean to you as an *individual*, and to you as a *manager*.

Don't be concerned about what you think your instructor expected you to learn, or about what other people say they have learned, or about what you think you ought to have learned. Rather, consider what you really have learned and what it means.

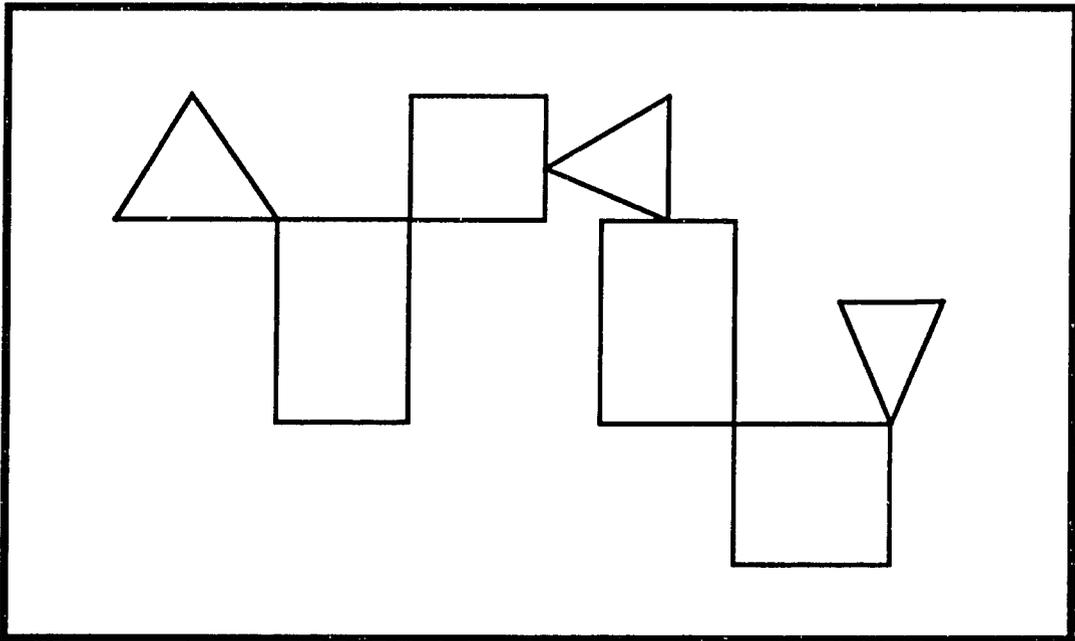
Specifically, do the following:

1. Briefly describe two examples from your own experience in which one-or-two-way communication systems made a strong impact on the situation, perhaps even determining the outcome.
2. Describe at least one specific instance in which you can use the learning you've acquired from this exercise.

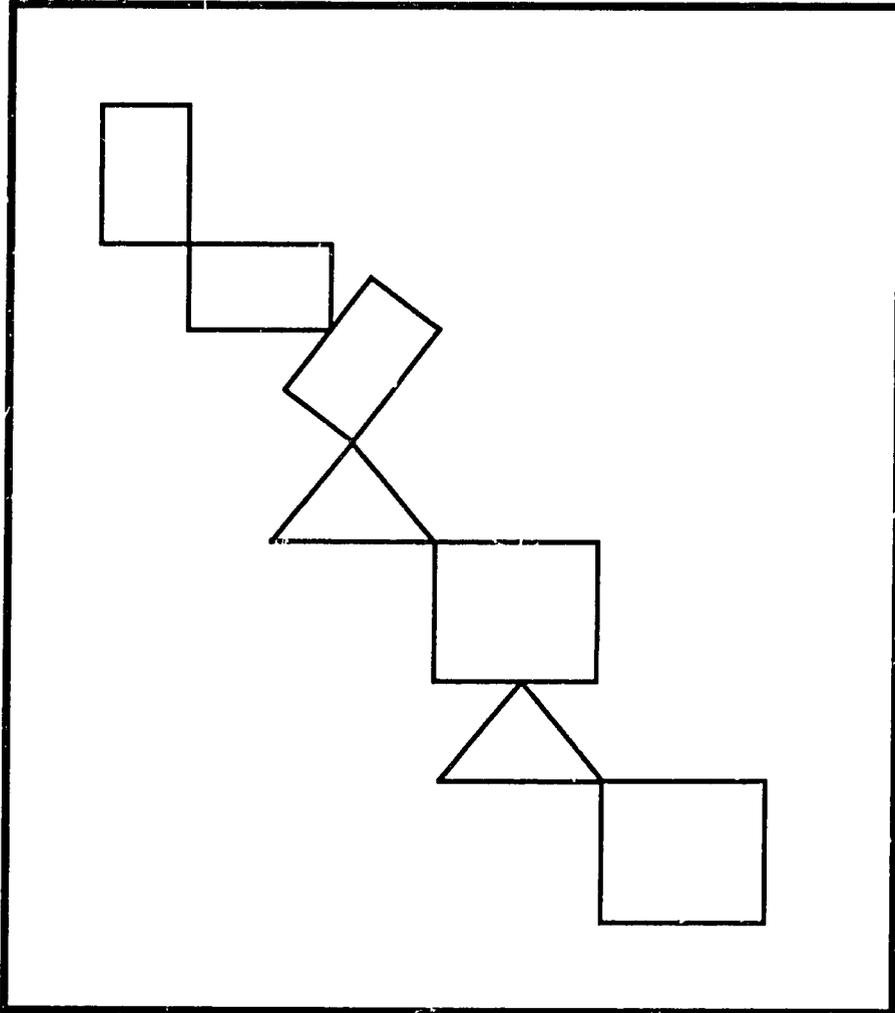
If you feel you haven't learned anything, why did this happen? What could have been done to make the exercise a learning experience for you? Who should have done it? What can be done in future exercises to avoid another non-learning experience? By you? By others?

In reflecting upon your experience, think about ways that you can use your learning in a situation outside of class in which you are currently involved.

One Way



Two Way



TROUBLE IN MANUFACTURING CASE-HISTORY

Exercise 3*

Background

Pat, the manager of a small garment-manufacturing plant, has identified a problem: Two employees, Lee and Chris, have an interpersonal conflict that hampers their work. Lee, the plant superintendent, is fifty-one years old and has been with the company for thirty-four years, having quit high school to start working at the plant as a maintenance helper. For a number of years, Lee has scheduled production through the plant using a method based on sophisticated guessing. During the last three years, however, this method has not worked well, largely because the volume of production and the variety of products being manufactured in the plant have increased.

In an effort to address the scheduling difficulties, Pat recently hired Chris, who is twenty-five years old and just received a master of science in industrial engineering from an Ivy-League college. Pat met with Lee and Chris to explain that Chris was to assume full responsibility for scheduling. Since then, Chris has impressed Pat by setting up a computerized system for scheduling production and controlling inventory. Because of this system, Pat has saved money for the company by carrying less inventory, purchasing in larger lots, and reducing setup time for plant equipment by increasing the length of production runs. The warehouse has reported fewer instances of stock depletion, and Pat has been able to give the company superiors more accurate information regarding dates when out-of-stock items will be available. For the first time in the history of the plant, there is a three-month production schedule that is not only fairly accurate, but also flexible enough that it can be updated as necessary.

Pat's satisfaction with these improvements is marred by the fact that Lee and Chris just cannot get along. They fight about almost everything concerning the scheduling system and its benefits to the plant. At first Pat tried to ignore this problem, hoping that it would go away, and then tried to act as a go-between in order to keep Lee and Chris from sniping at each other. Now, no decisions are being made unless Pat assumes the responsibility for them. In addition, Sandy, one of the plant foremen, has come to Pat and complained about being in the middle of a disagreement between Lee and Chris.

It is obvious that both Lee and Chris could do a better job if each would cooperate with the other. For instance, Chris needs feedback on how the production schedule is working in order to make adjustments, and Lee could gain some valuable insight into more efficient plant operation by learning the theory behind Chris' plans. Pat wants to learn why the conflict is occurring so that an effective method for dealing with it can be selected.

* Source: Oliver, John E., Head, Thomas C. Organizational Behavior: Case, Exercises and Readings. Case: "Trouble in Manufacturing: Managing Interpersonal Conflict" pp. 132-139. Houghton Mifflin Co., Boston, 1986. Reprinted and translated with permission.

Instructions

The task assigned to your group is to *decide what Pat should do* to resolve the conflict between Lee and Chris. The group members must be in *total agreement* about the course of action that Pat should take. You have twenty minutes in which to complete this task.

Trouble in Manufacturing Role Sheet 1

Your primary goal in completing this task is to help the members to reach total agreement about what Pat should do. This goal takes precedence over any other concerns that you may have during the course of the activity, such as promoting a course of action that you personally prefer.

Do not share this information with anyone until you are instructed to do so.

Trouble in Manufacturing Role Sheet 2

During this activity you are to function as a "devil's advocate." No matter what ideas are proposed, you are to think of every possible disadvantage of these ideas and voice them to your fellow members. If, after thorough discussion, you decide that a particular course of action is worthy of your support, you may agree to it.

Do not share this information with anyone until you are instructed to do so.

Trouble in Manufacturing Role Sheet 3

Your objective during this activity is to block consensus. You may participate actively in the discussion but do not agree to any particular course of action under any circumstances.

Do not share this information with anyone until you are instructed to do so.

Trouble in Manufacturing Role Sheet 4

During this activity you are to generate as many ideas as possible about what Pat should do. Encourage the other members to join you in a discussion of each idea. When the time comes to choose one course of action, use your best judgment.

Do not share this information with anyone until you are instructed to do so.

- **Collaboration**

- **Confrontation**

- **Power**

ENTREPRENEURIAL ENVIRONMENT

In addition to establishing entrepreneurial ways and nurturing inventors, there is a need to develop a climate that will help innovative people reach their full potential. Four important characteristics in establishing this climate are:

1. *The presence of explicit goals.* These need to be mutually agreed upon by worker and management so specific steps are achieved.
2. *A system of feedback and positive reinforcement.* This is necessary in order for potential inventors, creators, or intrapreneurs to realize there is acceptance and reward.
3. *An emphasis on individual responsibility.* Confidence, trust, and accountability are key features in the success of any innovative program.
4. *Rewards based upon results.* Reward systems that enhance and encourage others to risk and to achieve must be established.

Another way of creating an innovative corporate environment is to apply rules for innovation. The rules below can provide a "hands-on" approach for developing the necessary atmosphere.

1. Encourage action.
2. Use informal meetings whenever possible.
3. Tolerate failure and use it as a learning experience.
4. Be persistent in getting an idea to market.
5. Reward innovation for innovation's sake.
6. Plan the physical layout of the enterprise to encourage informal communication.
7. Expect clever "bootlegging" of ideas.
8. Put people on small teams for future-oriented projects.
9. Encourage personnel to circumvent rigid procedures and bureaucratic red tape.
10. Reward and/or promote innovative personnel.

RATE YOUR WORKPLACE CULTURE
Exercise 4

Eight statements are listed below. Score each statement by indicating the degree to which you agree with it. If you strongly agree, give it a 5. A 4 would indicate agreement, a 3 is a neutral feeling, a 2 is disagreement, and a 1 is strong disagreement.

- 1. My fellow workers are friendly and supportive. _____
- 2. My leadership style is to be friendly and supportive. _____
- 3. I expect that my performance evaluations will reflect the effort that my employees make. _____
- 4. My communications clearly express my expectations to my employees. _____
- 5. My leadership style encourages my employees to question and challenge me as well as other workers. _____
- 6. I think that the evaluation system that I use is based on clear standards of performance. _____
- 7. My leadership style makes my employees want to work better. _____
- 8. My evaluation system would give every worker working for me an excellent rating if everyone earned it. _____

Scale rating:

Culture rating: 30 or above means your styles - open, warm, human, trusting, and supportive;
 20 or below means your styles - closed, cold, task oriented, and autocratic.

UNIT 5
NEGOTIATION

UNIT 5
NEGOTIATION TEACHING OUTLINE

CONTENT	PROCESS
<p>I. Negotiation: Introduction</p> <p>1. Introductory experience.</p> <ul style="list-style-type: none"> • Prisoner's Dilemma • Precision Plastics Exercise <p>2. Types of Negotiations</p> <p>3. Negotiation is one of the most important skills that small business owners possess</p> <p>a. Negotiation is a process</p> <p>b. Methods of negotiation include:</p> <ul style="list-style-type: none"> • Positional Negotiation • Negotiating on Merits <p>c. Skills to help focus on interests</p> <ul style="list-style-type: none"> • Probing • Offering ideas and information <p>d. Inventory Options</p> <p>e. Problems with Negotiating</p>	<p>Discuss TP 5-1: Negotiation for small business. Identify possible uses of negotiation skills.</p> <p>HO 5-1A or HO 5-1B. Choose one of these exercises to demonstrate negotiation activities. Detailed notes to the instructor on the Prisoner's Dilemma exercise at the end of this unit.</p> <p>Show TP 5-2, Types of Negotiation as an overview to the next sections.</p> <p>Pull important points from HO 5-2 for lecture to the class. At the end of class, share this handout with them for future reference.</p> <p>Discuss the four basic elements (people, interests, option, and criteria) as described in HO 5-2.</p> <p>Ask participants for examples of these negotiating processes from their business experience, these experiences will reinforce the points of your presentation.</p>
<p>II. Individual Negotiation</p> <p>1. Used Car Exercise</p> <p>2. Salary Negotiations</p>	<p>Run Exercise 2: The Used Car. Distribute HO 5-3 for participants to read and use. Detailed notes for the instructor are included at the end of this unit.</p> <p>Run Exercise 3: Salary Negotiations. (HO 5-4). Detailed notes for the instructor are</p>

CONTENT	PROCESS
<p>3. Discussion</p>	<p>included at the end of this unit for each of these exercises.</p> <p>You may wish to duplicate the Summary Chart for participants to use in discussion, or show on a transparency or the blackboard.</p> <p>Ask for other examples of activities in your business where you will be negotiating with an individual.</p>
<p>III. Group Negotiations</p> <p>1. Central Industries, Inc.</p> <p>2. Discussion Questions on Case</p> <p>3. Local Discussion</p>	<p>Run Exercise 4: Central Industries, Inc. (HO 5-5)</p> <p>All the instructions are within the handout, including student instructions, forms to fill out, an analysis guide, and discussion questions.</p> <p>Ask for examples of group negotiation from the participants' experiences.</p>
<p>IV. Negotiation Skills</p> <p>1. Seven Components Needed</p> <p>2. Difference Between Good and Bad Deals</p> <p>3. Analyzing the Other Side</p> <p>4. How to Get Your Price</p>	<p>Use HO 5-6 to prepare your lecture. At the end of the class, distribute the handout to participants for future reference.</p>

CONTENT	PROCESS
<p>5. Dealing from Strengths or Weaknesses</p>	
<p>V. Negotiation Examples</p> <ol style="list-style-type: none"> 1. Hiring 2. Selling 3. Raising Capital 4. Borrowing 5. Growing 	<p>Discuss HO 5-7: Ethical Issues Case.</p> <p>For each case, explore the possible consequences of each choice.</p> <p>Discuss questions at the end of each case before going on to the next.</p>
<p>VI. Assignment</p>	<p>You may ask the participants to read cases for Unit 6 prior to the next class.</p>

NEGOTIATION FOR SMALL BUSINESS

- **SUPPLIERS**
 - **PRICES**
 - **TERMS**
 - **DATES**

- **EMPLOYEES**
 - **WAGES**
 - **DUTIES**
 - **JOB ENVIRONMENT**

- **CUSTOMERS**
 - **PRICES**
 - **TERMS**

- **COMMUNITY**
 - **REGULATIONS**
 - **RESTRICTIONS**

- **COMPETITORS**
 - **TERMS OF COMPETITION**
 - **INFORMATION**
 - **KNOWLEDGE**

TYPES OF NEGOTIATION

INTERPERSONAL

- **INDIVIDUAL**
- **GROUP**
- **INTERORGANIZATIONAL**

PRISONERS' DILEMMA TALLY SHEET*

Exercise 1-A

Instructions: For the ten successive rounds, the Red team will choose either an A or a B and the Blue team will choose either an X or a Y. The score each team receives in a round is determined by the pattern made by the choices of both teams, according to the schedule below.

Payoff Schedule

AX - Both teams win 3 points.
AY - Red team loses 6 points; Blue team wins 6 points.
BX - Red team wins 6 points; Blue team loses 6 points.
BY - Both teams lose 3 points.

Scorecard

Round	Minutes	Choice		Cumulative Points	
		Red Team	Blue Team	Red Team	Blue Team
1	3				
2	3				
3	3				
4 ¹	3 (reps.) 3 (teams)				
5	3				
6	3				
7	3				
8	3				
9 ²	3 (reps.) 5 (teams)				
10 ²	3 (reps.) 5 (teams)				

¹ Payoff points are doubled for this round.

² Payoff points are squared for this round. (Retain the minus sign.)

Predicting Team	Predicted Choice	
	Red Team	Blue Team
Red	○	
Blue		○

* Reprinted from Pfeiffer, J. Williams and Jones, John E. (EDs.). A Handbook of Structured Experiences for Human Relations Training, Vol. III, San Diego, California: Pfeiffer & Company, 1974. Used with permission.

PRECISION PLASTICS*
Exercise 1B

Introduction

This exercise creates a situation in which you and other person(s) will be making separate decisions on how to manage your firm. In this situation, the outcomes (costs and profits) are determined not only by what you do, but also by a number of other factors, such as the goals and the motives that you and the other party have and the communication that takes place between you and the other party.

Advanced Preparation

None.

Procedure**Step 1: 5 minutes**

The class will be broken into six-person groups; three will play the role of Manufacturing Committee for Xercon Corporation, three will play the role of Manufacturing Committee for Yenton Corporation.

The two committees should sit close enough to talk, but also able to caucus among themselves.

Step 2: 10 minutes

Read the "Background Information" for Precision Plastics below. If you have any questions, clarify them with the instructor at this time.

In this exercise, you will represent your company in negotiations with another company about the use of a production facility that you both share. You and the other company manager will be making decisions simultaneously, and your firm's profits will be directly affected by these decisions. How well you perform will depend in part on your goals, the other manager's goals, and the communication between you.

* Lewicki, Roy J. & Litterer, Joseph A. Irwin Homewood, 1985. Negotiation: Readings, Exercises and Cases. Translated and printed with permission.

BACKGROUND INFORMATION

Xercon and Yenton are both small, rapidly growing manufacturers of electrical hand tools. To break even, each must hold its factory costs to \$50 per item. Both use 10,000 pieces a month of a precision molded plastic part in their products. Both have been successful in holding factory cost, exclusive of the plastic part, to \$40. Each has production equipment to make the plastic part, which is old and inefficient, resulting in an average cost of \$12 a part. Newer equipment can produce the same quality parts for much less. However, because of the high capital investment needed for this equipment and the relatively small quantities of plastic parts used, both companies use outside subcontractors to make their plastic parts.

The most desirable supplier in terms of quality, delivery, and price is Precision Plastics, which will deliver the part at a cost of \$2. Precision Plastics has most of its capacity committed to long-term contracts but does have one day a month available during which it can produce 10,000 pieces of the part needed by both Xercon or Yenton. The setup time and costs are such that Precision Plastics will accept orders no smaller than for one day's production.

The management of Precision Plastics has become tired of the hassle of deciding between Xercon or Yenton in allocating this one day's capacity. They have told the vice presidents of both companies that they must settle this among themselves and that, if Precision Plastics does not receive an order by the first of each month, they will simply use that one day's production capacity to build inventory of their other contract items.

Precision Plastics management has gone further and set these conditions:

1. It will take an order for 10,000 parts at \$2 a part from either Xercon or Yenton. The parts will be shipped to the company sending in the order.
2. It will take an order from each company for 5,000 parts at \$2 a part and ship that amount to both Xercon and Yenton.
3. If Precision Plastics receives a 20,000 order from both Xercon and Yenton, it will ship 5,000 parts to each at a cost of \$4 each.

The managers of Xercon and Yenton have agreed to meet the last Friday of every month to work out which order for parts Precision Plastics will receive for the next month's day of available production. They understand the terms Precision Plastics has established and recognize that, if no order is sent in by the deadline, neither will get any materials from Precision Plastics the next month. They also recognize the possibility of receiving part of their monthly needs for the plastic part from Precision Plastics and making the remainder on their own equipment. Hence, there are four possible outcomes in regard to their production costs:

1. Receive all plastic parts from Precision Plastics at a cost of \$2 a piece, resulting in a factory cost of \$42 and a profit of \$8 for each hand tool.
2. Receive half of the needed plastic parts from Precision Plastics for \$2 a piece and make the other half on their own equipment for \$12 a piece for an average cost for the plastic part of \$7 or a total factory cost of \$47 and a profit of \$3 per tool.
3. If both Xercon and Yenton send in 20,000 orders, each will receive 5,000 pieces at a cost of \$4. They will also have to make the remaining 5,000 parts needed at a cost of \$12 for an average cost per part of \$8, resulting in a factory cost of \$48 and a profit of \$2 per tool.
4. Receive no parts from Precision Plastics and make them all on their own equipment, resulting in a factory cost of \$52 and a \$2 loss on each tool.

You are a member of the Manufacturing Committee (for either Xercon or Yenton), which will meet with your counterpart from the other company to negotiate an order for Precision Plastics that will make the largest profit for your company.

Step 3: 10 minutes

Review the details of the situation and understand how you can make or lose money. Familiarize yourself with the Production Planning Report below. Members of each Manufacturing Committee should plan their strategy for their negotiations. There is to be no communication between the negotiating teams at this time.

There will be seven one-minute negotiating sessions during which the committees or their representatives negotiate each month's production. A three-minute planning session separates each negotiating session. There is no communication between the negotiating teams during the planning sessions. At the end of each negotiating period, the representative sends his/her order to the referee. The referee will then announce each side's profit.

Step 4: 30 minutes

The instructor will indicate when round one negotiating begins and ends. He or she will then indicate the end of each subsequent three-minute planning session and each one-minute negotiating session. Each team will record the outcome of each negotiating session on the Production Planning Report.

Step 5: 30 minutes

The instructor will record the total profit for each team in each negotiating group. Difference in performance will be noted and possible reasons explored. Participants should describe what happened, particularly in regard to their perceptions and reactions to the other party. Some suggested questions and issues for discussion are given below.

DISCUSSION QUESTIONS

1. What were your basic objectives and strategy when you started the simulation? Did they change? What outcomes did you achieve as a result of these plans?
2. What did you talk about after the first round of negotiation?
3. Did the content of your negotiating discussion change? Why?
4. What were the most important things that lead to the outcome you had?

Production Planning Report

Round	Decision	Xercon Profit	Yenton Profit
1			
2			
3			
4			
5			
6			
7			
Total Profit			

NEGOTIATION*

Everyone negotiates every day. If you think about it, everything you will ever want is either owned or controlled by someone else. Your objective is to get it. It may be a business you want to buy; it may be an order for sales you want to obtain. If you have employees, you negotiate with them. But, though we are all negotiators, very few of us are good negotiators.

Very few business schools include a course in negotiation as part of their curriculum. This chapter is designed to make you a better negotiator; our advice is to supplement this material by undertaking a program to make yourself a better negotiator. Above all, remember that good negotiation is achieved only through practice. Negotiation is an art. There are no born negotiators, just as there are no born airline pilots or born writers. All of these arts are learned. As such, they require education, understanding of the subject matter, and development of the related skills in order to do them well.

As a small business owner, your success will depend to a great extent on your ability to negotiate. The better negotiator you are, the more successful you will become.

We will analyze various styles of negotiating to determine which are more efficient. We will analyze some fundamental mistakes many negotiators make and study how to eliminate them. We will learn how to recognize varying styles of negotiators, and how to deal with them in order to get what we want.

As you will see, good negotiation sometimes means going against instinct. We will explore the tactics and strategies that people use to negotiate that are counterproductive, inefficient, and capable of destroying relationships with other people. Finally, we will explain how succeeding in negotiation means learning to be creative. Try to help the other party get what he or she wants. It is rare that you and the other party will want the same thing.

After reading this chapter you will be able to:

- Assess a negotiation and develop strategies for addressing the human-related aspects of a negotiation.
- Analyze a negotiation and find ways to focus on the interests involved.
- Examine a negotiation and generate a range of alternative solutions.

* Negotiation, L., Cox, J., Scarpello, V. & Stewart, W. Small Business Management and Entrepreneurship. PWS-Kent Publishing Company. Boston, MA 1992. Used with permission.

- Assess a negotiation and identify objective criteria that options can be measured against.
- Avoid common obstacles to or mistakes in negotiations

METHODS OF NEGOTIATION: Positional Negotiation

Unfortunately, most negotiations take the following traditional form. One side takes a position: "In order to be your CEO, I must be guaranteed a retirement benefit at age sixty-five of \$40,000 per year for ten years." The other side takes a position: "We have only allotted \$100,000 to be contributed to your retirement benefit. Unfortunately, that will only buy \$20,000 or retirement benefit at age sixty-five. That is the best we can do." The lines are drawn. Each side digs in and defends its position. The negotiation now becomes a contest of wills and egos. The person who blinks first loses.

This kind of negotiation takes place every day. The common thread that runs through the logic of positional negotiation seems to be: take an extreme position, make small concessions, and try to end up somewhere close to where you really want to be. Stonewall, stalling, threatening to walk out, and similar tactics are common. This is inefficient negotiation.

Being nice is not a viable solution. In soft negotiations the threefold strategy is to make the concessions necessary to keep the negotiations going, to trust the other side, and to avoid confrontations. This approach is efficient in that results are attained quickly. Unfortunately, that result is often bad. The soft negotiator will always be eaten alive by the position negotiator.

The Alternative: Negotiating on the Merits

Use neither the soft approach nor the position or hard approach. You need to change the game. This method--called negotiation on the merits--has four basic elements:

1. *People*. Separate the people from the problem.
2. *Interests*. Focus on the interests, not on your position.
3. *Options*. Generate a variety of possibilities before deciding what to do.
4. *Criteria*. Insist that the result be based on some objective standard.

People. People have strong emotions, and it is easy to allow egos to become dominant. The parties should see themselves working side by side to solve the problem and not be attacking each other.

Interests. Positions invariably hide what the parties really want. Settling between positions (the traditional way of negotiating) is unlikely to produce an agreement that will solve the parties' human needs, which is what led the parties to take their positions in the first place.

Options. It is hard to develop options in front of your opposition. You need to set aside some time in advance of the negotiation to think up a wide range of possible solutions that aid the shared interests of all parties. You need to learn to invent options for the mutual gain of all parties.

Criteria. Where the interests of each party are opposite, one party may become stubborn and lock into a position. You need to insist that the agreement must be fair, independent of the will of each side. Some standard, such as fair market value, third-party expert opinion, or custom or law should control the outcome. By discussing the criteria rather than what the parties are willing to settle for, neither side has to give in since both can defer to a fair solution.

The negotiating process, from beginning to end, has three stages:

1. Analysis
2. Planning
3. Discussion

In analysis, you need to diagnosis and gather information that bears on the problem and organize that information. Consider the people problem; identify your interests and the interests of the other side. You should also note the options that are already on the table. Identify any criteria that have been suggested as a basis of a possible solution.

With planning, you need to deal with the four elements listed above for a second time. Decide how to handle the people problem. You must determine which of your interests are the most important. Set some realistic objectives. Generate more options and the criteria for deciding among them.

As for the discussion stage, you should use the same four elements a third time--as subjects to discuss. You will need to address the differences between the parties in this stage. Each side must be made to understand the interests of the other during this stage. Both sides can then generat options that may be helpful to both sides.

Separating the People from the Problem

Remember that negotiators are people first. People have emotions, deeply held values, and different backgrounds and viewpoints. During the negotiation, ask yourself whether you are paying enough attention to the people problem.

Every negotiator has two kinds of interests: in the substance of the transaction and in the relationship between the parties. The relationship often becomes entangled with the problem. We tend to treat people and the problem as one. Our egos invariably tend to treat people and the problem as one. People draw unfounded inferences from comments made by the other side, and they treat these comments as facts about the person's intentions and attitudes toward them.

Positional bargaining sacrifices a good relationship for results related to substance. But, caving in on the substance usually does not buy friendship--it just shows that you are easy. The point is, do not try to solve people problems with substantive concessions.

People problems usually fall into three categories:

1. Perception
2. Emotion
3. Communications

Bear in mind that you must deal with your own people problems. Your emotions may block an agreement; your perceptions may be one sided; and you may not be listening or communicating adequately. The techniques described in the following sections apply to you as well as to the other side.

Perception

Differences in how two sides think is the problem. Difference is defined as the difference between your thinking and theirs. People usually quarrel over an object or an event. They differ because a difference exists in their thinking; the object or event is perceived differently. Objective reality may be useful, but the reality as each sees it constitutes the problem in negotiation and opens the door to a solution. The solution can be achieved by using various techniques:

1. *Put yourself in their shoes.* People tend to see what they want to see. The ability to see the situation as the other side sees it is one of the most important skills a negotiator can possess. To influence them, you must understand clearly the power of their point of view and feel the emotional force with which they believe in it.
2. *Do not deduce their intentions from your fears.* People tend to assume that the other side intends to do whatever they fear. The cost of interpreting whatever the other side says or does in its worst light is that fresh ideas in the direction of agreement are spurned and subtle changes of position are usually ignored or disregarded.
3. *Do not blame them for your problem.* Even if blaming the other side is justified, it is usually counterproductive. The other side will become defensive and resist what

you have to say. They will cease to listen and strike back. Assigning blame entangles the people with the problem. You must separate the systems of the problem from the person with whom you are talking.

4. *Discuss each other's perceptions.* One way to deal with differing perceptions is to get them on the table and discuss them with the other side. Communicating clearly and convincingly the things you are willing to say and the message they would like to hear is one of the best investments you can make.
5. *Look for opportunities to act inconsistently with their perceptions.* The best way to change the other side's perception of you is to send a message different what they expect.
6. *Give them a stake in the outcome by making sure that they participate in the process.* If not involved in the process, the other side is not likely to approve the result. If you want the other side to accept a conclusion that is at first disagreeable to them, involve them in the process of reaching that conclusion. Agreement becomes much easier if both parties feel ownership of the ideas. Get the other side involved early. Ask their advice. Giving them generous credit for ideas (even if they are not the author) will give them a personal stake in defending those ideas to others. Resist the temptation to take credit for the ideas yourself. Apart from the merits of the result, the feeling of participation may be the single most important factor in determining whether a negotiator accepts a proposal. In some ways, the *process is the product.*
7. *Face-saving.* Make your proposals consistent with the other side's values. Usually, a misunderstanding about face-saving reflects a person's need to reconcile the stand he or she takes in a negotiation or an agreement with his or her principles and past words and acts. Sometimes people hold out simply because they want to avoid the feeling or appearance to backing down to the other side. If the substance can be phrased or conceptualized differently so that it appears to be a fair outcome, the other side will accept it. Face-saving reconciles an agreement with principle and with the self-image of the negotiators. This is a very important point.

Emotion

If the dispute is bitter, you must realize that the parties may be more willing to do battle than to cooperatively work out a solution. Emotions become involved. You must recognize this and deal with the emotions--yours and theirs. You can deal with emotions using the following strategies:

1. *Recognize and understand emotions--theirs and yours.* Are you angry at the other side? Are they angry at you? Ask why you are angry. Why are they angry? Are emotions spilling over from one issue to another?
2. *Make emotions explicit and acknowledge them as legitimate.* Talk with the people on the other side about their emotions. Talk about your own emotions. Freed from the burden of unexpressed emotions, people will be more likely to work on the problem.
3. *Allow the other side to let off steam.* Helping people release their anger and frustration is an effective way to deal with their emotions. The best strategy may be to listen quietly without responding to attacks. While this is hard to do, the approach gives little support to the inflammatory substance, and the speaker is encouraged to speak out himself.
4. *Do not react to emotional outbursts.* Releasing uncontrolled emotions can lead to a violent quarrel. When more than one person at a time gets emotional, an argument is almost inevitable. A good rule for any negotiation is that only one person at a time can get angry.
5. *Use symbolic gestures.* Acts that can produce a favorable emotional impact on the other side often involve little or no cost. For example, a note of sympathy for the loss of a loved one, a small present for a grandchild, eating together, or an apology are excellent opportunities to improve a hostile situation at a small cost.

Communication

Without communication, there is no negotiation. Negotiation is a process of communicating back and forth for the purpose of reaching a joint decision. Whatever you say, and however you say it, expect the other side to hear something different. Clear communication is difficult at best. Some of the more common problems with communication are:

1. *Use of third parties.* The negotiators may be talking through third parties. Clear communication is difficult even when the parties are face to face, much less when they are talking through third parties.
2. *Failure to hear the other party.* Even if the parties are talking with each other, one may not be hearing the other.
3. *Misunderstanding.* What one side says, the other side often misinterprets.

These problems do have solutions, however.

1. *Practice active listening and acknowledge what is being said.* "Did I understand correctly that you are saying that...?" Pay close attention to what is said; ask the other side to spell out carefully and exactly what they mean. Resist the temptation, while listening, to phrase a question or a response; otherwise, you are likely to misunderstand what is being said. Try to understand them as they see themselves. Work at understanding their perceptions, their needs and their constraints. Show them that you do understand them by repeating what you understood they said. Phrase it positively from their point of view and make the strength of their case clear. This is important, but hard to do. Remember that understanding is not the same as agreeing, but showing such understanding is essential. Unless you can show them that you understand and grasp their point of view, you will have trouble explaining your viewpoint to them. If you can state their case better than they can and then refute it, you may increase your chances of dealing with the merits of the matter and minimize the chances of their believing that you have misunderstood them.
2. *Speak to be understood.* Talk with them; remember that negotiation is not a debate. Rather, negotiation should be viewed as two judges getting together and trying to decide a case.
3. *Speak about yourself, not them.* It is more persuasive to describe a problem in terms of its impact on yourself than in terms of what they did. "I feel let down" is more effective than "You broke your word and let me down." A statement about how you feel is difficult for them to challenge.
4. *Speak for a purpose.* If you disclose how flexible you are, it may make it more difficult, not easier, to reach agreement. The rule is: before making a significant statement, know what you want to communicate or find out and know what purpose this information will serve.

Prevention is still the best cure. You should structure the negotiation so that the other party's ego will not get involved with the issues. You need to work to build a working relationship. Get to know the other side, their likes and dislikes. Work on getting both sides to focus on the problem, not on each other. If you can get the parties to view themselves as working side by side in search of an agreement that is fair to both sides, then communications will usually be good.

Focusing on Interests

The basic conflict in almost every negotiation is between each side's needs, desires, concerns, and fears. Interests motivate people; they are the silent force behind positions. Your position is what you have decided upon. Your interests are what caused you to choose that position. The important point is that every interest usually has several positions that would satisfy it. When you look behind the position for the motivating interest, you may find an alternative position that meets both your interest and theirs.

It is usually difficult, and sometimes impossible, to reconcile the position of the other side. We tend to assume that because the other side's position is opposed, their interests are opposed to ours. This is an unwise, and often unwarranted, assumption. Behind opposed positions lie shared or compatible interests, as well as conflicting ones.

Identifying and Expressing Interests

A position is concrete and explicit; the interests underlying the position may be unexpressed, intangible, and inconsistent. Two valuable techniques can help you identify interests:

1. *Ask why?* Put yourself in their place and ask why they have taken this position. Ask what basic concerns could lead them to take their position.
2. *Ask why not?* Think about their choice. A useful way to uncover interests is to ask yourself what interest of theirs may be standing in the way of their agreeing to your proposed solution. If you are going to change their minds, you first must understand where their minds are now. This technique involves identifying what is called the currently perceived choice.

In almost every negotiation each side will have many interests, not just one. A common mistake in diagnosing a negotiation is to assume that the person on the other side has the same interests as you. This is almost never the case. An old example is the story of two sisters who were arguing over who was to get the last orange in the family fruit basket. The mother, tired of hearing the argument, cut the orange in two and gave each sister half. One sister peeled her half orange and ate the fruit; the other peeled her half orange, threw away the fruit, and used the peel to make a cake. Had the sisters understood the other's interests, each could have had more of what she wanted. The position of wanting the orange masked their real interest.

The purpose of negotiation is to serve your interests. The best chance of that happening increases when you communicate them. The other side may not know what your interests are, and you may not know theirs. If you want the other side to take your interests into account, you must explain what those interests are.

It is your task to have the other side understand exactly how important and legitimate your interests are. One guideline is to be specific. Concrete details not only make your description credible, they add impact. As long as you do not seem to imply that the other side's interests are unimportant or illegitimate, you can afford to take a strong stand in setting forth the seriousness of your own concerns. Part of your task in impressing the other side with your interests lies in establishing the legitimacy of those interests.

Each of us tends to be so concerned with our own interests that we pay too little attention to the interests of the other side. We seem concerned that to acknowledge the interests of the other side weakens our case. As noted earlier, however, people listen better if they feel that you have understood them. If you want the other side to appreciate your interests, begin by demonstrating that you understand and appreciate their interests.

Another point to remember is to look forward, not backward. It is surprising how often we react to what someone else has said or done. What often occurs is that we disagree with the other side over some issue; though talk goes back and forth as though we were seeking agreement, the argument is in fact being carried on as a ritual, or a pastime. We are engaged in scoring points against the other or gathering evidence to confirm our view about the other side. Neither side is seeking agreement or trying to influence the other.

The question, "Why?" has two different meanings. One looks backward for a cause and treats our behavior as determined by prior events. The other side of the coin faces forward for a purpose and treats our behavior as subject to our free will.

You will satisfy your interest better if you talk about where you would like to go rather than where you have come from. Instead of asking the other side to justify what they did yesterday, discuss who should do what tomorrow.

In negotiation, you need to know where you are going. People seem not to want to face up to the difficult task of deciding ahead of time what they will accept. They often go into a negotiation with no other plan than to sit down and see what the other side offers or demands and then decide on what they will accept.

How do you move from identifying interests to developing specific options and still remain flexible with regard to those options? Ask, "If the other side agrees to go along with me, what do I want them to go along with?" To preserve flexibility, treat each option as a possibility--always think in terms of more than one option that will meet your interests. If you want to become a successful negotiator, discipline yourself to do this before each negotiation.

An overriding rule to remember is to be hard on the problem and soft on the people. Be tough in talking about your interests but not rigid in maintaining a position. It is not wise to commit to a position; it is wise to commit to your interests. Spend your energy discussing your interests. The other side will tend to have optimistic expectations of the range of possible agreements.

Strongly advocating your interests may get you the maximum gain at minimum cost to the other side.

Attack the problem without blaming the people. You can even be personally supportive: listen to them with respect, show them courtesy, express your appreciation for their time and effort, and emphasize your concern about meeting their basic needs. Be as positive in your support of the people on the other side as you are aggressive in advocating your interests. This combination of support and attack is inconsistent, but psychologically this inconsistency helps make it work. This strategy is based on a theory called *cognitive dissonance*, which proposes that people dislike inconsistency and will tend to eliminate it. By attacking the problem but giving positive support, you create cognitive dissonance. To overcome this dissonance, the other side will be tempted to dissociate themselves from the inconsistency; thus, they will help you solve the problem.

Skills to Help Focus on Interests

Focusing on interests in something the average person does not normally do in negotiation. To help you acquire the habit of focusing on interests, we will explore some ways to develop useful skills.

Probing. Probing is the skill of asking questions or making statements in order to:

1. Elicit information from the other party.
2. Determine the other side's needs, interests and ideas.
3. Ensure understanding of the other side's needs, interests, and ideas before responding to them.

Often a negotiator will become locked into an inflexible position by making fixed demands rather than by asking questions to uncover the interests behind the other party's position. If this happens, the negotiator will react without any understanding or appreciation of the other party's real needs. By uncovering the needs and interests underlying the other side's position, it is possible to work on mutually acceptable alternatives.

When do you probe? Probing is particularly important when:

1. You need to uncover or verify information.
2. You have to make a decision or commitment on the basis of what has been said.
3. Your immediate impulse is to reject, ignore, or disagree with what has been said.

Probing at these points will help avoid miscommunication and unnecessary conflict that can undermine negotiations.

Two kinds of probes are called open and closed. An open probe encourages people to speak freely and respond as they wish. Open probes often begin with words such as *who, how, what, tell me, when, show me, where, explain to me, and why*. Closed probes limit the other person's response to yet or no or to a choice among alternatives that you supply. Closed probes usually begin with words such as *is, do or does, are, will, would, either...or, can or could*.

Open probes are effective for uncovering the other side's needs, interests, or ideas and for encouraging them to share information with you. For example, to reveal needs, ask, "For what purpose will you be using...?" To discover ideas, ask, "How can we resolve this?" To learn information, say, "Tell me how this has been handled in the past." Open probes are effective when you are not sure what the other side is saying or why it is being said. For example, the following phrases can be useful. "I'm not sure I understand." "What exactly, are you suggesting for the ...?" "Why do you feel that way?" "Please explain your thinking..."

Closed probes are effective for pinning down specific and getting detailed information from the other side. Examples are such questions as, "Are you suggesting a final delivery date of July 15 or July 31?" "Have you been working on a cost-plus basis or a fixed-price basis?" "Will you be able to meet the quality standards we have specified on Exhibit A?" Closed probes are effective to confirm your understanding of what the other person is saying and why he is saying it. To confirm understanding, there are two steps:

1. State your understanding of what has been said and why.
2. Use a closed probe to ask for confirmation.

This technique produces such statements as: "Let's see. You're asking for a guaranteed volume so you can do a forecast. Is that it?" or "Are you asking for a guaranteed volume so you can do a forecast?"

Offering Ideas and Information. Another skill that helps focus on interests is to offer ideas and information. There are two steps for offering ideas so they will be heard:

1. Indicate your intent.
2. Present your reasons before conclusions.

These steps are highly effective in preparing other people to listen to what you have to say. Remember, there are two separate and distinct steps you must go through to effectively offer your ideas or information to the other side.

You should indicate your intent whenever you want to present an idea, support an idea with information, or introduce an idea by asking a question. Indicating intent prepares the other side to hear what you have to say and respond accordingly. It gives you time to prepare what you want to say before you say it. You might use phrases like these to indicate your intent: "If I

might make a suggestion," "Let's look at," "There is some information you might find," "Let me ask you about." Do not indicate your intent if you are about to offer criticism or make an opposing statement--this virtually ensures that the other person will not listen to what you have to say.

Most people stop listening once they have heard the bottom line, so present your reasons before your conclusions. Then the other person will be more likely to hear you.

Inventing Options

Skill at inventing options is one of the most useful assets a negotiator can have. Often negotiators fail to reach agreement when they might have or reach an agreement that could have been better for each side. Why? In a dispute, people usually believe they know the answer--their view should prevail.

Obstacles to Inventing Options

In most negotiations four major obstacles limit the number of options:

1. *Premature judgement.* Inventing options does not come easily. Nothing is as harmful to inventing options as a critical person waiting to pounce on the weakness of any new idea. Prejudging ideas hinders imagination.
2. *Searching for the single answer.* If the first hurdle to creative thinking is premature judgment, the second is premature closure. Inventing is not a part of most people's negotiating process. Since the end product of negotiation is a single decision, many fear that a free-wheeling discussion will only delay and confuse the process. This is not the case. In truth, there is almost always more than one satisfactory answer.
3. *The assumption of a fixed pie.* The third and most prevalent reason that there are few options on the table is that each side sees the negotiation as an either-or-matter--either I win, or you do. A negotiation often appears to be a fixed-sum game in which one dollar more for you means one dollar less for me. This assumption is rarely true, but this blind spot prevents many negotiators from realizing that the parties often do not want the same thing.
4. *Thinking that solving their problem is their problem.* Each side may be concerned only with its immediate interests. To reach an agreement that meets your self-interest, you need to develop a solution that also appeals to the self-interests of the other side. People are frequently reluctant to accord any legitimacy to the views of the other side. Short sighted self-concern leads the negotiator to develop only positions, partisan arguments, and one-sided solutions.

Ways to Invent Options

To invent creative solutions, you can use four techniques:

1. Separate the act of inventing options from the act of judging them.
2. Broaden the options on the table rather than looking for a single answer.
3. Search for mutual gain.
4. Invent ways of making their decisions easy.

Separating Inventing from Deciding. Since judgement hinders, separate the creative process of thinking up possible decisions from the process of selecting from among them. Invent first; decide later. Consider the desirability of arranging an inventing session with a few colleagues. Such a brainstorming session will generate ideas. The key thing to remember is to postpone all criticism and evaluation of ideas until after the session is over.

Broaden Your Options. Even with the best of intentions, participants in a brainstorming session are likely to operate on the assumption that they are looking for the one best answer. At this stage, you should not be looking for a single best path. You are developing room within which to negotiate. Room can be made only by generating a substantial number of different ideas--ideas on which you and the other side can build upon and among which you can jointly choose. A brainstorming session frees people to think creatively.

Try breaking down your problem into smaller and perhaps more manageable units. Agreements may be partial, involve fewer parties, cover only selected subject matter, apply only to a certain geographical area, or remain in effect for only a limited period of time. I may be helpful, where possible, to ask how the subject matter might be enlarged so as to sweeten the pot and make agreement more attractive.

Look for Mutual Gain. The third major hurdle to creative problem-solving lies in the assumption of a fixed pie in which less for you means more for me. Rarely is this assumption actually true. Both sides can be worse off than at present; conversely, there is almost always the possibility of joint gain. This may take the form of developing a mutually advantageous relationship or of satisfying the interests of each side with a creative solution.

One key ingredient to look for is shared interests--interests that are the same for both sides. Obviously, shared interests help produce agreement. By definition, then, inventing an idea that meets interests shared by both parties is good for you and good for them. As with so many other things, however, in practice this picture seems less clear. In the middle of a negotiation over price, shared interests may not appear obvious or relevant. Shared interests are present in every negotiation, however; sometimes you simply have to look hard to find them. Ask whether you and the other party have a shared interest in preserving the relationship. What would be the costs if negotiations break off?

Shared interests are only opportunities. To be useful, you have to make something out of them. It is helpful if you make a shared interest clear-cut and express it as a shared goal. You will find that if you stress your interest with the other side, negotiations will go more smoothly.

In many cases a satisfactory agreement is made possible because each side wants different things. However, differences can lead either to a solution or a problem. The kinds of differences that best lend themselves to dovetailing are differences in interests, in belief, in the value placed on time, in forecasts, and in aversion to risks. Suppose if you want more money; the other side may be able to pay more money if they can spread out the payments. If you do not insist on your money right away, this difference may lead to agreement. You may differ with the other side about forecasts. They believe profits will be great; you believe they will be small. You might agree to pay a reasonable base salary, with incentives based upon results. Since the other side believes profits will be good, they may agree with this approach. If you are right, the reasonable base salary will protect you. If you are wrong, the higher salary based upon incentives will not hurt, but in fact will help you.

Make Their Decision Easy. Success in negotiation depends on the other side reaching the decision you want. The object, then, is to do what you can to make the decision of the other side easy. Give them a choice that is as painless as possible. Negotiators usually pay too little attention to how they can advance their case by taking care of the interests of the other side. To overcome your own immediate self-interest, put yourself in their shoes. Without some option that appeals to them, there is likely to be no agreement.

You will understand the other side's decision-making process better if you pick one person--probably the person with whom you are dealing, or his or her boss--and see how the problem looks from his or her point of view. You may then come to see your role as helping your counterpart by giving arguments that can be used to persuade his or her boss to go along. Your task is to give them answers, not problems; to give them easy decisions, not tough ones. It is crucial to focus your attention on the context of the decision.

Many negotiators are uncertain whether they are asking for words or performance. The distinction is crucial. Usually you want words--a promise or an agreement. Try drafting a few possible agreements. Even early in the negotiation, this is an aid to clear thinking. Prepare multiple versions, starting with the simplest one possible. What terms could the other side agree to? Can you reduce the number of people who decisions will be required? Can you draft an agreement that will be easy for the other side to implement?

When asking for agreement on actions, remember two points. It is easier to refrain from doing something than it is to stop some action already underway. It is easier to cease doing something than it is to undertake an entirely new course of action.

Choosing Criteria

The other side is more likely to accept a solution if it seems the right thing to do--right in terms of being fair, legal, or honorable. Make the options appear to be legitimate solutions.

Few things facilitate a decision as much as precedent. Look for it. Look for a decision or a statement the other side may have made in a similar situation and try to base a proposed agreement on that. This provides an objective standard for your request and makes it easier for them to go along.

We often try to influence others by threats and warnings of what will happen if they do not decide as we would like. Offers are usually more effective than threats. Concentrate on making the other side aware of the consequences from their point of view. How can you make your offers more credible? What can you invent that will be attractive to them but low in cost to you?

A final test of an option is to write it out in the form of a "yesable proposition." Try to draft a proposal to which they can respond with a simple "yes" and such a response would be sufficient, realistic, and operational. When you can do this, you reduce the risk that your own self-interest may have blinded you to the necessity of meeting the concerns of the other side.

Irrespective of how well you have done the foregoing, you will eventually face the situation where interests conflict. If you try to settle these differences of interest on the basis of who has the stronger will, you will find that this approach has a high price tag. The solution is to negotiate some basis independent of the will of either side, that is, on the basis of objective criteria.

The approach is to commit yourself to reaching a solution based on principle, not pressure. Concentrate on the merits of the problem, not the will of the parties. Be open to reason, but closed to threats.

The more you bring standards of fairness, efficiency, or objectivity to bear on a particular problem, the more likely you are to produce a final package that is wise and fair. The more you and the other side refer to precedent and community practice, the greater your chance of benefiting from past experience. A lease that contains standard printed terms has little risk that either side will feel harshly treated.

One coauthor was once negotiating a sale with buyers from the Middle East. Near the end, the sellers brought out a mortgage document that had been drafted. The buyers objected to many of its terms. The terms were standard, but no amount of persuasion would convince the other side of the reasonableness of the document. Finally, it occurred to the sellers that a printed mortgage sold by business supply stores was available. The sellers brought out this mortgage,

and the other side agreed to it immediately. Ironically, this printed mortgage was a favorable, if not more so, than had been drafted. The power of the standard, printed form turned the trick.

Problems with Negotiating: People Who Refuse to Be Reasonable

Some people refuse to deal with you in a reasonable manner. Deadlock, stalemate or giving up is not the solution. You have three approaches to direct their attention to the merits and keep it there. The first approach is for you to concentrate on the merits, not on your position.

The second approach is used if the other side continues with positional bargaining. In this case, you change to a strategy that deals with what they may do. If they criticize your proposal, you will be tempted to defend it. If they criticize you, you will be tempted to defend yourself and counterattack. If you give in to any of these temptations, you are playing the positional bargaining game. Refuse to react. Sidestep these attacks and redirect the attack against the problem. Use the following techniques:

1. When the other side sets for their position, neither accept nor reject it. Instead, look behind it for the interests that it expresses and the principles it reflects. Then identify ways to improve the position so that it can help meet your interests as well.
2. Instead of resisting criticism, invite it. Ask what is wrong with your proposal or idea. Examine the comments to find their underlying or unstated interests. Rework your ideas based upon what you learn from them. Another technique to redirect their criticism is to turn the situation around and ask for their advice. Ask them what they would do if they were in your position. If you can get them to confront your problem, they might just invent a solution that meets your concerns.
3. When the other side attacks you personally, just listen. When they finish, recast their attack on you as an attack on the problem: "I understand your frustration. The problem is a difficult one. We must find a solution to it. The problem has a solution, if we can just work together to find it." It is amazing how this approach diffuses their attack on you and gets everyone back on the track again.
4. Use questions instead of statement. Statements generate resistance; questions generate answers. Questions offer no target to shoot at; they do not criticize, they educate.
5. Silence is one of your best weapons. If you have asked a question to which they have given an insufficient answer, just wait. Do not take them off the hook by going on. Your silence will invariably drive them to go ahead and give a more complete answer.

The third approach to use when confronted by a positional negotiator is the one-text procedure. In this technique, after listening to all arguments, statements, concerns, and interests, you prepare a written proposal that no one has accepted. Ask for comments and criticisms. Then rewrite it and ask for comments and criticisms again. Continue, until you say, "this is the best I can do." It is interesting how often this will get agreement.

Common Mistakes

The mistakes made near the end of a negotiation happen so fast that they are often not recognized until the negotiation is over. When agreement is within your grasp or when you fear that deadlock is about to occur are critical times in the negotiation. The following mistakes can happen to anyone who is under pressure caused by nearing agreement or fearing deadlock:

1. Never assume that an impasse on an issue will result in deadlock in the overall negotiation. If an impasse occurs, go on to the next issue and take up the problematical issue later. If you make progress on the other issues, the troublesome issue has a habit of getting worked out later.
2. Do not be intimidated by the other side's last and final offer. They will probably be back. Be prepared and help them save face when they return.
3. Do not make a last and final offer yourself until you have carefully evaluated how the statement will be made and how discussions will be continued if it is not honored. Never bluff unless you know what you will do if the bluff is called.
4. Never get panicked into a final agreement by a time deadline. It is easy to fall into the time trap. Be skeptical about deadlines. Most deadlines are negotiable.
5. You will not succeed in winning your objective if you try to be liked in the final phase of negotiation. The crisis stage is a severe test of each party's intentions and motives. It is not a social tea, nor is it necessarily fun. The person who wants to be liked usually gives away quite a lot.
6. Never let an issue be discussed unless you are prepared for it. The temptation to play it by ear must be resisted. No one is smart enough to know what to do unless he or she thinks about it first. Such a situation may come up near the end of the negotiation; you will be tempted to wing it. Resist this temptation.

Summary

Negotiating is a common occurrence in business--and a necessary skill to business success. Unfortunately, this important skill is not taught. The central principle of success negotiation is

to negotiate on the basis of the merits of the problem and to refuse to play the game of positional negotiation.

An important set of negotiating skills to develop is to address the needs of your side and the other side as people. This approach means addressing the importance of perceptions, finding ways to eliminating the potential blockage caused by emotions, and promoting good communication.

Another valuable consideration in negotiations is to focus on the interests of each side and not on the positions taken. Positions are simply expressions of each side's interests. Discovering and addressing those interests is directing your attention to what really matters to each side.

A third technique is to recognize that an abundance of options can help solve a problem. Most problems have more than one solution. Spending time to generate as many solutions as possible enhances your ability to actually solve the problem.

Finally, it can be valuable to identify objective criteria against which the solution can be measured. By appealing to law or custom, previous agreements, or past behavior, you can help convince the other side that the action you are asking them to undertake is reasonable and fair. They are then more likely to accept the need to take that action.

Class Assignments

1. Why is it important in any negotiation to know what your best alternative to a negotiated agreement is?
2. If the object of negotiation is to win, why would anyone be interested in a "win-win" orientation?

THE USED CAR⁴

Exercise 2

Introduction

The scenario for this role-play* involves a single issue: the price of a used car that is for sale. While there is a great deal of other information that may be used to construct supporting arguments or to build in demands and requests in addition to the price, the sale price will ultimately be the indicator used to determine how well you do in comparison to other role-play groups.

Advance preparation

1. The instructor is likely to assign preparation for this exercise in advance. If so, read and review the "Background Information" section on the used car, and the buyer or seller position information that you have been assigned. Read *only* your own position.
2. If you are working with others as a team, meet with the team and prepare a negotiation strategy. If you are working alone, plan your individual strategy for your position.
3. Whether working in a small group or alone, make sure that you complete the section at the bottom of your confidential information sheet.

Procedure

Step 1: 5 minutes

The instructor will determine whether this exercise is to be conducted individually or in small groups. If it is individual, pairs of individuals may be assigned buyer and seller roles. Alternatively, groups of two or three persons will be assigned buyer and seller roles.

Step 2: 30 minutes

Read and prepare your negotiating position, if this assignment was not done as part of the advanced preparation.

*Role-play was developed by Professor Leonard Greenhalgh, Dartmouth College. Used with permission.

¹Negotiation: Readings, Exercises and Cases by Lewicki, Roy J. & Litterer, Joseph A., Irwin Homewood, 1985. Translated and used with permission.

Step 3: 40 minutes or as recommended by instructor

Meet with the opposite side to negotiate a price for the used car.

During this time, you may observe the following procedures:

1. Use any plan or strategy that will help you achieve your objectives.
2. Call a caucus at any time to evaluate your strategy or the opponent's strategy.
3. Reach an agreement by the end of the specified time period, or conclude that you are not able to agree and that buyer and seller will explore other alternatives.
4. Complete the Statement of Agreement form and submit it to the instructor. Be sure to write down any additional terms or conditions that were agreed to.

Step 4: 40 minutes

Be prepared to discuss your settlement with your opponents, and with other groups in the role-play.

BACKGROUND INFORMATION

You are about to negotiate the purchase/sale of an automobile. The buyer advertised the car in the local newspaper. (Note: Both role-players should interpret "local" as the town in which the role-play is occurring.) Before advertising it, the buyer took the car to the local Volkswagen dealer, who has provided the following information:

- 1982 VW Rabbit diesel, standard shift.
- White with red upholstery, tinted glass.
- AM/FM radio.
- 30,450 miles; steel-belted radial tires expected to last 65,000.
- 45 miles per gallon on diesel fuel at current prices (usually about 10 percent less than regular gasoline.)
- No rust; dent on passenger door barely noticeable.
- Mechanically perfect except exhaust system, which may or may not last another 10,000 miles (costs \$300 to replace).
- "Blue book" retail value, \$5000; wholesale, \$4,400 (local 1984 prices).
- Car has spent its entire life in the local area; it is the only used diesel Rabbit within a 60-mile radius.

DISCUSSION QUESTIONS

- 1. Did you reach an agreement in this negotiation? If so, how satisfied are you with the price? If not, are you satisfied that you did not agree? Why?
- 2. If you reached a settlement, how does the settlement price compare to your target price, to the buyer's opening offer, and to the lowest (highest) price that you were willing to accept? Who "won" in this simulation?

Statement of Agreement for Purchase of the Automobile

Price: _____

Manner of Payment: _____

Special Terms and Conditions: _____

Seller

Buyer

**Confidential Information for
Buyer of the Used Car**

Your car was stolen and wrecked two weeks ago. You do a lot of traveling in your job, so you need a car that is economical and easy to drive. The diesel Rabbit that was advertised looks like a good deal, and you would like to buy it right away if possible.

The insurance company gave you \$4,000 for your old car. You have only \$700 in savings that you had intended to spend on a trip with an *extremely* attractive companion--a chance you really don't want to pass up.

Your credit has been stretched for some time, so that if you borrow money, it will have to be at an 18 percent interest rate. Furthermore, you need to buy a replacement car quickly, because you have been renting a car (a 1983 Ford Fairmont) for business purposes, and it is costing you a great deal. The diesel Rabbit is the best deal you've seen, and the car is fun to drive. As an alternative, you can immediately buy a used 1981 Ford Pinto for \$3,800 (the wholesale value), which gets 28 miles per gallon and will depreciate much faster than the Rabbit.

The seller of the Rabbit is a complete stranger to you.

Before beginning this negotiation, set the following targets for yourself:

1. The price you would like to pay for the car _____
2. The price you will initially offer the seller _____
3. The highest price you will pay for the car _____

**Confidential Information for
Seller of the Used Car**

You have bought a diesel Mercedes (used) from a dealer. The down payment is \$4,700 on the car, with steep monthly payments. You are stretched on credit, so if you can't make the down payment, you will have to borrow at 18 percent. You're going to pick up the Mercedes in two hours, so you want to sell your old car, the Rabbit diesel, before you go.

You advertised the car (which is in particularly good condition) in the newspaper and have had several calls. Your only really good prospect right now is the person with whom you are about to bargain--a stranger. You don't have to sell it to this person, but if you don't sell the car right away, you will have to pay high interest charges until you do sell it.

The Mercedes dealer will only give you \$4,400 for the Rabbit, since he will have to resell it to a Volkswagen dealer. The local VW dealer is not anxious to buy the car from you since he just received a shipment of new cars; in any case, he probably would not give you more than \$4,400 either.

Before beginning this negotiation, set the following targets for yourself:

1. The price you would like to receive for the car _____
2. The price you will initially request from the buyer _____
3. The lowest price you will accept for the car _____

SALARY NEGOTIATIONS***Exercise 3****Introduction**

In this simulation, you will play the role of either a manager or subordinate in a negotiation over salary. Both in securing employment as well as promotions, we frequently are in a position to negotiate with our superiors over salary; and, once we achieve managerial rank, we do the same with subordinates. This is one of the most common and, at the same time, most personal forms of negotiations; for many people, it is also the most difficult. Since salary can be a means of satisfying man needs--economic, recognition, status, or competitive success measure--it leads to complex negotiations.

Procedure**Step 1: 5 minutes**

The class will be divided into groups of three; two will be assigned the roles of manager and subordinate, the other as an observer. Role-players will be assigned either an "A" or a "B" role in one of the Salary Simulations below. Assemble with your trio in the place specified by the instructor.

Step 2: 5 minutes

Read your assigned role and prepare a strategy. If you are an observer, review the Observer Reporting Sheet and make sure you understand what to look for.

Step 3: 10 minutes

Carry out your discussion with your counterpart. If you finish before the allotted time is up, review the sequence of events with the other party and tell the other what he or she did that was productive or unproductive to the negotiations.

If you are an observer, make brief notes during the role-play on your Observer Reporting Sheet. When the role-play is over, review the sheet and add further details where necessary.

* Source: Lewicki, Roy J. and Litterer, Joseph A. "Negotiation: Readings, Exercises and Cases" used with permission.

Step 4: 10 minutes

In your trio, discuss the outcome of the negotiation. The observer should report what he or she saw each party doing. Review what steps or positions seemed most and least useful.

At the end of the time for Step 4, the observer should hand his Observer Reporting Sheet to the instructor.

Step 5: 5 minutes

In your trio, change the role assignments so that the person filling an A role now fills a B role, the person filling the B role now becomes observer, and the previous observer now fills an A role.

Step 6: 5 minutes

Repeat step 2.

Step 7: 10 minutes

Repeat step 3.

Step 8: 10 minutes

Repeat step 4.

Steps 9, 10, 11, 12: 30 minutes

Repeat steps 5, 6, 7, 8.

Step 13: 30 minutes

The instructor will post the results from the three sets of role-plays. Examine the different outcomes and explore reasons why they occurred and their consequences.

DISCUSSION QUESTIONS

1. Were there any differences in the way negotiations were handled when:
 - a. Both parties in a role-play were satisfied?
 - b. One was satisfied?
 - c. Both were dissatisfied?

2. Were some people playing the same role dissatisfied with an outcome that others in the same role found satisfying? Why? How do you account for this?
3. Poll quickly those who were satisfied with the outcome. Ask why they were satisfied.
4. Poll quickly those who were dissatisfied with the outcome. Ask they were dissatisfied.
5. What was the effect of observing another's negotiation on how you negotiated? Did why you see as an observer affect how satisfied you felt with your own outcome?

Observer Reporting Sheet

Round: _____

How did A open the meeting? _____

How did B respond to the way A opened the meeting? _____

Was an agreement reached? Yes _____, No _____.

What was the salary agreed to, if there was an agreement? _____

Were there any other added features in the settlement achieved? _____

Will future relations between A and B be better (+), worse (-), or the same (=) as a result of this meeting? List the opinions of A, B, and the observer.

A _____, B _____, Observer _____.

SALARY NEGOTIATIONS

Employer Position 1A

You are the vice-president for finance at the Ace Company. During a time of crisis three years ago, you had jumped up a young person to the credit manager position, discounting his young age and inexperience because the previous credit manager had quit and you were desperate. In time, the word "Acting" had been removed from (his) title, and the subject of a raise had come up. You had said, "Let's see how this works out. After all, you're pretty young and inexperienced for this job. I don't have any doubts about your handling the job, but I'd like to wait. If you're able to handle it, we'll take care of you."

You have had consistent negotiations with this man about making up the differential between himself and other managers. He is the lowest paid manager at that level, and the others earn between \$5,000 - \$7,000 more. Every time salary negotiations have come up, you have used your skill to play on the awe that this manager still holds for his good turn of fate as the argument to justify giving him a lower raise. It's almost been a game with you. He starts out determined to make up the financial spread, but he never really forces you to give it to him. The last time you negotiated, you again were able to whittle him down. He is an excellent worker and you have no intention of firing him; as a matter of fact, in higher levels of management, he has been declared a comer. You feel that if he really stuck to this initial demands, you would give him the large raise he deserves. You just want him to draft it out of you.

You previously met with this individual a few days ago, and after hard negotiating, you got (him) to agree to a raise of \$1,800 to his base salary of \$22,000. In your eyes, you "won" this negotiation by your persistent skills and the special circumstances of this particular manager.

Today is the day of the office party, the day when clerical and office staff receive their "bonus checks" of up to \$100. (Managers used to receive checks too, but there was a policy change this year and it was decided that managers would be compensated for their efforts through their salary increases.) Here comes the credit manager now. He doesn't look very happy--you wonder what's on his mind.

Take a few minutes to review these facts and devise a strategy for managing the discussion with your manager about a pay raise.

SALARY NEGOTIATIONS

Employee Position 1B

You are fairly young for the responsibility that the Ace Company has given you as credit manager. You were elevated up from the ranks at a moment of crisis to take over this vital management function when the previous credit manager moved on, and you have handled the situation well. After a few months, the word "Acting" has been deleted from your title, and you had been confirmed in your new role.

When you were first promoted, you had asked for a raise, but your boss had countered: "Let's see how this works out. After all, you're pretty young and inexperienced for this job. I don't have any doubts about your handling the job, but I'd like to wait. If you're able to handle it, we'll take of you."

It had now been three years since that crisis. You've been confirmed as credit manager, and have gotten raises every year. But they were raises in the same order as when you were a toiler in the ranks. You still have not received the one big jump that would put you in the same financial class as the older, more experienced personnel, those who are holding down jobs no more responsible than yours.

In the past, you had made a few tries to obtain the big jump, you were still somewhat in awe of the position you held given your tender age. Your boss is a skilled negotiator, and each time you've gone in for a raise asking for big money, he has maneuvered the conversation around so that you're very thankful for the small raise and equally thankful he hasn't had this against you.

This was the status on the day of the annual office party. Traditionally, this was also the day the company distributed small bonus checks to every one on the payroll. These checks were never large--\$100 was tops. But, as they were passing out the checks, you realized there was none for you. After talking with another manager about this mistake, he said there was no mistake. There was a new policy this year, and only the "rank and file," not "management," would receive bonuses.

This has moved you to action. You currently make \$22,000. A few days ago you had a "tentative" (in your eyes) salary discussion with your boss.

SALARY NEGOTIATIONS

Employer Position 2A

You are the financial manager of the Western Division of the Modern Finance Agency. This company is made up of several regional divisions, each structured in a similar way. Your division has a separate financial analysis staff group. One of your analysts has been with the Western Division since his graduation three years ago. This particular analyst has in the past year done some exceptional work. The projects have been well thought out, and have been implemented without any major problems. This employee has had normal raises in the past years, and the one last year was from \$17,500 to \$18,500, a raise determined by last year's salary negotiation between yourself and the employee toward the Western Division.

The work of this employee has been so good that on one occasion you showed his project to Joe Short, the financial manager of the Central Division. Short was quite impressed with the work, and has used the plan in his own division. He has kidded you recently about stealing this analyst away from Western for his own staff. You wonder if there is anything serious behind this talk. You would hate to lose this employee, as your efforts in this employee's development have created an outstanding asset which is now paying off in a substantially larger return than expected.

You are a fairly hard negotiator and have given salary increases of about \$1,200 to other analysts in the division. You plan on giving more to this outstanding analyst in the division. You plan on giving more to this outstanding analyst, but still not the world. Yet you don't want to lose the analyst to the Central Division and let Short get all the future benefits. A large raise to keep your star would be in order, but only as a last resort.

Take a few minutes to review these facts and devise a strategy for managing the discussion with your analyst about a pay raise.

SALARY NEGOTIATIONS

Employee Position 2B

You are an analyst in the Western Division of the Modern Finance Company. This company is made up of several regional divisions, all of which have a staff of analysts working in positions similar to yours. You have a diligent boss whom you have worked for since you came to Modern three years ago. You have been doing a good job, and have been complimented by your boss on a number of occasions for outstanding work. As far as salary raises, however, you have had what you consider adequate raises, but nothing truly substantial. You feel that your consistently strong efforts, and the exceptionally good project work you have done, merits a larger than normal raise.

To strengthen your hand, you have been doing a little "seed planting" with Joe Short, the financial manager over in the Central Division. While you don't have a firm commitment from him, Short has given you signals that he would like you to come to work for him in Central. He has seen several of your projects, and was very impressed with the quality of your analysis as well as your ability to put the plan into action.

Your boss knows that Short has seen some of your work. He has shown some of it to Short, and has told Short what a valuable member of the Western Division staff you are.

Since your boss feels that you are valuable (and your work has proved it), isn't it time to get the company to show it with dollars? Your last raise moved you from \$17,250 to \$18,500, which was about a year ago. Why not try for the big jump--a \$3,000 raise. You have the leverage on your boss, as you have an implied offer from Short. While you really enjoy working for the Western Division, you don't want to limit your options, especially when it involves money.

Take a few minutes to review these facts and then devise a strategy to approach your boss for this raise.

SALARY NEGOTIATIONS**Employer Position 3A**

You are the marketing vice-president of the Rapid Leathergoods Company, and you have been in this position for the past four years. One of the people you have working for you is the director of mail order sales. This person has been in the position for the past two years. In your discussions with (him), you have informally set up the requirements and the objectives of the mail order sales position. The director has over the past two years done an excellent job. (He) has improved the response in the campaigns of the MaxFli, the Fireball and the Thunderhead lines. The thinking that has gone into these programs has been developed in an excellent manner and the execution has been quite effective. You are quite pleased with the efforts on these lines.

There has been one problem area. One of the objectives for this past year was to get more action in the Top Flite line (Rapid's most expensive line of wallets, purses, key cases, and so on). The returns on this year's Top Flite sales have been quite poor. This is not a change from Top Flite's past history, as it has never really been successful. The director seems not to have been able to change the results of the Top Flite via any of his recent efforts. While you haven't learned anything on Top Flite in the past month, you have no indication that anything in this program has changed.

It is currently salary review time. And while the director has had excellent results in the other lower priced line, the failure to get Top Flite moving is the reason you expect to only give a nominal raise for this year. If he can demonstrate new achievements on Top Flite, you could see your way clear to a larger raise. The director's current salary is \$30,000 base pay. You feel that a raise of \$2,000 ($6\frac{2}{3}$ percent) is a fair raise for this year's efforts (normal raises are usually in the 5-10 percent range). You are not constrained in granting a raise of more than that figure, but you want some justifiable evidence why the director should get more. You consider yourself a firm but fair negotiator, and are willing to give a raise above \$2,000 if the director can show he is worth the money.

Take a few minutes to review these facts and devise a strategy for managing the discussion with your director about a pay raise.

SALARY NEGOTIATIONS

Employee Position 3B

You are the director of mail order sales for the Rapid Leathergoods Company, and have been in that job for the past two years. On the whole, you believe that you have done a satisfactory job. When you took the job of director, you had several talks with your boss (the marketing vice-president), learned about the job requirements that were seen as important. You were able to work out an informal set of job objectives, and have been able to produce a good record against each of these criteria--with one exception. The exception is a major one, and it looms as the biggest stumbling block to your raise.

One of your objectives was to come up with a way of selling Rapid's Top Flite line, the company's most expensive line of leather wallets, purses, and so on, by mail. It had never been done successfully in the past. You have worked hard on methods of improving the Top Flite line. You had experimented with different mailing lists, tried premiums, money-back guarantees, and still the results were relatively insignificant. But in the past months you have been working hard on Top Flite. One particular appeal applied to a new list has had better results than most. It's too early to come to a definite conclusion. Further testing will be required, but the signs are good enough to be optimistic.

You know your boss is a hard negotiator at raise time. You also know that failure to achieve a breakthrough on Top Flite will make it easy for him to deny you anything but the most normal raise. But you have not told your boss of the most recent results with the new list. You plan to save them to counter any argument he raises about your lack of performance in that area.

You plan on asking for a large \$6,000 raise (normally, your raises have been 5-10 percent). Your current compensation has a base salary of \$30,000. The projects that you have been working on have been MaxFli, Fireball, and Thunderhead. These projects have been excellent successes and have exceeded the projected growth. The Top Flite program was the only blemish in an otherwise excellent record.

Take a few minutes to review these facts and then devise a strategy to approach your boss for this raise.

CENTRAL INDUSTRIES, INC. - OPERATION EXPANSION*
Exercise 4

Introduction

In this simulation, you will be a member of the management group of a wholly owned but autonomous division of Central Industries, Inc. Your management group will be dealing with the management groups of other divisions of Central Industries. Your objective is to exchange resources that each possess so that your division can carry out its business strategy. Top management of Central Industries has left the decisions regarding the real location of resources in the hands of the division managements.

Procedure**Step 1: 5 minutes**

The class will be divided into four groups, each comprising the top management of a subsidiary company of Central Industries, Inc. The subsidiary companies are: Delto Col, Excel Col, Key Co., and Valco Co.

Step 2: 15 minutes

Read the Central Industries, Inc., "Background information" section given below. Then, read the instructions for the company whose management you represent. Soon, you will meet with the managements of the other subsidiary companies in order to obtain land for your division's expansion. Plan how you want to handle those meetings.

BACKGROUND INFORMATION

Central Industries, Inc., is a holding company in the commercial goods industry. It holds four major subsidiary companies, each of which is well regarded in the business community. For various economic and legal reasons, each subsidiary is established as a separate company; the president of each sits on the board of directors of Central Industries, Inc.

Each subsidiary has experienced continuous growth over the years. This growth has already overtaxed the present facilities of each subsidiary company, and anticipated future growth has made urgent the need for immediate building of new facilities.

*Lewicki, R.J., Litterer, J.A. Negotiation: Readings, Exercises and Cases. Exercise 14, pp. 459-466 reproduced and translated with permission of Irwin, Homewood, Illinois.

Some years ago, Central Industries located a large tract of land which was judged to be ideal for subsidiary expansion when their growth required new facilities. The tract was not available for purchase in total, so plots of land within it were acquired over time as they became available. The actual purchase of these plots was made by the subsidiary company which was in the most favorable cash position when the plot became available for sale.

Last year, the final plot was purchased; so, at this time, the entire tract is owned by the various subsidiaries. Acquiring the land in this fashion has resulted in plot ownership being somewhat random insofar as each subsidiary is concerned. Exhibit 1 presents land holdings of each company and describes the tract in terms of current plot ownership by subsidiary company; that is, Delta Col, Excel Co., Key Co., and Valco Co.

Subsidiary expansion plans, which have been approved by Central, will require a different plot configuration than present ownership. Each subsidiary has carefully surveyed the site and has developed specific plans for the plots needed to accommodate their unique expansion requirements.

Following the decentralization policy which has been characteristic of Central Industries, the task of proper plot rearrangement has been delegated by Central to the subsidiaries for solution. Consequently, the president of each subsidiary has appointed a key staff group and has chartered them with the responsibility of working out required land transactions. Central has made it clear, however, that they expect the most effective possible utilization of the land.

It was decided that the top-management groups of the four subsidiary companies would convene in a general meeting and complete the required land transactions. This meeting is now at hand.

Your group will assume the role of the top management of one of the subsidiary companies. You will be given the particular plot configuration you require. Your task will be to conduct the required transactions with the other three companies.

Certain rules for the transactions have been established. These are:

1. Plots of land may be purchased, sold, or traded (evenly or with cash incentive).
2. Any transfer of land requires a properly executed deed (Exhibit 2).
3. Options (Exhibit 3) to transfer plots may be extended to you, to others, and vice versa. Options may be given free or sold for cash. Once an option is extended, it is valid for a period of 10 minutes only. During its valid period, the option requires the plot owner to transfer to the option holder the designated plot if the option holder requests it.

4. All lots are nominally priced at \$10,000 each. However, this is purely a nominal figure and in no way should restrict the principle of supply and demand. Therefore, each plot owner is free to set whatever value on his plots he desires.
5. At the instant of transfer of property by a duly executed deed, both seller and buyer must notify the instructor so that such transfer can be recorded on the Central Land Chart. Failure to do so will render the transfer invalid.
6. A time period for planning and another for transacting will be specified by the instructor.

Step 3: 45-60 minutes

Meet and negotiate with the other subsidiary companies to acquire the land needed for your expansion. Make sure you follow the rules set out at the end of the "Background Information" section.

INSTRUCTIONS TO LANDHOLDERS

The chart given to you shows your present landholdings. Your site expansion team has identified your required lots as indicated. You have been supplied with two alternatives. Your preferred configuration is shown by solid lines; this configuration would be optimum for your company. The alternative shown by dotted lines would be acceptable, but would create some difficulties. It should be obtained *only* if it becomes *impossible* to obtain your preferred configuration.

It is anticipated that one or more of the plots you now own may be desired by one or more of the other subsidiaries. This could result in those plots being of considerably more value than the nominal price.

If, for any reason, you are unable to obtain either your preferred or alternate configurations, your company will be required to locate in another area than this total land. This would mean additional expense. In the event of this possibility, your president has directed you to sell all your plots at the maximum price you can obtain in order to help offset the added cost of other location.

You are authorized to spend up to \$25,000 of company funds for the procurement of needed land, if you must do so. You cannot operate in a deficit cash position. You may, of course, obtain cash by selling plots you own.

You must maintain continuous accounting of your financial standing.

You are encouraged to involve all members of your group in some way during the transactions.

Step 4: 15 minutes

Complete all your financial calculations and assemble all documents resulting from your negotiations.

Individually complete the "Analysis Guide" (see Exhibit 4) below. Then, in your group, compare your answers and summarize those points on which you agree or disagree.

Step 5: 20 minutes

Individual teams report their summaries on the Analysis Guide and discuss.

Exhibit 1
Present Land Holdings of Each Company

A EXCEL	B EXCEL	C VALCO	D DELTA
E VALCO	F DELTA	G KEY	H DELTA
I KEY	J KEY	K VALCO	L EXCEL
M EXCEL	N KEY	O DELTA	P VALCO

Exhibit 2
Deed

Lot _____ Originally owned by _____
 (Company)

Transferred to _____ By _____
 (Company) (Company)

Authorized signature: _____

Transferred to _____ By _____
 (Company) (Company)

Authorized signature: _____

Transferred to _____ By _____
 (Company) (Company)

Authorized signature: _____

Exhibit 3
Option

Option to obtain lot _____ At \$ _____
(Cost of lot)

Option expires _____ (10 minutes from original issue)
(Time)

Initial issue to _____ for \$ _____
(Company)

Signature of lot owner: _____

First issue to _____ for \$ _____
(Company)

Signature of lot owner: _____

Second issue to _____ for \$ _____
(Company)

Signature of lot owner: _____

Note: Lot owner must sell to option holder on demand at stated cost of lot.

Exhibit 4
Analysis Guide

Instructions: First complete this questionnaire individually according to your personal reactions and experiences. Second, discuss together your responses, focusing particularly on the Why answers.

On each scale below, record two answers. Mark a *W* to record your impression of the process occurring *Within* your own subsidiary company, and a *B* for the process occurring *Between* subsidiaries.

1. Amount of trust.

Low High

Why: _____

2. Character of interactions.

Competitive Cooperative

Why: _____

3. Basis of decision making.

Power, threats
bluff, strategies

Problem solving,
mutual and open,
exploration

Exhibit 4 (concluded)
Analysis Guide

Why: _____

4. Problem-solving stance.

Fixed, rigid _____ Adaptable, flexible _____

Why: _____

5. Which of the other three subsidiaries were the most:

Cooperative _____ Competitive _____

Why: _____

Exhibit 4 (concluded)
Analysis Guide

6. What personal behaviors and actions would need to be different, and what would they need to be in order for the Central Industry goal to be fully met?

DISCUSSION QUESTIONS

1. Did all groups see the other groups the same way; that is, trusting, flexible, competitive, etc? If there were differences, what explains the differences?
2. Did most groups accomplish their objectives? What things lead to some groups being successful or unsuccessful?
3. Were Central Industries' goals achieved? Why?

THE MASTER DEALMAKER'S GUIDE
A Quick Referenced to Basic Negotiating Skills and Secrets*

Warning...

This handy guide is no substitute for learning negotiating skills and deal secrets. Of course, the best way to learn is by doing. So here's a quick reference guide to carry with you.

Needless to say, *don't* yank this from your pocket or purse during a negotiating session. Let it be your little secret...something you refer to privately, when you need a reminder. The skills and secrets of good negotiating are logical and practical. Study them as often as necessary.

Complexity is a killer in deal making. It sucks time and saps strength. There is an *inverse* relationship between complexity of deals and their probability of closing.

- Know what you want to achieve.
- Discern what the other side wants.
- Good deals are good for all.
- Seek win-win solutions.
- Think alternatives; multiply your options.

Seven Components Needed to Establish Deal Terms

1. What is the nature, character of the value and consideration being exchanged?
2. What are the amounts of the value and consideration being exchanged?
3. What is the relative benefit of the value and consideration being exchanged?
4. What promises and assurances are given to the value and consideration?
5. Which terms and conditions cannot change and which can change?
6. How can you provide that each side lives up to its side of the bargain?
7. What is the schedule for completing the transaction?

* Adapted from *The Deal Maker: All the Negotiating Skills and Secrets You Need* by Robert Lawrence Kuhn, Robert Lawrence Kuhn 1988. Adapted by permission of the publisher John Wiley & Sons, Inc.

Good Deals Are:

Clear...specific...focused...contained...difficult...consistent...measurable...achievable.

Bad Deals Are:

Vague...general...diffuse...boundless...easy...inconsistent...unmeasurable...unachievable.

Some Common Negotiating Tactics		
What	Why	How
Patience	Devastating when other side is volatile	You wait, set the pace, control the deal
Slow Agony	Defends against high pressure	Never say "no," never stall; take time
Empathy/Sympathy	Breaks deadlocks; bridges gaps	Show sincere concern, and compassion
Sudden Shifts	Dislodge blockage; overcome obstacles	Shake the tree; you have nothing to lose
Faking	Protect a point	Use something you don't want anyway as a chip to bargain away
Walking	Other side push and too powerful	Close your briefcase; leave
Fait Accompli	Used when you control a critical issue	Threaten to take unilateral action
Salami Slicing	Ceaseless grinding for small gain	Set limits
Limits	Use when other side keeps pushing	Set boundaries; tell other side of them
Deadlines	Pressure tactic	Refuse to be rushed
Antagonism	Pressure tactic	Disarm by side-stepping; gentle correction

Deal Secrets

Balancing the power. Power shifts odds and skews results. Power is strength; control. It establishes opening positions, determines end game.

Analyzing the Other Side

Individuals: Solitary people have complex motives. *Groups:* Motivation can become less complex as group grows. Close by targeting central objections, confuse by appealing to fragmentary issues. *Companies:* Remember their profit objectives, and that you're dealing with people. Don't ignore people purposes. *Institutions:* Not-for-profit groups have specific missions. Agreeing on goals facilitates deal making. *Governments:* Bureaucratic organizations seek survival, status quo. Lots of force needed to change things.

Determining Personalities

Top bananas: Make decisions. *Veterans:* Play it straight. *Egotists:* Give them something to brag about. *Self-willed:* Handle one-on-one. *Intense:* Try humor. *Objective:* Proceed step-by-step. *Virgins:* Help them bolster self-image, or warn them that if anything goes wrong, it's their fault. *Action-centered:* They seek the straightest route to success. *Team players:* Find their soft spots. *Relaxed people:* Strive for calm atmosphere. *Consistent people:* Can be dealt with directly. *Lickers:* See the good in people and forgive faults. *Flexible people:* It's hard for them to close. *Capricious people:* Changeable, but good at resolving problems. *Haters:* Try to establish a relationship.

How to Appraise the Stakes of a Deal

Level of Key Person. The higher the level, the higher the stakes.

Focus of Key Person. The greater attention to the deal, the higher the stakes.

Degree of Pushiness. Which side is setting schedules and deadlines? The more active party has higher stakes.

Conscious Behavior. Look for obvious signs of stress; exaggerated reactions, tempers, mood swings.

Unconscious Behavior. Look for signs of anxiety, such as fidgety, nervous habits, rapid and high pitch speech. Remember to monitor and mask your own reactions.

How to Get Your Price	
As the seller...	As the buyer...
Differentiate your product. Create uniqueness.	Determine price by shopping around.
Stimulate bids. Shop around. When party is interested, get a bid (any bid). The only way to fathom market is with real numbers.	When bidding, make an offer you would love to have accepted. Discuss it frequently. The more you talk, the more you learn.
To raise prices, make a positive change in product at time of a price increase.	To adjust price, remember that you can always change your mind later.
Use terms, if advantageous. Remember the rule, "My price, your terms."	To improve terms, remember, "Your price, my terms." Deal terms as important as price.
Strengths and Weaknesses	
When You're Stronger in...	When you're Weaker in...
<i>Size.</i> When you're larger, take your time, strive for complexity, allow no pressure. Never condescend.	<i>Size.</i> Propel the process. Strive for simplicity. Appeal to fairness. Never fawn.
<i>Power (Force).</i> Be slow to change on demand, quick to press agreement on your terms, willing to allow face-saving concessions	<i>Power.</i> Be careful conceding points. Make sure concessions count and become progressively smaller. Try toughness as a surprise.
<i>Flexibility.</i> Add complexities; alter issues; change agendas; move schedules; postpone meetings.	<i>Flexibility.</i> Simplify; contain issues; maintain agendas; keep to schedules.
<i>Needs.</i> Go slower, avoid pressure, be meticulous.	<i>Needs.</i> Try not to show need for deal. Move the deal along without evincing nervousness.
<i>Expertise.</i> Use your knowledge quietly. The less overt your content superiority, the stronger your influence.	<i>Expertise.</i> Try to learn quickly. Use lack of information as negotiating ploy.
<i>People.</i> Have more face-to-face contact. Encourage larger, more frequent meetings. Discourage written communications.	<i>People.</i> Have less face-to-face contact. Encourage smaller, less frequent meetings. Communicate more in writing.
<i>Time.</i> Proceed properly. Don't deliberately slow the pace or you'll infuriate the other side.	<i>Time.</i> Move the deal along without showing anxiety.
<i>Insight.</i> When you feel it, use it; when you believe it, do it.	<i>Insight.</i> Let the other side lead and learn as you go, or boldly suggest naive ideas and see what happens.

AVOID THESE COMMON PITFALLS

Faculty Information. Any information used as a basis for negotiating a position should be both accurate and appropriate.

Premature Threats. Demands and ultimatums as part of the deal-making process. But timing is critical. Shooting too soon has little effect. Worse, it ruins the potential power of these tactics later.

Unplanned Anger. Showing anger without objective can adversely affect the deal and your reputation. Rage without reason does more harm than good.

Personal Insults. Don't intimidate; refuse to humiliate. No deal is that important. Also, it never works, not in the long run. It builds resentment: What goes around, comes around.

People Antagonisms. With big stakes involved (ego above all), it's easy to project your frustrations onto the other side, to blame them for your faults. Control your personal feelings and get the job done.

Cozy Relations. Getting too friendly with the other side can lead to conflicts of interest. These may not be immoral or illegal, but it still could be a detriment to doing good deals. Avoid even the appearance of potential conflict or compromise.

Talking Too Much. A big mouth can lead to big trouble.

Fear of the Unknown. Never worry your way into deals. Concern about specifics can be helpful. But general agitation is detrimental. Good preparation is the best antidote against fear.

Showing Anxiety. Showing nervousness among dealmakers is like spilling blood among sharks.

Feeling Inferior. This problem is more in the head than on the table. You may have less knowledge than the other side, or wield less power, but at the bargaining table all are equal. Everyone has the same ultimate weapon. The word is "no."

Early Weakness. It is almost never good to show weakness in deal making. But it's disastrous at the outset. The emotional imprint for the entire negotiating process is formed up front.

Being Nibbled. Giving up little by little can quickly turn into giving up more than you ever intended to concede. State that all ideas and proposals will be considered, but simultaneously, not sequentially.

Excessive Logic. When your head rules your heart, you can focus too much on facts and too little on feelings. Too much numerical emphasis, too much quantitative decision making, can inhibit or destroy the insight and intuition needed to do deals. Never forget, deal making is a people-intensive process.

Excessive Emotion. When your heart rules your head, you may ignore facts and make emotional deals. Getting too attached to deals may lead to volatile decisions. Never forget, deal making involves value and consideration measured in dollars and sense.

Too Little Principle. A good reputation takes many years to build and a few minutes to destroy. Think about that in every deal you do.

Too Much Principle. Having too much principle is a lot better than having too little. Still, some people set standards that are spuriously high only because they seek to sustain their own lofty self-image. Ego, not morals, is the real stumbling block. Ego, remember, is the great killer of good deals.

ETHICAL ISSUES CASE***HIRING**

It's 5:30, and there's a knock on your office door. Quickly you rehearse your pitch one last time, even as you're calling for Lowrey to come in. The lanky, sandy-haired programmer enters and sits down, grinning.

"Did you hear?" "Seems the boss wants me to put on a tie and begin acting like an executive."

You congratulate him, but the doubt once more flickers across your mind. The startup you're planning needs Lowrey. He's the quickest technical guy you've met. He has an incredible knack for making clients feel at ease. And more than once he's told you he'd like to be involved in a new venture some day.

If it weren't for Firman, you'd offer him a job right now.

Face it, you think, Firman put you where you are today. He not only hired you and trained you, he gave you more responsibility than you were ready for, confident that you'd grow into it. And you have--so quickly that you're now chafing under his sometimes-arrogant authority. When you leave, Firman may feel betrayed. But you steel yourself against the remorse. That's business. Firman is a big boy.

But what about Lowrey? Just last week Firman told you his hopes for the young man. He talked to broadening Lowrey's responsibilities, of eventually bringing him into management. Just the guy I need, he said, to help me take this company past \$2 million.

You look again at Lowrey, sitting in your office, smiling to himself. You know he's essential to Firman's plans. But you also know where his long-term hopes lie, and that he'll take a job with your startup if you offer him one. You even think that Firman, if he weren't personally involved, would encourage you. "A man has to look out for himself," he likes to say.

*Source: *The INC. Business Ethics Survey*. June, 1989.

WHAT WOULD YOU DO? (Circle one.)

1. Offer Lowrey a job. He's the one who will be making the choice, after all. Firman can take care of himself.
2. Quit thinking about the startup entirely until you can afford to quit your job. You shouldn't be doing it while you're on Firman's payroll.
3. Keep on planning the startup; that's the way companies get off the ground. But don't mention it to Lowrey until you've left.

If you were working for a large corporation instead of for Firman, would your answer be different? If so what would it be?

Have you even been involved in a comparable situation? If so, what did you do?

SELLING

Lisa Meggett digs into her swordfish, leaving her question hanging. You bite off some bread, trying to chew slowly and think fast.

Meggett is managing partner of a consulting firm, one of Firman's customers, and you've been handling the account. Today you've asked her to lunch, ostensibly to discuss her longer-term data processing needs. In fact, you want a chance to talk up her new company. You figure you can offer her the same services she's getting from firman, only for 30 percent less. And now she has left an opening you could drive a minicomputer through.

"I'm afraid I have bad news," she had said. "I hope you won't take it personally, because I've always enjoyed working with you. But computers are so cheap now we're planning on bringing our data-processing in house. We should save 20 percent over what we're paying you. Unless you folks can match that, I'm going to have to close our account."

Give me a break, you think--not only can I beat it, I can show her exactly where her figures are wrong. She hasn't counted the cost of hiring, training, and keeping busy the new people she'll have to bring in. She hasn't counted overhead. The sales pitch is a no-brainer, and Meggett's firm could be a big customer for your young company. But that's not what's troubling you.

You were just leaving for lunch today when Firman came in. He was edgy. "Listen," he told you, "don't take any bull from these people. I play golf with one of the partners over there, and he's been going on about buying this new computer. I bet you hear all about their big in-house plans and how much money they'll save.

"My attitude is, let 'em go. They'll find out it's not so easy, and they'll come crawling back to us. This isn't tiddlywinks we're playing here, and I don't like being jerked around by a customer. If that's their plan, just say so long and wish them well."

Now, back at the restaurant, you swallow the bread. Meggett looks up, awaiting your response. You can take Firman's approach, even though (you can't help thinking) it amounts to screwing the customer. Or you can make your own pitch now, offering Meggett the best deal she'll get and maybe landing your first account.

WHAT WOULD YOU DO? (Circle one.)

1. Follow Firman's instructions. You're on his payroll, and your obligation is to him, not Meggett.
2. Make your pitch. If you can serve the customer better, that's what business is all about.
3. Just have an open-ended discussion. Don't make a pitch until you've left your current job, even though it may be too late.

Again, if you were working for a large corporation, would your answer be different? If so, what would it be?

Have you ever been involved in a comparable situation? If so, what did you do?

RAISING CAPITAL

Reluctantly, you agreed to sit down this afternoon with Bill Mann and go over your business plan yet again.

Granted, any aspiring entrepreneur should welcome a meeting with the 68-year-old Mann. He is friend, confidant, and chief financial adviser to the head of Data Technologies Corp., an investor who's known for popping \$75,000 or \$100,000 into promising young companies. Your

new company, you know, won't interest regular venture-capital firms. You can't approach a bank for anything more than a loan on equipment, and you don't have money of your own. Thank goodness Mann has been encouraging!

For all that, one more pass through the well-worked spreadsheet is not your idea of a good time. And Mann-ebullient but firm--is leaving no doubt as to what his friend will be looking for.

"Return on investment! Return on investment! You've got good numbers here, boy, but not good enough! Now, just look here..." Man pulls out a pencil and circles sales figures for years 2, 3, and 4. "You'll only grow 20 percent a year? Nonsense. You've got a good track record and a growing market; you'll grow 30 percent or 40 percent a year." The pencil moves down, making quick-and-dirty adjustments to cost lines. "There! That's what you want. Figure in 40 percent a year and suddenly your bottom line begins to look respectable. When you talk to this fella, he won't even quit eatin' his soup if all you're promising is 15 percent ROI. Give him 25, minimum."

Tonight, seated before the familiar matrix on the screen, you begin obediently making the changes. First to the top line. Then on down, scrutinizing the various costs. The computer obligingly recalculates until, yes, the bottom line projected out over five years begins to look as if it could attract money from the moon. That, you think, will make the guy sit up and take notice.

Only then do you become aware of the argument going on in the back of your mind. *Wait a minute. Those numbers aren't real. You can't ask for money on the basis of blue-sky projections.* And the response. *Don't be naive, Mann and his pal are no dummies; they can judge the reality of your numbers as well as you can.* You stare at the computer, wondering what to show for sales growth.

WHAT WOULD YOU DO? (Circle one.)

Would your answer be different, if your potential investors were a big venture-capital firm? If so, what would the answer be?

Have you even been involved in a comparable situation? If so, what did you do?

BORROWING

Driving *back* to the office--*your* office, you think proudly, with your five-month-old company finally moved in--you review the events of the last few hours.

What a meeting! The sales pitch you do so carefully prepared was scarcely necessary--it was as if the customer had long since decided to sign the contract. The amazing part was, they also wanted you to take on all their affiliated offices. Now, as you drive, the wheels are spinning in your mind. You'll need several new programmers and a couple of support people. You'll need new machines and more space.

The tricky part, you realize, will be handling Norton at the bank.

So far, Norton has been everything an entrepreneur could ask for in a banker. Conservative, sure--he's a *banker*, isn't he?--but nevertheless helpful. He arranged a modest line of credit secured by some of your hardware, and you are already into him for \$25,000 or so. What's keeping him happy, of course, is your hefty cash balance, and your prompt payment record. This move will change all that. You'll have to drain your cash balances, hurrying up your receivables and stretching your payables from now until Christmas if possible. You'll have to utilize Norton's line to the fullest.

Braking at a light, you realize your excitement now is tinged with frustration. If you're straight with Norton--if you tell him everything you're planning--he'll tell you you can't handling that much growth, that you're crazy to be taking on so much new work so soon. He'll tell you that your debt will be too high and your cash too low. He might even say he's going to have to cut back the line--exactly what you can't afford.

On the other hand, you think: *it's not his company. His loan is secured by the equipment. And there's no reason I have to tell him everything I'm doing. I won't even be audited for another seven months, and by then I should be making money.* You are, after all, in business to grow--and you've got one big opportunity here to do just that.

WHAT WOULD YOU DO? (Circle one.)

1. Come clean to Norton. Try to convince him you can handle the growth. If you can't, don't accept the extra work.
2. Tell Norton as little as possible. Take the new work, manage the cash, and devote your time to the new customer.

3. Tell Norton little, but admit to yourself he has a point. Take the new work, but begin looking hard for equity investment--even if it means spending less time overseeing the new job.

Would your answer be different if you had no personal relationship with your banker? If so, what would it be?

Have you even been involved in a comparable situation? If so, what did you do?

GROWING

That's him now, you think, as you look out your office window and see Dick Wilson getting out of his car. You know Wilson a little; you've even played golf with him a couple of times. So it was natural to call him. In any event, he represents the best office-furnishing company in town, and you suddenly have several new offices to outfit. He enters your office, sticking out a meaty hand.

"Thanks for coming out, Dick," you say. "Here--let's take a little stroll and you can see the space we're talking about."

Walking through the vacant rooms, you know you've got him where you want him. You did business with Wilson's company at the beginning, paying them promptly with your startup capital. When they check the bank, they'll learn you have plenty of cash left and a good credit record. No reason for them not to cooperate on this one--ship the furniture and equipment out, bill you 30 days, not even pick up the phone until 45 or 60 days.

Granted, they don't know what you're planning. They don't know that the rooms Wilson's measuring will soon be occupied by several expensive programmers and several expensive machines. Or that the cash drain on your company will be severe. In the end, you calculate, it'll be roughly six months before Wilson's company gets all its money. You'll send them just enough to show your good faith--and to keep the moving trucks away from the door.

Now, talking with Wilson back in your office, you consider telling him the whole situation. Would it scotch the deal? Maybe, and then you'd be left with a bunch of unfurnished offices and the word out that you were short of cash. On the other hand, who's hurt if you say nothing? Wilson's company will get its money eventually, no doubt with interest, and you'll be ready for the new business you're taking on. Even in the worst situation, all they need to do is come get their furniture.

WHAT WOULD YOU DO? (Circle one.)

1. Tell Wilson your plans. If he backs out, look for another office-furnishing company.
2. Tell Wilson nothing. Credit checks are his company's responsibility, not yours, and stretched-out payments are an ordinary hazard of business.
3. Don't contract for more furnishings until you can afford them, even if that means postponing your planned expansion.

Would your answer be different if you didn't know Wilson or his company? If so, what would it be?

Have you even been in a comparable situation? If so, what did you do?

PRISONERS' DILEMMA: AN INTERGROUP COMPETITION EXERCISE*

Goals

1. To explore trust between group members and effects of betrayal of trust.
2. To demonstrate effects of interpersonal competition.
3. To dramatize the merit of a collaborative posture in intragroup and intergroup relations.

Group Size

Two teams of no more than eight members each.

Time Required

Approximately one hour. (Smaller teams take less time.)

Materials

1. Copies of the Prisoners' Dilemma Tally Sheet for all participants.
2. Pencils.

Physical Setting

Enough space for the two teams to meet separately without overhearing or disrupting each other. For step seven, two chairs for team representatives should be placed facing each other in the center of the room.

Process

1. The facilitator explains that the group is going to experience a "risk-taking" situation similar to that experienced by guilty prisoners being interrogated by the police. Before interrogating prisoners suspected of working together, the questioner separates them and tells each one that the other has confessed and that, if they both confess, they will get off easier. The prisoners' dilemma or risks is that they may confess when they should not or they may fail to confess when they really should. (The facilitator carefully avoids discussing goals.)

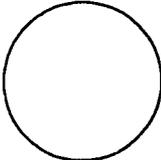
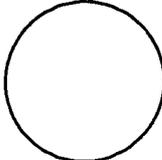
* Source: Reprinted from William, Pfeiffer J. and Jones, John E. (Eds.), "A Handbook of Structured Experiences for Human Relations Training," Vol. III, San Diego, CA: Pfeiffer & Company, 1974. Used with permission.

Notes for Instructors
for HO 5-1A (continued)

2. Two teams are formed and named Red and Blue. The teams are seated apart from each other. They are instructed not to communicate with the other team in any way, verbally or nonverbally, except when told to do so by the facilitator.
3. Prisoners' Dilemma Tally Sheets are distributed to all participants. They are given time to study the directions. The facilitator then asks if there are any questions concerning the scoring.
4. Round 1 is begun. The facilitator tells the teams that they will have three minutes to make a team decision. He instructs them not to write their decisions until he signals them that time is up, so that they will not make hasty decisions.
5. The choices of the two teams are announced for Round 1. The scoring for that round is agreed upon and is entered on the scorecard.
6. Rounds 2 and 3 are conducted in the same way as Round 1.
7. Round 4 is announced as a special round, for which the payoff points are doubled. Each team is instructed to send one representative to the chairs in the center of the room. After representatives have conferred for three minutes, they return to their teams. Teams then have three minutes, as before, in which to make their decisions. When recording their scores, they should be reminded that points indicated by the payoff schedule are doubled for this round only.
8. Rounds 5 through 8 are conducted in the same manner as the first three rounds.
9. Round 9 is announced as a special round, in which the payoff points are "squared" (multiplied by themselves: e.g., a score of 4 would be $4^2=16$.) A minus sign should be retained: e.g. $(-3)^2=-9$. Team representatives meet for three minutes; then, the teams meet for *five* minutes. At the facilitator's signal, the teams write their choices; then, the two choices are announced.
10. Round 10 is handled exactly as Round 9. Payoff points are squared.
11. The entire group meets to process the experience. The point total for each team is announced, and the sum of the two teams totals is calculated and compared to the maximum positive or negative outcomes (+126 or -126 points). The facilitator may wish to lead a discussion about win-lose situations, zero-sum games, the relative merits of collaboration and competition, and the effects of high and low trust on interpersonal relations.

Variations

1. The competition can be carried out using money instead of points.
2. Process observers can be assigned to each team.
3. Teams can be placed in separate rooms to minimize rule-breaking.
4. The number of persons in each team can be varied.
5. In Round 10, each team can be directed to predict the choice of the other. These predictions can be posted before announcing the actual choices, as in the following diagram. (Actual choices are recorded in the circles after the predictions are announced.)

Predicting Team	Predicted Choice	
	Red Team	Blue Team
Red		
Blue		

PRISONERS' DILEMMA TALLY SHEET*

Exercise 1-A

Instructions: For the ten successive rounds, the Red team will choose either an A or a B and the Blue team will choose either an X or a Y. The score each team receives in a round is determined by the pattern made by the choices of both teams, according to the schedule below.

Payoff Schedule

AX - Both teams win 3 points.
AY - Red team loses 6 points; Blue team wins 6 points.
BX - Red team wins 6 points; Blue team loses 6 points.
BY - Both teams lose 3 points.

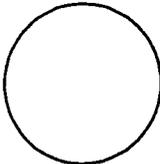
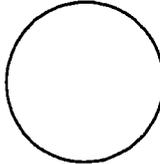
Scorecard

Round	Minutes	Choice		Cumulative Points	
		Red Team	Blue Team	Red Team	Blue Team
1	3				
2	3				
3	3				
4 ¹	3 (reps.) 3 (teams)				
5	3				
6	3				
7	3				
8	3				
9 ²	3 (reps.) 5 (teams)				
10 ²	3 (reps.) 5 (teams)				

¹ Payoff points are doubled for this round.

² Payoff points are squared for this round. (Retain the minus sign.)

Notes for Instructors
for HO 5-1A (continued)

Predicting Team	Predicted Choice	
	Red Team	Blue Team
Red		
Blue		

* Reprinted from Pfeiffer, J. Williams and Jones, John E. (EDs.). A Handbook of Structured Experiences for Human Relations Training, Vol. III, San Diego, California: Pfeiffer & Company, 1974. Used with permission.

THE USED CAR*
Exercise 3

Objective

Although the information in this exercise provides the opportunity for a relatively rich and complex dialogue, the focus is on a single issue: the price. As a result, the negotiation is likely to be competitive and distributive as the parties attempt to negotiate a favorable sale price. Specific objectives include:

- a. Strategy planning and preparation for a distributive negotiation;
- b. Setting of aspiration points, target prices and resistance points ("bottom lines") for negotiation, and understanding the impact of those defined points on a negotiating strategy;
- c. Actual execution of a distributive bargaining strategy;
- d. Exploring individual motivations and bargaining styles: specifically, the desire and willingness to "hard bargain" as opposed to maintain a cordial long-term relationship in a distributive bargaining situation.

Group size

This negotiation is usually conducted one-on-one, but can be conducted in pairs (e.g. husband-wife teams).

Time required

45-60 minutes if the teams prepare in advance, 75 minutes if the teams prepare in class.

Special materials

All materials are available in the participant's book. Role players should be encouraged to write their agreement down on a "contract" provided in the text. Flip charts or blackboards should be available for comparing contracts during the discussion period.

Physical requirements

Ideally, separate negotiating areas for each role playing group, and smaller areas where they may meet to caucus and plan strategy. A common room for setting up the role play and for discussion.

Advance preparation

Generally, none. Students may want to borrow money to purchase the car. Be prepared to tell them a current market percentage.

Operating procedure

Follow the procedure in the student manual. There are three alternative procedures that can be followed for this exercise, and comparable negotiation simulations:

1. Completely conducted in class: Assignment of roles, preparing strategy, actual negotiations, and discussion all occur within class time. This option takes the longest, but allows the instructor the most control over all phases of the role play. This procedure is suggested:
 - a. for students at all points in the process, or
 - b. when time limits must be tightly exercised, or
 - c. when there is no opportunity for advanced briefing.
2. Materials distributed earlier, prepared outside of class, with negotiation and discussion in class. This option takes a moderate amount of time. The instructor should be available for questions as the students prepare their materials. Generally, it is also useful to have a five-minute question period at the beginning of class, to clarify facts or interpretations before negotiations begins. A fixed time limit should be assigned for the negotiation, and the remainder of class should be used for comparison of settlements, evaluation of stalemates, and discussion of strategy.
3. Materials distributed at a previous session, prepared and *negotiated* outside of class, with discussion *only* in class. This option takes the least amount of class time; it also creates excitement among students, particularly if there are *no* time limits to their deliberations. Students must be able to meet in groups or contact one another between classes for actual negotiation. Settlements can be brought to class, or submitted earlier to the instructor for evaluation prior to class time. (e.g., if class meets at 2:00 pm, have all settlements due to the instructor by noon, allowing time to evaluate all post settlements and conduct class discussion most efficiently). This option should not be used when a) the students cannot easily get together between classes, b) the students may not be sophisticated enough to negotiate without coaching or instructor advice, or c) the instructor wants to maintain a time limit on negotiations. Students may be less likely to follow time limits on their own.

Concluding the exercise

Once participants have arrived at a settlement (or agreed not to settle), signed "contracts" should be submitted to the instructor or discussed in the general session. Instructors conduct these discussions in a number of different ways, but the following major points should be covered:

1. A review of the simulation, stressing the key facts in the general information, and the key facts in the individual briefing sheets. This second part is necessary for participants to understand what the given "facts" were, and whether one or both sides fabricated new information during negotiation.
2. A review of the strategies planned by each side. Parties should be encouraged to disclose how they arrived at their target prices, resistance points, and other aspects of their strategy (e.g., who was going to negotiate, tactics to be used, etc.).
3. A comparison of actual settlements for each of the pairs. If possible, actual settlements should be compared to each side's individual aspiration points, target points and resistance points. (See the following sample chart, which may be duplicated on the blackboard, an overhead transparency or flipchart paper, and filled in as each group presents its settlement). If you have the settlements in advance, this chart may be prepared and revealed at this time.

* Source: Lewicki, Roy J., Litterer, Joseph A. Negotiation: Readings, Exercises and Cases. Cases: "The Used Car" pp. 416-418. Irwin, Homewood, Illinois, 1985. Printed and translated with permission.

**Notes for Instructors
for HO 5-3 (continued)**

Group	Buyer				Seller		
	Additional Issues Won/Lost in the Negotiation	Bottom Line	Target Price	Actual Settlement	Target Price	Bottom Line	Additional Issues Won/Lost in the Negotiation
1							
2							
3							
4							

4. A discussion of the way that each group arrived at its settlement, and strategic factors in the group's negotiation.
5. Discussion of the nature of distributive negotiations, the conflict and strategies that are produced by problems of this type, and how the groups responded to this situation.

SALARY SIMULATION EXERCISE*

Objectives

This is a relatively simple, unstructured simulation. It can be used early in a course, when people are becoming comfortable with the negotiation process and with the experience of taking part in role plays and simulations. Its relative lack of structure allows the dialogue to proceed in many different ways, giving students the opportunity to learn about their own flexibility, imagination, values and personal negotiating style.

Group size

Any size group can be handled, provided there is enough room for triads to work comfortably.

Time required

60 - 120 minutes

Special materials

None

Advance preparation

None

Operating procedure

The general sequence of activities for the exercise is contained in the text. There are three sets of employer-employee roles in the text appendix. Begin with Salary Simulation I, and proceed to two and three. Assign roles to participants and give them the page numbers in the text appendix where their individual roles can be found.

It is suggested that the instructor collect the Observation Report sheets from the observers at the end of each role play and post the results in a form similar to that below. If time is short, only one or two role plays can be done.

*Source: Lewicki, Roy J. and Litterer, Joseph A. "Negotiation: Readings, Exercises and Cases". Instructors Manual. Copyright © Irwin Homewood, 1987. Used with permission.

OBSERVATION REPORT

Round 1

Team	Agreement reached?	Settlement	Satisfied?	Future Relations?
			(Yes/No) A B	(Good/Bad) A B
1				
2				
3				
etc.				
Round 2				
1				
2				
3				
etc.				
Round 3				
1				
2				
3				
etc.				

Discussion after the role plays can focus on the discussion questions suggested in the Participant Manual, and then on the data.

Two general themes are fruitful for class discussion. One is to probe the objectives sought and the reasons why outcomes were seen as satisfactory. It is important for participants to learn that why may make a satisfactory outcome for them is not what will make an outcome satisfactory for someone else.

A second point to explore is why some groups do not reach agreement or arrive at outcomes satisfactory for both parties. The instructions to both parties give matching bargaining ranges and a strong preference for a positive settlement.

A third feature to observe is whether or not there is any trend in the number of agreements and satisfactory settlements as the class proceeds from round 1 to round 2 and to round 3. It is reasonable to expect some "learning curve" to occur.

To handle the exercise in a shorter time, or with different size groups, it is suggested that groups of four be developed, with two role players and two observers. In the second round, the role players can become observers and the observers become role players. This permits everyone to take part in a single role play and reduces the time by one third.

Concluding the exercise

Participants can have many personal reflections on this simulation and it is useful to capture them. One way is to have participants compare their experience in the role play with actual experience they have had in real salary discussions. Many will also have experience in interviewing for a new job, where salary is usually less negotiable.

Another way is to ask each person to identify one thing learned from their own role play, from observing others or through the discussion that followed, that they think they might use the next time they have to discuss salaries.

References

Tarrant, J. (1976). *How to Negotiate a Raise*. New York: Van Nostrand Reinhold.

UNIT 6

**ORGANIZATION AND STRUCTURE;
BUSINESS GROWTH AND STRUCTURE**

UNIT 6

Title: **ORGANIZATION AND STRUCTURE; BUSINESS GROWTH AND STRUCTURE**

Purpose: This unit is designed to help participants gain an appreciation of the importance of recognizing stages of business growth, and how the structure of a business organization necessarily changes as it grows.

Objectives: Upon completion of this unit, the participant will:

- understand the growth stages of business organizations
- understand the relationship between growth and structure
- understand the relationship between company size and structure
- understand the relationship between strategy and structure
- understand the importance of getting the right organizational fit for a company

Materials:

- Transparency 6-1: Learning Points
- Transparency 6-2: Tips for Managers
- Transparency 6-3: Four Stages of a Growth Cycle
- Transparency 6-4: Growth Stages
- Transparency 6-5: Growth and Structure
- Transparency 6-6: Organizational Structure
- Transparency 6-7: Size and Structure
- Transparency 6-8: Strategy and Structure
- Transparency 6-9: Organizational Fit
- Handout 6-1: Organization and Structure
- Handout 6-2: Stages for Growth Cycle
- Handout 6-3: Organizational Design: The Issues and Principles
- Handout 6-4: The Apple-Orange Company Exercise
- Handout 6-5: What is a Growth Company? - Case 1
- Handout 6-6: Banco Mercantile and its Structure - Case 2
- Handout 6-7: What Does "Staff" Mean? - Case 3
- Handout 6-8: Profit Center: Independent Business or Service Activity? - Case 4
- Handout 6-9: The Family Hotel - Case 5

Product: Exercise and case notes on the relationships between organization, growth, strategy, and structure.

Assignment: Prepare cases for the next unit.

Notes to Instructor: Teaching notes to the exercise and cases are provided at the end of this unit.

Estimated Time:	Lecture and discussion	20 minutes
	Exercise and discussion	15 minutes
	Cases and discussion	3 hours

UNIT 6
ORGANIZATION AND STRUCTURE;
BUSINESS GROWTH AND STRUCTURE
TEACHING OUTLINE

CONTENT	PROCESS
<p>A. Organization and Structure</p> <p style="padding-left: 40px;">1. Introduction</p> <p style="padding-left: 40px;">2. Basic Concepts</p>	<p>Discuss the growth process for small business organizations. As small organizations grow they may add people, levels, new geographic locations, new processes, etc.</p> <p>Ask students to discuss their experiences with growing organizations. What happens as informal, small organizations become formal, larger organizations?</p> <p>Discuss the definitions, concepts, and problems presented on TP 6-1: Learning Points for Organization and Structure.</p> <p>Discuss the concepts implied in TP 6-2: Tips for Managers. Review the experiences of the students regarding these tips.</p> <p>Carefully review the definitions provided in HO 6-1: Organization and Structure. Do the students agree or disagree with these definitions?</p>
<p>B. Growth Stages of Small Firms</p> <p style="padding-left: 40px;">1. Growth Cycles</p>	<p>Small business owners must recognize that small businesses change in many ways as they grow. Ask the students to discuss their experiences with the events which they have experienced as small businesses with which they were associated grew in size or scope.</p> <p>Discuss TP 6-3: Factors to Consider in Cycles for Growth Cycle. Reconcile this transparency with the students' experiences.</p>

CONTENT	PROCESS
<p>2. Changes in Management Process</p> <p>3. Changes in Structure of the Organization</p>	<p>Carefully work through the information in HO 6-2: Four Stages of a Growth Cycle. Compare the students' experiences with this chart.</p> <p>Discuss the evolution/revolution cycle pictured in TP 6-4: Growth Stages. Carefully discuss how the management process of small businesses changes as the size of the company increases. Discuss where their businesses stand now and what they see for the future.</p> <p>Show and discuss TP 6-5: Growth and Structure.</p> <p>Ask for examples of these types of growth from their knowledge of businesses in Poland, or their own business experience.</p> <p>Show TP 6-6: Organizational Structure. Be sure the participants understand the meanings of each of these terms and how they relate to organizational issues.</p> <p>Discuss TP 6-7: Size and Structure. Show how each of these items changes as the business grows.</p> <p>Select Appropriate information to highlight for your group from HO 6-3: Organizational Design. Ask them to read it for their own application to their business after this class.</p> <p>Discuss TP 6-8: Strategy and Structure.</p> <p>Discuss TP 6-9: Organizational Fit.</p>

CONTENT	PROCESS
<p>4. Cases for Application</p> <p>a. What is a Growth Company?</p>	<p>Point out that as the business becomes more diversified, all of these pieces must fit each other. Ask what problems participants see with this challenge of "fit."</p> <p>Use HO 6-4: The Apple-Orange Company to demonstrate the concepts of organizational structure. Allow 10-15 minutes for participants to read the handout and answer the questions.</p> <p>Discuss the Diagnostic Questions at the end of the handout, and answer participant questions.</p> <p>See the Notes for Instructor on The Apple-Orange Company for answers and special items to feature. The notes are at the end of Unit 6.</p> <p>Cases in this section apply the concepts introduced in this section. Carefully work through these cases, as appropriate, to apply the concepts of this unit.</p> <p>Distribute HO 6-5: What is a Growth Company? and allow time for reading. Discuss the problem created by purchasing the bakery. Who was right and wrong, and why?</p> <p>Notes on this case are at the end of Unit 6.</p> <p>Distribute HO 6-6: Banco Mercantil Organization Structure and allow time for reading. Discuss the case using questions for discussion at the end of HO 6-6:</p> <p>See Notes for Instructor at the end of Unit 6 for comments on the case.</p>

CONTENT	PROCESS
<p>b. What is a Service Staff?</p>	<p>Distribute HO 6-7: What Does Staff Mean, and allow time for reading. This is a continuation of the Banco Mercantil case that addresses the traditional staff concept versus operating work. All staff will not be part of a career ladder for future promotion.</p> <p>See Notes for Instructor at the end of Unit 6 for comments on this case.</p> <p>Distribute HO 6-8: Profit Center: Independent Business of Service Activity, and allow time for reading the case.</p> <p>This is a continuation of the Banco Mercantil Case that addresses the organizational structure of a data-based business.</p> <p>See Notes for Instructor at the end of Unit 6 for comments on the development of a subsidiary company.</p>
<p>c. Summary Analysis of Structure Issues</p>	<p>Distribute HO 6-9: The Family Hotel, and allow time for reading the case.</p> <p>This case involves complex personal interaction that result from a structural problem. After reading the case, participants will play the roles of each of the managers as they seek to create a new organizational design.</p> <p>See Notes for Instructor at the end of Unit 6.</p>
<p>5. Assignment</p>	<p>You may ask the participants to read cases provided in Unit 7 prior to the next class.</p>

ORGANIZATION AND STRUCTURE

- 1. ORGANIZATION STRUCTURE REFERS TO THE PATTERN OF ROLES, AUTHORITY, AND COMMUNICATION**
- 2. ORGANIZED AROUND THE FUNCTIONAL SPECIALTIES REQUIRED TO ACCOMPLISH THE ORGANIZATION'S MISSION.**
- 3. THE PRODUCT OR SERVICE FORM IS ORGANIZED AROUND THE PRODUCTS OR SERVICES OFFERED BY THE ORGANIZATION.**
- 4. THE MATRIX FORM IS ORGANIZED AROUND BOTH FUNCTIONS AND PRODUCTS.**
- 5. "FORM FOLLOWS FUNCTION."**
- 6. THE BASIC PROBLEM IS THAT OF DIFFERENTIATION-INTEGRATION.**
- 7. FORMAL INTEGRATION MECHANISMS ARE: FORMAL RULES, FORMAL HIERARCHY, AND FORMAL TARGETS OR GOALS.**
- 8. INFORMATION INTEGRATION MECHANISMS ARE: INFORMAL NORMS, INFORMAL HIERARCHY, AND INFORMAL INDIVIDUAL NEEDS AND GOALS.**
- 9. ORGANIZATION DESIGN IS REINFORCED OR WEAKENED BY THE REWARD SYSTEM.**
- 10. INFORMAL ASPECTS REFER TO SOCIAL BEHAVIOR AND RELATIONSHIPS.**
- 11. CLOSED, ONE-WAY COMMUNICATION NETWORKS ARE QUICKER BUT LESS ACCURATE AND MORE DISSATISFYING.**
- 12. OPEN, TWO-WAY COMMUNICATION NETWORKS, WHILE SLOWER, HAVE THE ADVANTAGE OF GREATER ACCURACY, HIGHER MORALE AND SATISFACTION, AND INCREASED ADAPTABILITY TO CHANGES.**
- 13. ORGANIZATION DESIGN SHOULD BE DETERMINED BY STRATEGY, ENVIRONMENT, TECHNOLOGY, AND PEOPLE.**

ORGANIZATION AND STRUCTURE

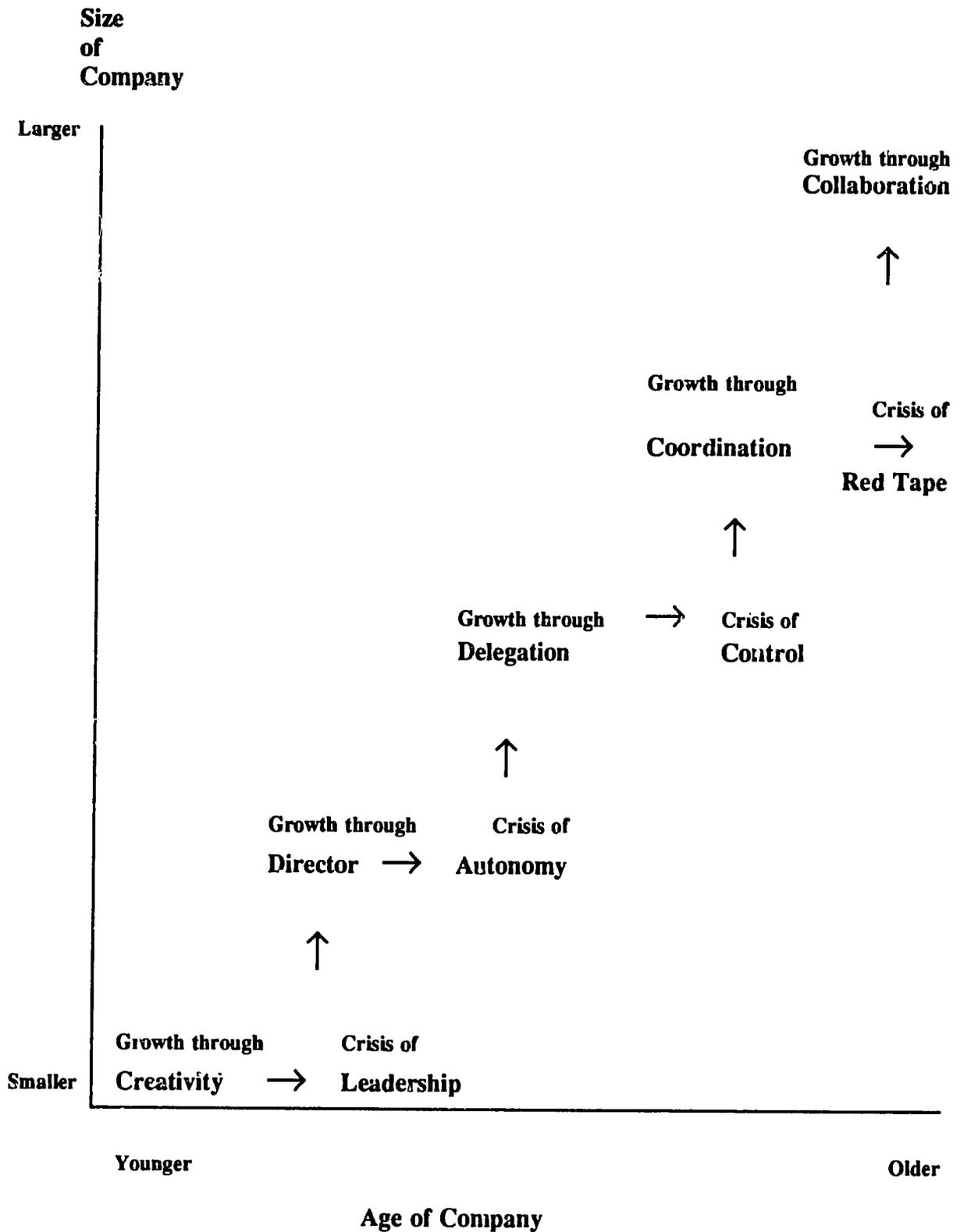
Tips for Managers

- **"WHAT IS THE PROBLEM, NOT WHO?"**
- **SOME JOBS AND EVEN DEPARTMENTS ARE SIMPLY DOOMED TO FAILURE BY POOR DESIGNS.**
- **"WHEN IN DOUBT, REORGANIZE."**
- **MAKE SURE THE INFORMAL STRUCTURE IS WELL UNDERSTOOD BEFORE ANY CHANGES ARE MADE.**
- **BRAINSTORM POSSIBLE CONSEQUENCES OF CHANGE.**
- **A CHANGE IN ORGANIZATIONAL DESIGN WILL OFTEN RESULT IN RESISTANCE.**

FACTORS TO CONSIDER IN STAGES FOR GROWTH CYCLE

- **NUMBER OF EMPLOYEES**
- **SALES**
- **COMPANY STRUCTURE**
- **OWNERSHIP STRUCTURE**
- **MANAGEMENT**
- **PERSONNEL**
- **PLUSES**
- **MINUSES**

GROWTH STAGES



GROWTH AND STRUCTURE

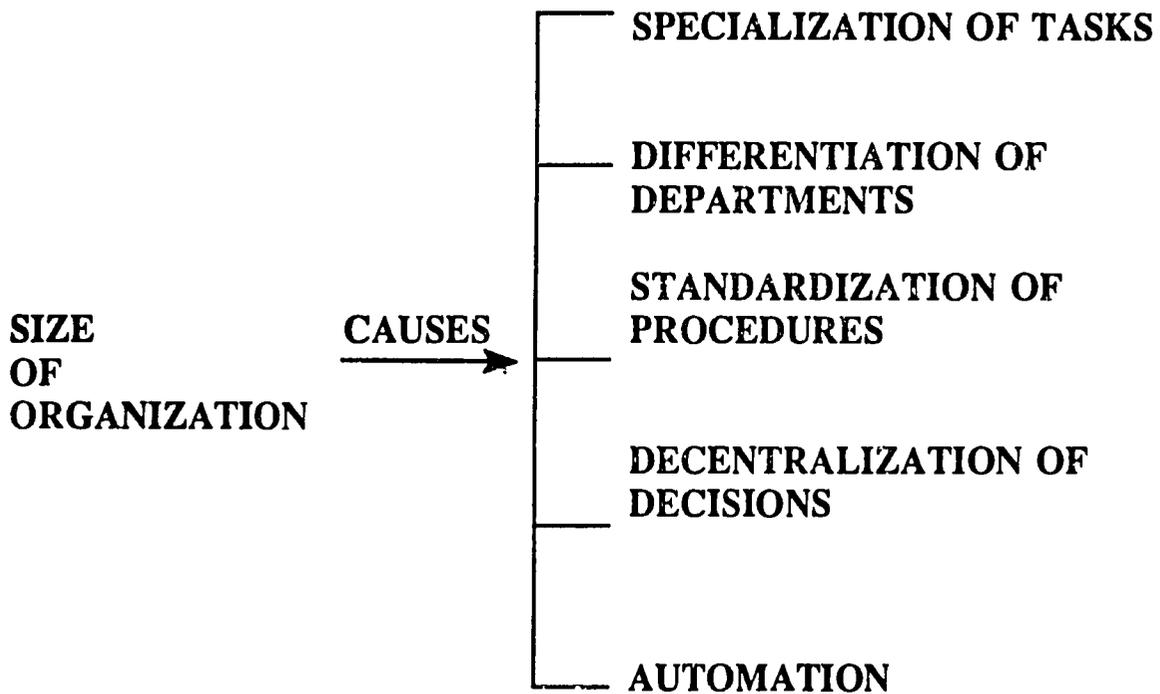
TYPES OF GROWTH

- **INCREASE SIZE OF EXISTING UNITS
(ADD MORE HORIZONTAL UNITS)**
- **INTRA-ORGANIZATIONAL REPLICATION
(ADD DEPARTMENTS)**
- **DIFFERENTIATION AND SPECIALIZATION
(SPLIT DEPARTMENTS)**
- **MERGER (ADD LEVELS)**

ORGANIZATIONAL STRUCTURE

- **SIZE**
- **TECHNOLOGY**
- **THE ENVIRONMENT**
- **COMPLEXITY**
 - **HORIZONTAL DIFFERENTIATION**
 - **VERTICAL DIFFERENTIATION**
 - **SPATIAL DISPERSION**
 - **PROBLEMS OF COORDINATION, CONTROL, AND COMMUNICATION**
- **FORMALIZATION**
 - **RULES AND PROCEDURES**
- **CENTRALIZATION**
 - **POWER DISTRIBUTION**

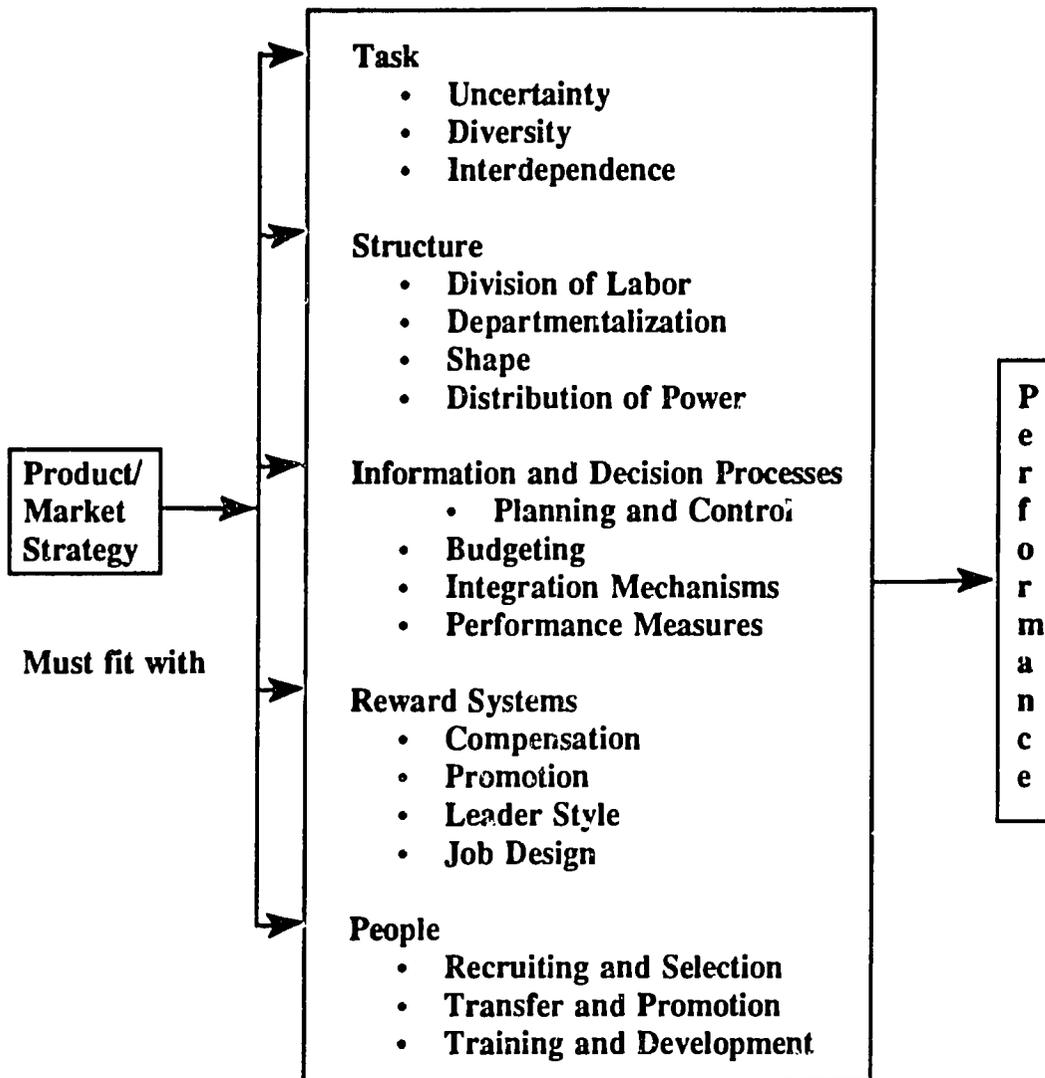
SIZE AND STRUCTURE



STRATEGY AND STRUCTURE

- CHANDLER:** - **STRUCTURE FOLLOWS STRATEGY**
- NARROW DOMAIN:** - **STRUCTURE LIMITED TO FEW ALTERNATIVES, ALL FOCUSED ON TOP LEVELS OF LARGE BUSINESS FIRMS**
- **TIME LAG**
 - **COMPETITION CAN CAUSE STRUCTURAL CHANGE**
 - **BASED ON CASE STUDIES**
 - **NOT MANY EMPIRICAL STUDIES**
 - **IS THE KEY WHICH STRUCTURE IS CHOSEN, OR NOW THAT STRUCTURE IS STAFFED AND OPERATED?**

ORGANIZATIONAL FIT



All of which must fit each other

ORGANIZATION AND STRUCTURE

1. **Organization structure** refers to the pattern of roles, authority, and communication that determine the coordination of the technology and people within an organizational
2. The functional form of organizational structure is organized around the functional specialties required to accomplish the organization's mission. It allows for greater development of functional expertise but may make organizational coordination more difficult.
3. The product or service form is organized around the products or services offered by the organization. Coordination problems are reduced in this structure, but it runs the risk of having duplicated resources and decreased opportunity for collegial interaction among people of the same function.
4. The matrix form is organized around both functions and products. It is an attempt to profit from the advantages of both functional and product structures. However, having both a product and a functional boss can cause confusion and conflict.
5. A guiding rule is "form follows function." Therefore, different parts of the organization may well be designed very differently.
6. The bias problem faced by any organization structure is that of differentiation-integration. Complex organizations have to divide the work (differentiation), but how then do they coordinate (integrate) the different parts to achieve the organization's goals?
7. Formal integration mechanisms are: formal rules, formal hierarchy, and formal targets or goals.
8. Information integration mechanisms are: Informal norms, informal hierarchy, and informal individual needs and goals.
9. Organization design is reinforced or weakened by the reward system. Whether or not individuals are rewarded for cooperating will help determine the success of integration efforts.

10. Both formal and informal aspects of organization design are important. The informal aspects refer to social behavior and relationships.
11. Closed, one-way communication networks are quicker but less accurate and more dissatisfying for members other than the boss.
12. Open, two-way communication networks, while slower, have the advantage of greater accuracy, higher morale and satisfaction, and increased adaptability to changes in task requirements. These networks are better for developing future managers because they provide shared opportunities for leadership.
13. Organization design should be determined by strategy, environment, technology, and people.

Four Stages of a Growth Cycle

	I	II	III	IV
Number of Employees	1 to 2	6 to 15	15 to 50	50 to 100
Sales (\$)	±\$192,000	\$300,000 to \$1,000,000	\$1,000,000 to \$2,500,000	\$2,500,000 to \$5,000,000
Company Structure	Usually a single proprietorship with support from family or outside services. Often carries "and associates" in title with associates being on call but paid on project basis	Single proprietorship or partnership operating as a DBA (doing business as) or a corporation, often a Subchapter "S." Often a professional organization	Partnership or corporation with some employees having limited ownership and profit-sharing. Family usually involved in running the business and in key management positions.	Usually a corporation (often public) having broader ownership that often extends outside the family. Some stock options available.
Ownership Structure	Family; organized and divided in a way to provide best tax benefits and cash flow.	Family with or without some investors; are close personally or in other business ventures.	Majority often owned by a few individuals. Initially tied to professional specialties (sales, finance, production). Organization has departmentalization.	Levels of management, to as many as 4. Professional management is hired and held accountable.
Management	Autocratic	Depends on owners' personalities. If one person has control, he or she can pretty much do what they want. Management may appear systematic people-related, but owner still calls the shots.	Less control by a single individual. When families are involved, squabbles begin to occur, particularly in second-plus generations. Professional management is required but not always hired.	Ownership and management are often separate. MBO becomes important, as does accountability and formalized departments. Policies and procedures become necessary.
Personnel	Family support, or use outside services from typing to legal	Contract for legal and accounting services; need secretarial assistance; Rep support for sales	Department heads are hired for key business functions such as finance and production.	Management of staff principles apply.
Pluses	Total flexibility to do what one wants to do and answers only to his or herself. Can get family involved. Has some tax advantages and, in some instances, can create own hours.	Size enables quick response to problems; in growth mode, new positions and responsibility appear.	Offers more changes for promotion; better security; more chance of financial success.	Move to professional management fosters opportunity and better return on investment; more opportunity for personal growth and business challenges.
Minuses	Individual is often alone—emotionally and physically. Has no one to bounce ideas off of, nor can family or associates appreciate the work load that must be handled. Often cash poor and credit hungry when business gets started. Problem of selling and doing the work, both.	Size can limit opportunity; morale is tied to personality of boss; limited access to technology and market. Firm is still sensitive to cash flow.	Communication problems increase; family-family and family-employee interface becomes critical with conflicts occurring. Employee morale problems surface.	Begins to develop some of the problems of larger businesses including that of overhead and increased costs of administration, morale, public relations, (internal and external). Conflicting management styles appear.

ORGANIZATION DESIGN: THE ISSUES AND PRINCIPLES

These three pure forms and the numerous variations possible can be viewed as choices available to those responsible for designing the fiber and structure of an organization. The issue then becomes, "How does one choose among the options available?" There are several crucial principles involved in this choice.

First, it is important to recognize that there is no "one best way to structure an organization." The overriding design principle is that *form follows function*. The contingency approach, therefore, dictates a focus on the appropriateness of the structure (the *form*) to the job or task at hand (the *function*). It is immediately clear, using just this principle, that the appropriate structure for an R&D department may well look very different from the appropriate structure for the production department. Both the entire organization and various subparts need to be designed with this principle in mind.

Second, and flowing directly from the foregoing, is the basic differentiation-integration dilemma of organization design. All complex organizations must somehow subdivide their total task (differentiation). Indeed, the driving force behind the need for an organization in the first place had to do with the job being more than one person could handle alone.

Once the differentiation decision is made, the organization's designers must then confront the second horn of the dilemma--integration. Differentiated elements must be coordinated. The pieces must be put back together and kept moving in a particular direction to achieve the organization's basic purpose. Herein lies the basic dilemma of organization structure and design. The more complex the overall task, the most complete is the required level of differentiation. The greater the required differentiation, the more complex and essential are the choices around integration.

Let us examine several of the most typical of these integrative mechanisms or choices.

Formal Integration Mechanisms.

1. *Formal rules.* All organizations have formal rules and procedures, operating manuals, or policy books. The purpose of these, from an organizational structure and design point of view, is to eliminate the need for ad hoc information processing and decision making. When a situation or problem comes up, the individual employee refers to the policy book and finds the right answer. Carried to an inappropriate extreme, use of formal rules and procedures as a way of copying with needed integration results in our stereotyped image of the ossified bureaucracy. Rules proliferate, policy manuals abound and are continuously updated, and "nothing happens unless it is written in the rules."

* Source: Kolb, David A., Rubin, Irwin M., Osland, Joyce M., Organizational Behavior: An Experimental Approach, Prentice Hall, Englewood Cliffs, 1991. pp. 489-494. Reproduced by permission of the publisher.

2. *Formal hierarchy.* A major reason, from an organization structure and design point of view, for the existence of the formal hierarchy is to deal with exceptions. Since it is not possible to develop rules for every task situation, people (bosses) are needed to process certain information and make certain decisions about exceptions to the rules. If the same exception occurs frequently enough, it may result in a new rule or about exceptions to the rules. If the same exception occurs frequently enough, it may result in a new rule or policy.

As task complexity increases, the hierarchy also tends to become overloaded. "I'm overloaded with day-to-day fires and have no time for longer-range issues such as employee development and planning," is a common lament of the "overexceptioned" manager. When this condition develops, the organization must look to a third integrative mechanism.

3. *Formal targets or goals.* Through the use of specific subunit goals, budget limits, completion dates, and so on, subunits are able to work on their differentiated tasks with less continuous information processing and decision making. The pieces come together--assuming that everyone meets his or her agreed-upon targets as expected. Some tasks, however, do not lend themselves easily to such mechanisms. It is harder for the R&D department, for example, to agree to "be creative" by X date than it is for the production department to agree to Y units by X date. This is *not* because the employees in these departments are dramatically different personalities, although this is a typical assumption. Rather, the nature of their tasks is different.

Organization design is buttressed by appropriate reward systems. No matter how well designed an organization appears on paper, if the desired behaviors that will reinforce or implement the design are not rewarded, the design will fail. There is a very close relationship between rewards and punishment and organization design issues. For example, in an organization that severely punishes mistakes and deviation from the rules, one can expect many exceptions to rules that will be bumped upstairs. The hierarchy is likely to become overloaded with exceptions, and as a result, rules and procedures grow like Topsy. In contrast, if mistakes are tolerated and managers are encouraged to exercise discretion in interpreting the rules, there is no need to create a rule for every conceivable situation. These examples show that the behaviors that are rewarded and punished, that is, the reward system, affect the integration mechanisms and the organizational design.

In many organizations you can hear "Always ask for twice what you need because they will cut your budget in half anyway" or "If we set a realistic goal and met it, they'd expect us to do it faster next time" or "I know it can't be done that fast, but if that's what they want to hear, that's what I'll tell them, and then I'll try to blame the other shift for the delay." Such comments are a sign that the use of formal targets as an integration mechanism is being subverted by the reward system. When people are penalized for setting accurate goals and targets, they resort to deception.

The Informal Organizational Structure

The points just discussed focus upon the formal organizational structures. An organization chart, as we have noted, specifies the nature of the formal organizational structure and the path

that should be taken for the transmission of information through the organization. The actual path taken often departs markedly from this formal structure. In fact, informal networks often develop because the formal network is not satisfying key individual needs. Brown discusses this distinction between formal versus informal organizations in terms of secondary and primary groups and points out,

There is, therefore, no abrupt point of distinction between primary and secondary groups. But the contrast remains a valid one; the secondary group tend to be organized for a formal purpose (in the case of a factory, for the production of goods), its structure is more or less rationally designed towards that end, and its members are not all intimately known to each other. The primary group may have a specific practical goal, and when in pursuit of that goal will organize itself logically to that end, but essentially it is based on social satisfaction and, quite apart from any practical goal, it seeks to maintain itself as a unity.¹

Brown's "primary" group reflects the informal organization and his "secondary" groups refers to the formal organization. Further on, in a discussion of "things people should observe if they are trying to understand the behavior of people in organizations," Brown suggests that,

It is useful, therefore, to distinguish between those actions which are fundamentally technical, those which are sociotechnical² and those which are purely social...Clearly technical and sociotechnical behavior is an aspect of formal organizations, whereas social behavior belongs to the informal structure of the factory.³

The importance of understanding the distinctions between formal versus informal organizations and the problems that can arise if the two are not understood is at no time clearer than when one attempts to introduce a technical change into an organization and encounters great resistance. Such was the case in Trist's study of an attempt to change the process by which coal was mined.⁴ The anticipated production increases from the new method were not being realized, and upon investigation it was observed that the new technology substantially altered the social

¹J.A.C. Brown, *The Social Psychology of Industry: Human Relations in the Factory* (Baltimore, MD: Penguin Books, 1954), pp. 128-129.

²"Sociotechnical" refers to social groupings that are determined by the technology used for the task. Offshore-platform oil well personnel, for instance, have a different social system than on shore oil well people, as the technology requires them to be together for long periods of time, sharing in eating, sleeping, and recreation.

³Brown, *The Social Psychology of Industry*, p. 131.

⁴E. Trist as reported in Warren G. Bennis et al., *The Planning of Change*, 2nd ed. (New York: Holt, Rinehart and Winston, 1969), pp. 269-281.

system that had developed within this mine. The men were used to working in close-knit teams characterized by loyalty and mutual help. The new technology involved factory-like, individualized work stations that disrupted the group behavior that made their jobs satisfying. The point here is that, whereas a formal organization chart can be redrawn to account for the effects of a technological change, the informal social system, which does not appear on an organization chart, is also influenced by the technological change. Both must be taken into account.

Informal Integrative Mechanisms

We have already discussed several integrative mechanisms that are a part of the formal organizational structure. At this point, we need to explore the integrative mechanisms that are a part of the informal organizational structure.

1. *Informal rules--norms.* The informal counterpart to the formal use of rules in an organization is the concept of norms. A norm is an unwritten, informal "rule" that governs individual behavior in an organization. All social systems develop norms; they are an inherent consequence of social interaction. Consequently, the existence of norms is neither inherently good nor bad. The diagnostic question is whether or not the norms; they are an inherent consequence of social interaction. Consequently, the existence of norms is neither inherently good nor bad. The diagnostic question is whether or not the norms that arise function to support or reinforce or to inhibit the organization's primary formal function. Let us examine how norms influence the organization's primary formal mission or function. Imagine an A&D group whose primary function is the generation of new, creative ideas. This group has a formal leader, a boss.

One might observe in such a group that ideas are freely exchanged and critically examined, with one exception. The boss's ideas tend to go unchallenged. When the boss states an opinion, the group behaves as if it were a decision, a fact. Now, if the boss possesses a unique technical expertise, one could argue that this is a functional norm. However, it is possible that, for a variety of reasons, people have come to believe that some form of punishment will befall anyone who does not agree with the boss--the "yesman" syndrome. This norm would be potentially dysfunctional to the group's efforts to fulfill its primary formal function.

Let us carry the example one step farther. A new person joins the group. As the "new kid on the block," he or she does not yet know all the rules of the game--the norms. The person, at some point, may vigorously try to persuade the boss that his or her idea has some serious flaws. A norm has been violated. There is some anxious laughter in the group, some uneasy shuffling around in chairs. After the meeting, an old-timer pulls the newcomer aside for a "Dutch uncle" talk. "Look, friend, let me tell you something for your own benefit. In this group, you never take on the boss the way you did today. It's a no-no, a taboo." Unless an organization is willing to consciously examine its norms--a

norm itself--it runs the risk of having this element of the informal structure act counter to the organization's primary formal function. Norms will develop in all social systems. The issue is one of diagnosing their appropriateness to the task of the organization and instituting new norms where necessary.

2. *The informal hierarchy--status differentials.* An important source of status in any organization is one's position in the formal hierarchy. Bosses are differentiated from subordinates in terms of the formal power associated with their position--power to control certain rewards, to make certain decisions, to resolve certain exceptions to formal rules, and so on. In many organizations, one finds other less formal dimensions along which people differentiate one another. Any element of difference can be a source of status and power. For example, in some organizations, a comment made by a male would be treated much more seriously than if the same comment were made by a female--a sex differentiation. An age-seniority differentiation is also common: "These young turks are really something. They think a college education gives them all the answers!" The perceived status of one's educational background can also act as a source of differentiation. Many organizations find themselves to be heavily dependent on a particular task function: "We're a marketing-oriented company" or "We're an R&D-oriented company." the perceived consequence may be "When push comes to shove, the top positions always go to people from Marketing." The impact of these status differences can be positive or negative in terms of the organization's primary formal function. Again, the critical issue is one of appropriateness to the organization's primary formal function. Differentiated subunit tasks must be integrated--coordination is essential. Age-seniority, sex, educational background may have little to do with the issue at hand. Integrative decisions influenced by the informal hierarchy may, therefore, ultimately be dysfunctional to the accomplishment of the organization's primary formal functions.
3. *Informal goals--individual needs and goals.* The degree to which individual goals and organizational goals can be integrated and will continue to be a major source of concern to organizational theorists and practicing managers. Many approaches exist and are being implemented to maximize the degree of overlap, such as goal-setting procedures, management by objectives, participative performance appraisal systems, and flexible and adaptive formal reward systems. The less the agreement between formal targets and goals (a formal integrative mechanism) and individual needs and goals, the more difficult it will be to achieve the needed integration of formally differentiated subtasks to ensure fulfillment of the organization's primary formal function.

Examples of these informal goals are not easy to see because they tend to be defined as "antiorganizational" and therefore operate under the table. Such comments as "She always has a hidden agenda" or "He's always trying to build his own little empire" are indicative of the tension between formal organizational goals and informal individual

goals. In the specific context of group decision making, this tension has been discussed more fully as an example of self-oriented behaviors.⁵

A typical example of this dilemma can be seen operating on many assembly lines. A formal goal or target has been set--X units per hour per employee. This becomes the group norm or standard. Along comes a capable individual who wants to get ahead (perhaps someone with a high achievement need). Efforts on this person's part to better the formal standard are met with group pressures to get back in line--the group punishes rate busters. Here individual needs to belong to the group (an affiliative need) may take precedence over the formal goal of increasing productivity.

MAPPING ORGANIZATIONAL STRUCTURES

The usefulness of mapping the formal and informal aspects of an organizational structure is demonstrated in several research studies. Allen,⁶ for example, finds that, in addition to the formal organization structure, the informal structure, as represented by patterns of friendship and extraorganizational social encounters, has an important effect on the flow of technical ideas. Scientists were found to discuss technical ideas with many of the same people with whom they interacted on a social basis.

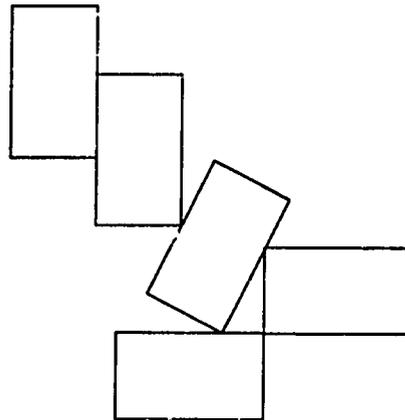
Allen's research also uncovered the existence within research and development laboratories of people he called "technological gatekeepers." These few people, much like the opinion leaders identified in early research on voting behavior, were mentioned very frequently as sources of critical information. These gatekeepers act as a link between the organization and the outside environment, as evidenced by their attendance at professional meetings and reading of professional and technical periodicals. Knowledge of who these gatekeepers are and of the nature of the existing sociotechnical and social networks within an organization can serve as important inputs into many organizational decisions. One would not, for example, want to make an architectural decision that would act to break up an effective informal communication group by moving its members apart from one another.⁷

⁵For more details on this concept, see Chapter 8.

⁶T. Allen, "Communications in the Research and Development Laboratory," *Technology Review*, Vol. 70 (1967), pp. 31-37.

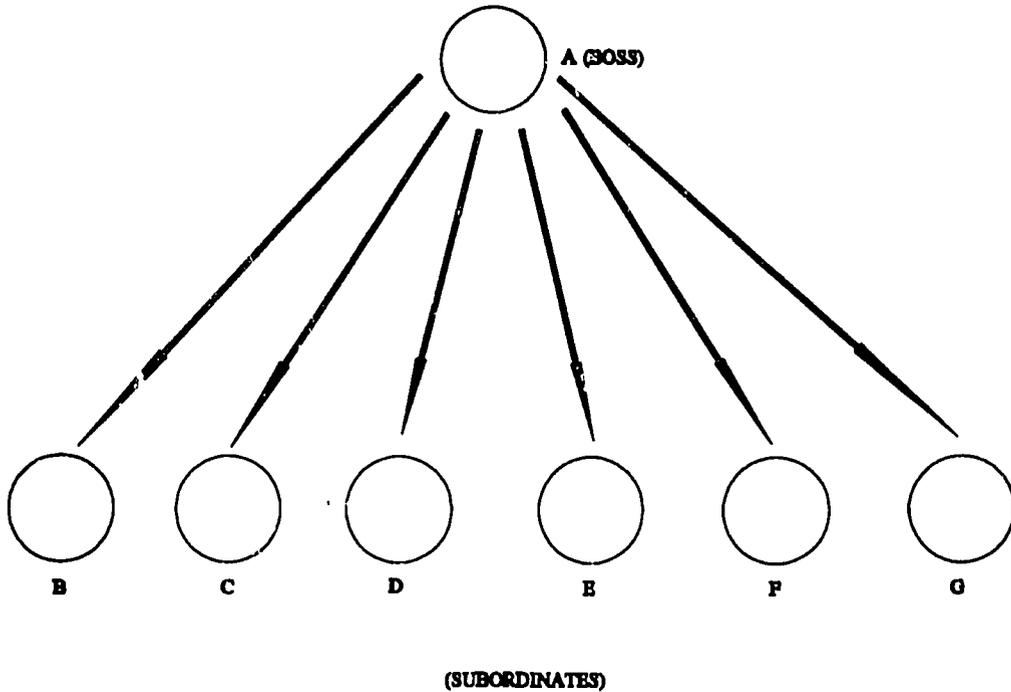
⁷The architecture of an organization is an important element of its formal structure. For more detail on this element see Fred I. Steiner, *Physical Settings and Organization Development* (Reading, MA: Addison-Wesley, 1973).

A second important set of insights comes from research in the impact of different communication networks.⁸ Suppose that you are the manager of a group of six subordinates. You are given the task of communicating to your group the following diagram:



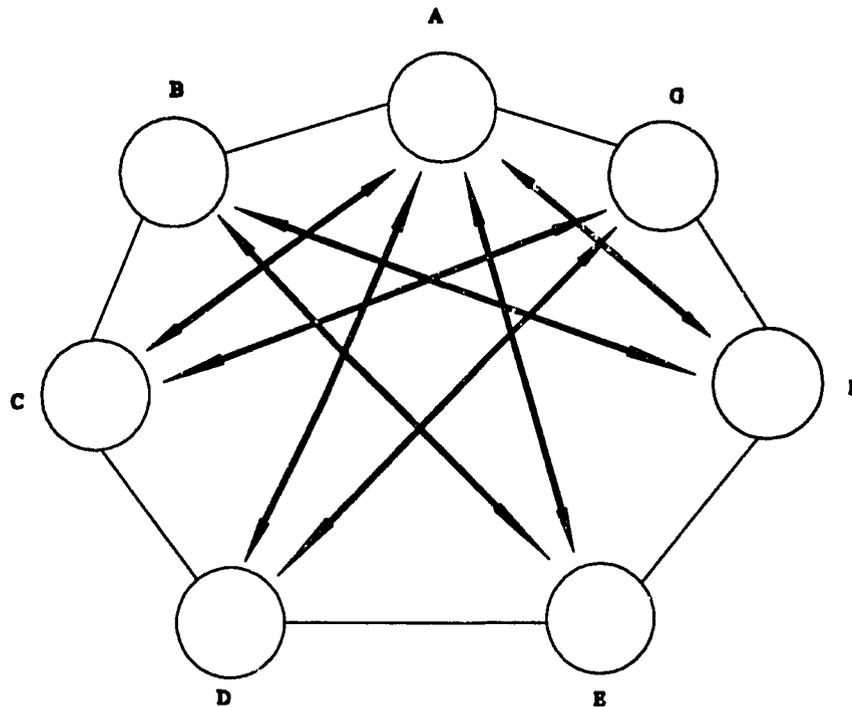
One approach would be for you to face *away* from the group (so that all they can see is your back) and verbally (use no pictures) try to convey your message. The group must remain silent--no questions allowed of you or each other. This approach would approximate many organizational structures of the following form:

⁸See, for example, P. Lawrence and J. Lorsch, *Developing Organizations: Diagnosis and Action* (Reading, MA: Addison-Wesley, 1969).



This has been called the closed, one-way communication network. A can communicate with B, C, D, and the rest, but they "cannot" communicate with each other and seldom do they communicate with A (short of saying "yes").

A second approach would be for you to face your group, verbally try to convey your message, and allow (and encourage) them to ask questions of you and each other. This approach would approximate a substantially different organizational structure, which could be represented as follows:



This has been called the open, two-way communications network. Full and open communication is encouraged between each and every group member.

In experimental investigations with these two (pure and extreme) networks, the following effects have been observed. For a given task, the closed network is considerably faster than the open network--the boss finishes sending the message sooner in the closed network. The closed network is considerably less efficient, however, in terms of accuracy--more of the members get the wrong message. In a series of related experiments, the open group has been found to be more adaptable to changes in task requirements.

With respect to morale, the members of the open network are more satisfied and feel more involved in the task. In the closed network, only A (the boss) feels satisfied and involved. In the open network, therefore, provides a training ground for the development of future managerial talent. These very simple experiments demonstrate clear relationships between the structure of a group (or organization) and the content of the communication, and demonstrate the process by which information is communicated in a way that influences people's feelings of satisfaction, involvement, commitment, and future capability to assume leadership positions.

The interdependence of formal and informal structures is often complex and difficult to map. However, in the process one may gain surprising insights into the real communications process of a group or organization.

THE APPLE-ORANGE COMPANY: FUNCTION VERSUS PRODUCT EXERCISE*

Related Topics: Organization design, Departmentation, Coordinator

- Purpose:** The objective of this exercise is to stimulate thinking about the fact that there are several different ways to organize work. Managers can often decide what form of organization structure they would like to have. However, each different form of structure has some advantages and some disadvantages associated with it. In choosing a form of organization, a manager really is deciding which set of problems he or she wants to live with.
- Time required:** 10-15 minutes
- Preparation:** Read the description of the Apple-Orange Company. When you are finished, answer the questions that follow. Base your answers on your own knowledge, guesses, and common sense. Can you mix apples and oranges?

* Tosi, Henry L. and Young, Jerald W. Management: Experiences and Demonstrations. Irwin, Inc. Homewood, Illinois. Exercise, "The Apple-Orange Company," pp. 75-78. Used with permission of the authors.

THE APPLE-ORANGE COMPANY Exercise

The Apple-Orange Company grows and markets apples and oranges in the southeastern United States. Apple-Orange has been in the produce business for the past 50 years and has some of the finest land for growing these fruits. They have also been quite successful in marketing their product. Up until now, Apple-Orange has been a family business run by old John Graves, whose father and uncle started the business. He has had his son Carl working as his assistant since Carl returned from Vietnam.

Basically, there are three major sets of activities that must be accomplished to grow and market Apple-Orange's products. One group of workers and managers work in the fields, handling the growing and harvesting of the apples and oranges.

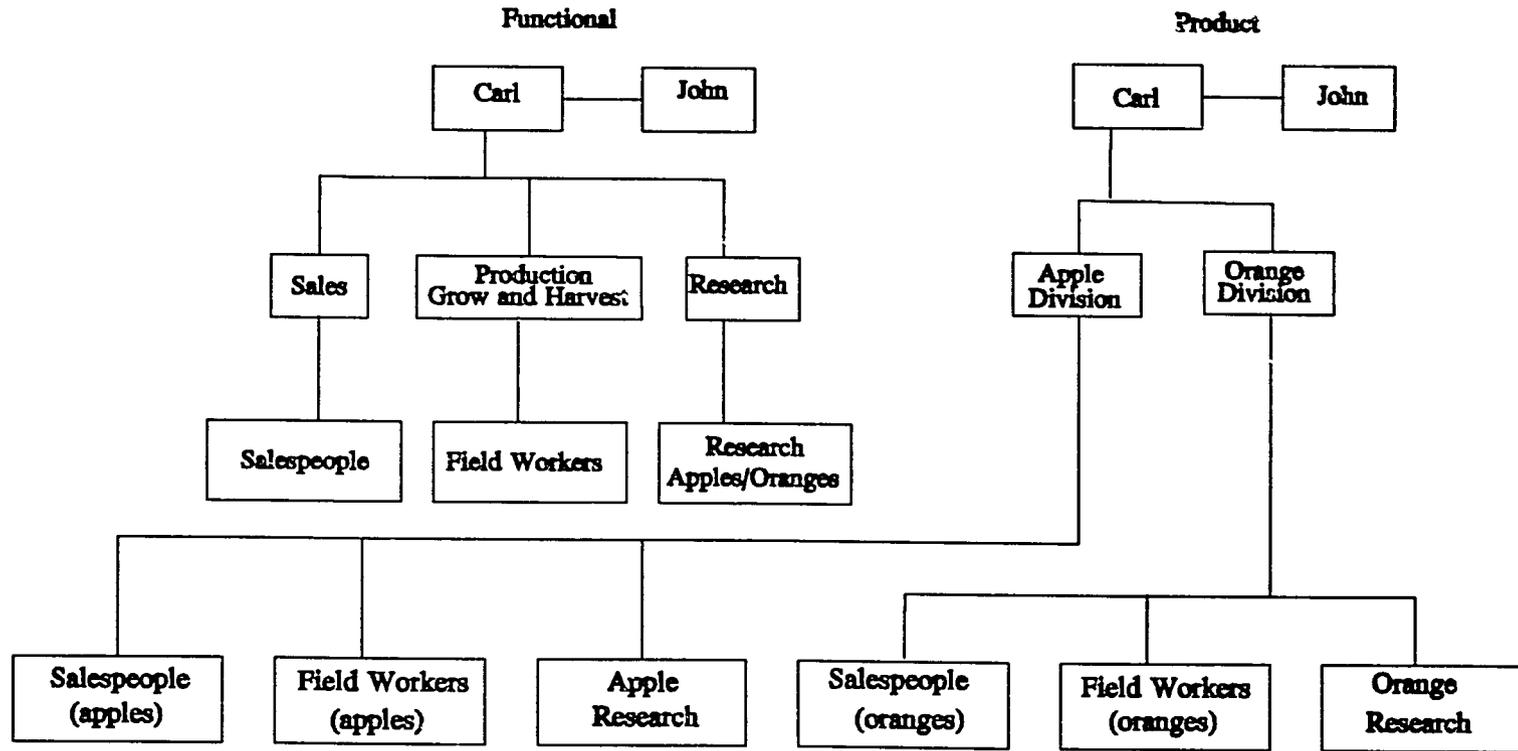
Another group of workers and managers work in development research. This group is comprised largely of agricultural scientists who attempt to improve the varieties grown and to increase crop yield.

Marketing is handled by several sales personnel who call on wholesalers and fruit distributors in the region. The sales staff is very large and has been, like all other employees, very effective.

John and Carl have been managing Apple-Orange without many formal policies and procedures. The company has few set rules, procedures, and job descriptions. John believes that once people know their job, they should and would do it well.

However, Apple-Orange has grown fairly large and John and Carl both believe that it is now necessary to develop a more formal organization structure. They have invited D. J. Blair, a noted management consultant, to help them. D.J. has told them that they have, basically, two choices. One is a functional organization structure and the second is a product-based organization structure. These two different forms are shown in Figure 12-1.

FIGURE 12-1



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Is your choice of structure Functional? Product? (Circle one). Why do you prefer it? _____

Read the following description of organization characteristics, conditions, or problems. Place an X on the line under the type of organization that fits the description of the statement on the left.

	Functional	Product
1. Job specialization will be most extensively developed; that is, in a typing pool one person might specialize in correspondence and another in reprints.		
2. Individual will perform a fairly broad range of activities in their job area. They will be less likely to become specialists.		
3. People will very likely be promoted in their field of specialization and will probably supervise several subordinates who do similar work.		
4. Managers of major departments are more likely to have subordinates who do a wide variety of different jobs.		
5. Individuals can learn a lot about their field of specialization because they will be working with people who do similar work.		
6. Coordinating and scheduling the activities between production, research, and marketing will be difficult.		
7. Coordinating and scheduling production, marketing, and research will be easier.		
8. Departmental conflict between functional units (production, marketing, and sales) will be less.		
9. There is less tendency for those in the organization to be overspecialized in their work area.		
10. Individuals will tend to learn a good deal about all the things that must be done to produce the product.		

DIAGNOSTIC QUESTIONS

1. What do you think happens to the product-type organization when it becomes larger?

2. What do you think happens when a functional organization gets larger?

3. Which one of the two forms do you think would be more efficient? Why?

4. Which one would provide the best product, or be more customer oriented? Why?

WHAT IS A GROWTH COMPANY?*

Case 1

An old-established baker of bread and cakes--distributed widely in one of the country's major metropolitan areas--was bought, during the "conglomerate" craze of the late 1960s, by one of the glamour "go-go" companies of that time. The baker's stock was selling at eight times earning on the stock market, the conglomerate had offered 14 times earnings, and irresistible offer. It paid with its own stock that then sold at 37 times earning--so everybody was happy or should have been. The president, a middle-aged but very vigorous member of the founding family--in fact a grandson of the Swedish immigrant who had started the business around 1890--agreed to stay on with a five-year contract.

Six months after the acquisition had been consummated, the baker's president was called to New York headquarters for a meeting with the president of the conglomerate. "You know, John," the conglomerate president said, "that it is our policy that each of our divisions show ten percent growth a year and make a return of at least 15 percent pre-tax on investment. Your division is growing only at 1 or 2 percent a year and shows only 7 percent pretax--no more than we can get in a savings bank account. Our staff people are ready to sit down with you and turn your business around so that it can meet our growth and profit objectives."

"I am afraid," answered the bakery's president, "that they would be wasting their time, and mine. A bakery is not a growth business, and nothing you do can make it into one. People don't eat more bread, or even more cakes, as their incomes go up: they eat less. A baker has built-in protection against a down-turn; in fact, we'd probably do best in a really serious depression. But our growth isn't going to be faster than that of population. And as for profits, we get paid for being efficient. I know we need to be far more efficient but that would require fairly massive investment in new automated bakers, and with our price-earnings ratio we have never felt able to raise the kind of money we need. Even if we did automate, our rate of return isn't going to be more than 12 percent pre-tax at best."

"This is unacceptable," snapped the conglomerate's president. "I agree," said the baker man. "Indeed, this is precisely the reason we gladly accepted your offer to buy us out--we had to free our family's own money for more attractive investments; and all our money was in the baker. That's also the reason why all of us immediately sold your company's stock. And that's the reason that I am quite willing for you to buy up my employment contract. If you want to run a bread baker as a "go-go" company, you'd better buy me out--I wouldn't know how to try."

Can one be satisfied with a business that earns less than the minimum cost of capital and cannot raise the capital it needs to become efficient? If not, what (if anything) can be done? And who is right: the man who says that his kind of business cannot be run at a 15 percent profit level, or the man who says that if the market is there, it is management's job to earn a return that can attract the needed capital? Are both wrong? Or could both be right?

* Source: Drucker, Peter F. Management Cases, pp. 6-7. Harper's College Press, New 1977. Reprinted with permission.

BANCO MERCANTIL: ORGANIZATION STRUCTURE***Case 2**

Banco Mercantil is not a giant of world banking. But with assets equivalent to \$8 billion, it is the banking giant of one of the major Latin-American countries. Its 50 branches in the country's capital city reach almost every neighborhood. And the Banco Mercantil branch office on the main square is the most imposing building in most provincial towns and cities.

Until the late 1950s, these 350 branches outside the capital city served primarily as providers of deposits to the capital. They had little lending business of their own. Ninety percent of the lending business was in the capital. In the capital, too, was practically all the corporate business, that is, the business with large companies. There, too, was all international business--mainly borrowing money abroad in such major centers of international finance as New York, London, or Zurich to lend to the bank's corporate customers--and investment activities including a rapidly growing business in managing pension funds of large domestic companies. Only the mortgage business--legally organized in a separate bank but operated as a division of Banco Mercantil--did substantial business in the provinces. Even that only amounted to some 20 percent of the total because most population growth was in the capital.

This began to change in the early 1960s. The capital city continued to grow, but since it was badly overcrowded, more and more of the growth occurred in what had formerly been sleepy provincial towns. The mortgage business felt this first. From 1958 on, it grew much faster outside the capital than in the capital district. Then, companies began to build factories in or near provincial cities to tap their labor supply and to be close to markets. Finally, in the mid-sixties, commercial lending began to grow rapidly in the major provincial cities as small businesses, trucking companies, shopping centers and local government offices grew up to serve the expanding population in the provincial towns, many of which were rapidly becoming fair-sized cities.

The organization of Banco Mercantil reflected the country's traditional economic structure. There was a big capital-city division, headed by the bank's president and chief executive officer himself. All 350 branches outside of the capital reported through regional headquarters to the one executive vice-president in charge of the "Zona Interior." He in turn reported to the president. Then there had been formed a corporate banking division, first within the capital-city division, then separate. This too was headed by an executive vice-president who also reported to the president. International Banking, Mortgage Banking and Fiduciary Banking (investment management, especially of pension-funds) also had evolved into separate divisions, headquartered

* Source: Drucker, Peter F. Management Cases, pp. 141-147. Harper's College Press, New 1977. Reprinted with permission.

in the main office in the capital and headed by executive vice-presidents reporting to the president. In 1960 this structure worked; by 1970 the bank had clearly outgrown it.

When a new president took over in 1974, he ordered a business plan--the first the bank had ever had. To everybody's surprise, it showed that except for international banking, most future growth of the bank would take place outside of the capital city. By 1980 or 1985, the plan predicted, the share of the capital-city division in the bank's loans would be down to 30 percent from 65 percent in 1970. Corporate division loans would grow to 30 percent of total loans, of which fully one-third would be to large customers headquartered outside the capital. The "Zona Interior" branches would have 40 percent of the loans and well over 50 percent of the deposits. Most of the new business centered in seven large provincial cities, each by 1970 already with a population of well over one million people.

How should the bank be organized for this change in its markets? The new president appointed an organization task force with himself chairman. After a year of study, it came up with a plan for decentralization. It provided for the setting up of eight regional "banks." One of these, the largest, would be the Banco Mercantil in the capital city--in effect the existing capital-city division. It would, as before, be headed by the bank's president. The other seven regional banks, each located in one of the provincial centers that had emerged as "key cities" in the country, would have full profit and loss responsibility and would be headed by a regional "president" who would also be an executive vice-president of the bank, and who would be in full charge of all the branches in a region in addition to being the head of the main office in his provincial capital. These seven, in turn, would report to a senior executive vice-president in the capital city who would report to the bank's president. There would be vice-presidents for corporate banking, fiduciary banking, international banking and mortgage banking, each headquartered in the capital city and reporting to the president. There would be an executive vice-president for bank operations--also in the capital city and reporting to the president. An executive committee of eight people composed of the president, the senior executive vice-president in charge of the regions, the executive VPs of corporate, fiduciary, international and mortgage banking, the operating man and the bank's lawyer would be served by a small group of staff assistants: an economist, a business-development group, a planning group and a personnel adviser.

When the plan was presented to the banker's senior executives, there was a storm of protest from the regions. They pointed out first that the plan violated the principles of genuine decentralization. The regional executive VPs were to have full business responsibility. Yet for rapidly growing parts of their business, corporate banking, fiduciary banking, and mortgage banking, they would have no direct responsibility. These activities were going to be done by headquarters divisions. The same applied to operations--that is, to the 70 percent of the bank's costs which are people. They further objected to their subordinate status as being both wrong in terms of organization and contrary to the bank's strategy. "We expect the bank to grow the most in the regions outside of the capital city; yet the regions will still be treated as they were under the old 'Zona Interior' system and report to a capital-city executive VP rather than directly to the chief executive officer," the regional men pointed out. Finally, they strongly objected to perpetuating the tradition under which the president ran the capital-city division. "This means,"

they said, "that the president will have no time for us, will give us no attention, and will inevitably, channel resources and good people to the capital city when the growth opportunities and needs are outside."

The president had to concede that the critics had a case. He, therefore, asked them to come up with a counter-proposal which they did within a few weeks. Their plan provided for a president with no duties except being the bank's chief public spokesman, and its chief liaison man with the country's government, with international financial institutions such as the World Bank, and with the labor unions. In addition, he would be available as trouble shooter in dealing with the top managements of big corporate clients. But all operating work would be lodged in the heads of the regional banks--one for the capital city and one for each of the seven regions. They, with the head of the international division and under the chairmanship of the president, would constitute the executive committee. This would meet every week for at least a whole morning (and preferably not always in the capital city but at least twice a year in each of the major regions) and would make all decisions. International would remain an operating division. Corporate would become a hybrid--in part handling relations with large corporate customers itself, in part advising the regional banks on corporate business. Operations and mortgage banking would become staff departments and confined to planning policy, auditing and training, with each region doing its own operating work and running its own mortgage business. Fiduciary, the regional men thought, should probably remain centralized for the time being. There wasn't enough fiduciary business in the regions and, anyhow, pension-fund customers (the main customers of the fiduciary division) would prefer to deal with one group of professional actuaries, economists and investment managers.

The president was appalled at this proposal--it meant, as he pointed out, that he would have almost twenty men reporting to him since there would still, of course, be a legal counsel, an economist, a business-development group and a planning group, not to mention personnel and public relations. He felt strongly that decision-making authority would be totally diffused under this plan; even minor matters would become "political" and would be decided by politicking and logrolling in an executive council in which the president could always be outvoted. He was troubled by the proposed ambiguity of the role and function of corporate banking, fiduciary banking and mortgage banking--part operating divisions, part staff advisers. He felt strongly that operations should be centralized. Above all, he felt that he would not have enough to do himself and would largely become a figurehead.

It took two years and the help of a large American consulting firm to hammer out a compromise. Instead of eight regions, there are five--the capital city and four regions outside. Each is headed by an executive VP who reports to the president and is a member of the executive committee. The president no longer heads the capital-city division but is a full-time chief executive officer with full power to make final decisions. International, mortgage and fiduciary banking are operating "banks"--in fact each is called a "region" headed by an executive vice-president who is a member of the executive committee and reports to the president. Corporate banking, headed by an executive VP reporting to the president and sitting on the executive committee, is a hybrid--80 percent a "bank" taking care of corporate clients directly; 20 percent an "adviser," planner, and policy maker--and above all, a trainer, for the corporate-

banking business of the regional banks outside the capital city. The status of operations was left up in the air--its executive VP (also reporting to the president, also a member of the executive committee) is both "responsible to the president for setting up, initiating and running efficient banking operations and for the training and supervision of operating personnel throughout the system," and for "advising and counseling the regional banks in carrying out their responsibility for efficient banking operations and for training and supervising operating personnel." All other functions--economics, planning budgeting, business development, personnel, public relations, and a new marketing function that the consultants recommended, were put under a newly created senior VP of administration who attends meetings of the executive committee without being a member, and who reports to no one quite knows whom. The lawyer is, of course, still there too.

QUESTIONS FOR DISCUSSION

- (1) How does each of these three alternative organization structures measure up to the criteria of decentralization? Which of them comes the closest to "federal decentralization?" And might any of them perhaps not be "decentralization" at all, but a thinly disguised functional organization?
- (2) Decentralization means "decentralized operations with central control." The president's plan stressed "control," the regional heads' plan stressed "decentralized operations." The president's plan stressed the span of control--with only seven men reporting to the president. The regional heads' plan would have meant twenty men reporting to the president--clearly more than one man can supervise. But the second plan would have followed far more closely the logic of the business and the planned strategy with its expectation of rapid growth in the regional centers. How does the plan that was finally worked out satisfy these conflicting requirements of "decentralization" and "central control," of the logic of organization and the dynamics of strategy?
- (3) How much sense does the new administrative VP make? Do the functions he heads belong together as building blocks of organization? What can he actually do for the highly expert professionals who report to him? Would it be better to have these functions separate and working with the executive committee as originally proposed?

WHAT DOES "STAFF" MEAN?**Case 3**

As soon as the Banco Mercantil had carried out its re-organization, the new president tackled his second priority: modernizing bank operations. By 1970, the computer had, of course, been introduced in the bank in many places, but operations were still largely a matter of local tradition. What computer use there was was uncoordinated, left to individual managers in major regions, and had largely been superimposed on existing, primarily manual systems.

The new president brought into the bank a national of the country who had gone to the U.S. for graduate study in 1952, had become interested in the computer when computers were still new, and had done pioneering work in designing computer languages for business use. Juan Perez had worked for IBM as their expert on computer use in banks and had finally headed the computer program at one of the big New York City banks. He became willing to return to his native country and to a senior position in its leading bank after his American wife died. And since the long-time executive vice-president of operations at Banco Mercantil had just reached retirement age, the bank could offer both a top-management title and a very fancy salary to lure Dr. Perez back from New York.

The first things Perez did everybody approved of. He standardized the computer equipment of the bank. Where formerly there had been eight large computers, each a different make and incompatible with the others, Perez reduced the number to five--one for each region--each much smaller and cheaper but all the same make and model and, therefore, capable of working together. And the plan and priorities which he submitted--the first five-year plan any one at Banco Mercantil had ever seen--was also favorably received throughout the bank.

But when he moved to carry out the plan he immediately ran into violent opposition from most of the "bankers" who ran the profit and loss centers of Banco Mercantil: the five executive vice-presidents who headed the five major geographic regions; the heads of corporate banking and of mortgage banking. Only the heads of international banking and of investment banking remained indifferent; Perez' plan did not affect their operations.

Perez had talked about "centralizing all data processing in one system" and of "running a central data switchboard." To his banking associates, this sounded like a kind of central telephone network, with a computer operator who would serve the people in branches and banking offices from a central location the way a long-distance operator does in the telephone system. But Perez saw things quite differently. To him everything in a bank except obtaining money from the public and lending it out, was "data processing": check clearing, bookkeeping, deposit accounting, loan accounting, loan collections--in fact, almost everything bankers traditionally call "banking." And therefore, all this work and the people doing it he claimed as

being under his jurisdiction, as being managed by him, staffed by him. The people doing the work would be hired by him, supervised by him, trained by him and paid by him.

When he was accused of wanting to take over the "business" of the bank, Perez replied, "The bank's business is getting money and lending it and I have no intention of interfering with that. Everything else is supporting operations processing data; and that is the operating work I am supposed to do."

When told that operations had been set up as a staff department to advise the bank's managers but not to run things, he answered: "You can only advise where you can tolerate diversity; in data processing you can no more tolerate diversity than you could in the equipment and operations of a telephone system--the whole point is that it is uniform and standardized. You are quite right," he said to the bankers, "data processing is not banking work, but it isn't staff either. It is joint operational support. If you don't get what you need from me and my people, fire me. If you can get the same work done cheaper or better elsewhere, buy it there. But no matter who does it and where, it has to be done in one place, be run by one outfit and one manager. And it must be run with line authority rather than as a staff activity. All right, so it accounts for 70 percent of its gross sales for raw materials and supplies--and no one calls that 'staff.' Data records, figures are the raw materials of banking. It's my job to supply them to you--and this means I have to run the system rather than tell you how you should run it."

QUESTIONS FOR DISCUSSION

- (1) How does Perez's approach fit the traditional concept of "decentralization?" Does it interfere with it? Does it support it?
- (2) Can the manager of a division or region still have true profit and loss responsibility for his order division if such a "joining operational support" function controls 60 percent or more of the expenses and the bulk of the people in that division? Is it enough, in other words, to have control over, and responsibility for, the activities that produce results and revenue--getting money and lending it out--without also having control over, and responsibility for, the major cost centers? And what do you think of Dr. Perez' analogy of operational costs and the "raw materials" in a manufacturing company?
- (3) Assuming that Perez wins--whether he is right or wrong--what might the bank have to do to make sure that it will have "bankers" tomorrow? Traditionally, "bankers," the people who produce the money through deposits and savings accounts and who then lend it out, have come up from "operators" such as tellers, branch managers and so on. Will that still be possible when these people are under the management and control of operations? If not, what can the bank do--either to restore channels of advancements to operating people or to build new channels?

*Source: Drucker, Peter F. Management Cases, pp. 147-150. Harper's College Press, New 1977. Reprinted with permission.

PROFIT CENTER: INDEPENDENT BUSINESS: OR SERVICE ACTIVITY?**Case 4***

Dr. Perez, the Banco Mercantil's computer expert, won his argument with the "bankers" only by agreeing to separate his operations and data-processing activity from the bank itself. Banco Mercantil set it up in a wholly-owned subsidiary organized to offer data-processing and operating services commercially with the bank as first and main customer. Perez pretended to fight this, but secretly he had always believed that this was the right way to do the data-processing job. He really did believe what he had told the "bankers": that data and their processing were the "raw material" of banking and that they should, therefore, be organized outside, and separate from, banking. And he believed that this was just as true for many other institutions, especially for government activities. "Information is the raw material of post-industrial civilization," he had declared in an interview that got him big headlines in the New York Times," way back in 1960 when the computer was still "news."

As soon as Perez had been set up in 1973 as Banco Mercantil Servicios de Computer S.A.--a wholly-owned but separate subsidiary--he began to sell integrated computer services, time-sharing, tailor-made programs and so on. No one had done this before in his Latin American country. Some of the services Perez pioneered were then very advanced even for the U.S. As a result, Perez by 1976 had built up a large and profitable computer-services business. He did all the operational and data-processing work for his country's largest bank, Banco Mercantil, on long-term contract for a fixed fee plus a fee for every million transactions. But Banco Mercantil, while his largest customer, provided only 40 percent of his revenue. The rest came from outside customers, especially government agencies.

Banco Mercantil was happy with Perez' success until Perez was approached by one of the country's smaller banks with the request that he take it on as a customer. The bank proposed that Perez set up and run its data-processing and operating system. Banco Meridional was only one-quarter the size of Banco Mercantil. But in its region--in the south of the country--it was second, and in a few important centers it was even first, beating Banco Mercantil out of the top spot. Its head--who had been a key executive of Banco Mercantil until he left in a huff when he had been passed over for the presidency in 1974--had repeatedly attacked Banco Mercantil as the "octopus" and had talked darkly of the "need to break up the banking monopoly in our country." He was not, therefore, regarded with much affection in the headquarters of Banco Mercantil.

Perez was careful enough to inform the president of Banco Mercantil of new customer, but shrewd enough to do this only after he had signed the contract with him. As he had

*Source: Drucker, Peter F. Management Cases, pp. 150-153. Harper's College Press, New 1977. Reprinted with permission.

expected, there was a tremendous uproar. This "trafficking with the enemy," as some Banco Mercantil stalwarts called it, brought into the open a severe disagreement over the function of Perez' company between Perez and Banco Mercantil which owned this company. "We expect you to give us first priority and to concentrate on our work. Only if you have time and people to spare from our work, do we want you to service others. But the others come second; we must come first. As for serving a competitor, that's out--if only because you know all our secrets and handle all our data."

"Oh, no," said Perez, "that can't work. The computer-service company is a profit center. That means we better treat it as an independent business. You are our largest customer, and you can expect and demand the best of service. But, you are not entitled to anything we do not offer to all our customers, nor to a lower price. As to serving the competition, we serve anyone who is willing to pay our rather stiff fees. It's up to us to make sure that we treat every customer's information absolutely confidentially. In fact, it is to your interest that we have outside customers. It's your best way of making sure that we do a first-rate job and that we do not over-charge you, but charge you only what a competitive market pays. And by the way, if I had turned down Banco Meridional, I would only have given them ammunition in their fight against us as an 'octopus' and a 'vicious monopoly' which ought to be broken up or restrained."

It was this last point that finally convinced the Banco Mercantil people to accept Perez' contract with their competitor. But that led to quite a bit of soul-searching regarding the proper function and role of a service activity that had been converted into a profit-making, autonomous business. Should that have been done? Should it be encouraged? And once it has been done, what are the rules?

QUESTIONS FOR DISCUSSION

- (1) Granting that Banco Mercantil has set up computer services as an autonomous affiliate, is Perez right in claiming that it then should be run as an independent business rather than as a service facility? And does this mean, as Perez claims, that the parent company, despite its 100 percent ownership, be treated just as another customer, neither better nor worse than outside customers?
- (2) What do you think about Perez' dismissal of the claim that the line should be drawn in respect to direct competitors, especially in an area where there is confidential information as there is in data processing? Might such an activity from the beginning restrict itself to noncompetitors, if only to escape any suspicions of betraying secrets?
- (3) Do you think the policy the Banco Mercantil people would like to adopt: preferential treatment of their bank with sale of "surplus" services to others, could work? Is there no alternative other than either an independent business or a wholly-integrated inside activity working for the bank only and entirely within it?

THE FAMILY HOTEL***Case 5**

The Schmidt family started out with one hotel. Through judicious investment, they gradually grew to a corporation which owned six upscale hotel properties and a food distribution business. The father and three sons were extremely active in running the hotels. The father was the president of the company. Each son was in charge of a different functional area at the corporate level--vice presidents of finance, food and beverage, and sales and marketing. The other two vice presidents, in personnel and accounting, were new hires who were not family members. Although each of the properties had a general manager (GM), most employees considered the family members to be the real bosses in the organization. The family occasionally countermanded the order of the GM's and older employees contacted the owners directly when there were problems. The corporate vice presidents sometimes came to the properties and visited the staff in their functional areas without notifying the GM of their presence. Sometimes the GM's were first informed of new corporate policies and changes by their own subordinates. In their defense, the turnover rate at the properties was so high that the family felt they had to intervene, and the family members were all fairly competent and knew the business. But, GM's dissatisfaction with their intervention resulted in even more turnover.

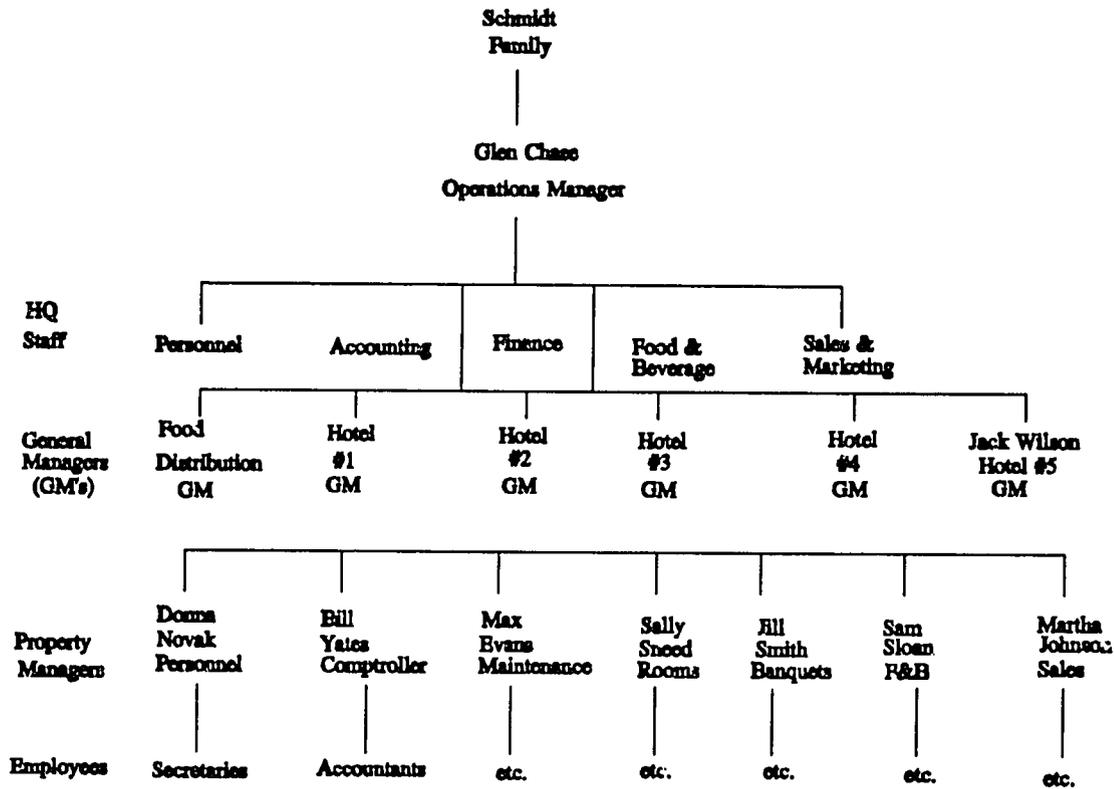
In 1985, the business reached a turning point. Because of their success, the family decided to expand their business and hotel ventures to different parts of the country. But this decision caused dissension within the family. One of the sons disagreed with this strategy and opted to leave the family business for awhile to see if he could succeed on his own. Another son, who was tired of his father's authoritarian style chose to return to school and complete his graduate education. The third son wanted to focus solely on the expansion and his father wanted to do what he enjoyed most--making deals and pursuing new ventures. Since the family was no longer capable of overseeing the operations themselves, they hired an operations manager to run the business.

The formal organizational chart for the company is shown. But the new operations manager, Glen Chase, suspected that his chart did not reflect reality. He found himself in a delicate situation. From working with other family businesses, he knew that it was difficult for founders to relinquish authority and control to others. However, after talking with the staff comprising the executive committee at one of the properties, Chase also knew the organizational structure had to be modified and it had to be done quickly before the positions at corporate were filled.

* Kolb, David A., Rubin, Irwin M., Osland, Joyce M. *Organizational Behavior: An Experiential Approach - Case: The Family Hotel*, pp. 495-500. Copyright ©Prentice Hall, Inc., X Englewood Coiffs 1991; Reproduced by permission of the publisher.

Jack Wilson had been a general manager (GM) for ten years, although many of those years were spent working for other hotel chains. Jack said that he didn't feel he could really do his job because so many directives came from corporate headquarters that he spent all his time responding to them. Furthermore, policies and procedures that were appropriate for another hotel in a different geographic area were inappropriate for him. He felt his hotel's problems were somewhat unique and resented being told how to run his property. He also said that in the past, the family and different staff people who came from headquarters had given him conflicting advice. He handled that by always doing what the family said, since they had the power to fire him. However, his relations with other staff members had suffered as a result and he worried about his reputation at headquarters. He also felt he had to work a narrow line with the employees. If they didn't like something, they called headquarters, and a family member would come swooping down to investigate. Sometimes he would not be informed of the complaint until that time. Because of the cronies who were friends of the family, Jack wasn't sure how far he could go in making changes in the hotel or even talking about problems openly with anyone in the organization.

Donna Novak was the personnel director. She had previously worked in manufacturing firms that had formalized HR programs. She was still a bit shocked by the comparatively unsophisticated personnel practices that are common in much of the hotel industry. She complained that she felt she had to hire whomever the family referred, whether or not they were qualified for the job. However, her main problem was keeping the hotel staffed. Turnover was high, and unskilled workers were at a premium in this community. She was convinced that some of the hotel's policies, like the lack of retirement benefits, were causing turnover. She also feared that the autocratic and arbitrary management practices of some of the department heads were responsible for high turnover. The hotel chain has a reward system that gives bonuses to department heads based upon their productivity. However, the salaried and hourly employees receive no bonuses, and some of them feel they are being taken advantage of by the department heads just so their bonuses will be earned. For example, some of the department heads are slow to put in requests for people to fill positions; the employees assume these managers are saving money on salaries, while the employees have to do the work of two people.



Sam Sloan was the food and beverage director, a position that is usually second in prestige only to the general manager on the property. Sam complained that he spent all his time preparing profit and loss statements for headquarters by hand since the hotel operations were not computerized. He said he understood the importance of keeping records and was very interested in the food and beverage figures but had no time left to check out trends in the industry. He was afraid he was falling behind in his field. The only opportunity he had to keep up came with the visits of the F&B vice president who did a good job of passing on the new ideas he had collected in his travels.

Jill Smith, the banquets manager, stated flat out that she had the most stressful job in the hotel. She said the salespeople promised the moon to prospective customers but often failed to tell her specifically what the clients had requested. Her waiters and waitresses had to fight over tableware with the restaurant servers. Furthermore, the chef gave her a hard time because she could not give him the exact count of meals needed until everyone showed up for their banquet. All day long and most nights she raced from meeting room to meeting room, handling irate customers and upset employees, until she did not have time for anything else in her life.

Bill Yates, the comptroller, was fairly satisfied with his job and the company with the exception of the financial control system. He said that the figures from the departments were sent directly to headquarters and they weren't sent back to the hotel until it was too late to use them for either controlling or forecasting. As a result, budgeting was a nightmare, and when the GM or the department heads looked bad as a result, they tended to blame him. Bill was hoping that automation would help the situation.

Martha Johnson, the sales director, had worked her way up in the organization from the banquet department. She talked at length about the difficulties between sales and the other departments in the hotel. Since the salespeople are the only ones who go home at five o'clock, they are not taken seriously by the others. They have their reputation and credibility to worry about with customers, but they depend heavily upon other departments to satisfy the customers. Martha says she has to check many things herself to make sure banquets or the kitchen are following the customer's request form, but the other departments resent her checking up on them. However, if she doesn't, mistakes happen. Martha said she has a running feud with the F&E director because he tries to bury some of his costs in her budget. Martha also wishes she had more sales expertise. She was grateful to move up within the company, but suspects there is more she should be doing to modernize the sales office.

Sally Sneed is one of the few college graduates on the property. She studied education but found she disliked classroom teaching. She is the rooms manager and is responsible for the reservations and rooms functions. She gets along well with the other departments and, other than occasional communication problems with sales, has no major problems. She was, however, very concerned about the competition that the hotel faces. Room occupancy had dropped since two new hotels were constructed in the vicinity. Sally felt that the hotel had to offer something unique so it could keep its clientele. She thought one of the biggest problems was lack of renovation. The property was getting a little shabby, but all the capital expenditures were determined at headquarters and renovation requests took a long time to approve.

Sally's concerns about capital expenditures were shared by Max Evans, the maintenance department head. He'd worked at the property for two years and had recently been promoted. His crew was tired of patching carpets and trying to make old kitchen equipment hold together a while longer. He wished the kitchen people were trained to take better care of the equipment, because he thought they might cut down on some of the repair jobs. His major problem though

was keeping all the department heads happy. Some of them expected him to stop whatever work was in progress and do their jobs first. He felt as if he were being pulled in several directions at once. Sometimes he just gave up and had his men to go to whatever department was yelling the loudest.

After talking with the managers on the property, Glen also learned that the department heads met with Jack once a week in their executive committee meeting. At this time, Jack just read them the latest directives from headquarters. There were few attempts at problem solving, presumably because all answers came from corporate and everyone knew Jack had limited power. Glen was worried about the problems he had uncovered and also felt the hotels needed to be more innovative. Since many of the managers had worked their way up through the system, some of them had never seen alternative ways of doing business. Glen thought a few of them had fallen behind the times. He himself wanted to try out some innovations. He was very aware that certain properties were losing out to the competition and wanted to turn that situation around quickly. As the organization was currently structured, he was afraid that wasn't possible. So he tried to come up with a new design.

Answer these questions:

1. What type of formal structure does the company currently have?
2. What type of informal structure does the company have?
3. What are the strengths and weaknesses of the informal structure?
4. What can you figure out about the communication networks that exist? Draw dashed lines on the previous chart to show the communication patterns.

5. What are the issues for each of the participants?

PERSON

ISSUES

Jack, general manager

Donna, personnel

Sam, food and beverage

Jill, banquets

Bill, comptroller

Martha, sales

Sally, rooms

Max, maintenance

Glen, operations manager

6. What kind of a structure could better address these issues?

7. How would you try to resolve the integration problems between the property and the headquarters and at the property level?

We left Glen Chase, the operations manager, as he figured out some ideas about a better organizational design. Changes are more likely to be implemented when the people involved have a chance to participate in the decision. He decided to test this out and called a meeting of all the department heads at the property he'd visited.

Prepare to run the following role-play session as Glen Chase.

PROCEDURE FOR GROUP MEETING: THE FAMILY HOTEL ROLE PLAY
(Time Allotted: 30 minutes)

- STEP 1.** Choose volunteers to play each of the managers. The volunteers should be seated around a table. Leave an empty chair for people from the rest of the class who may want to join in for a few minutes.
- STEP 2.** Glen Chase starts the meeting off in his or her best problem-solving style and asks the other managers for their input on creating a new organization design. The group should draw a new organizational chart that includes their suggested changes.
- STEP 3.** Debriefing (20 minutes)
- a. What kind of organizational design did the role players devise?
 - b. What was the rationale behind their choices?
 - c. What are the strengths and weaknesses of this design?
 - d. How did they resolve the differentiation-integration use? How else could it be resolved?
 - e. What connections can you make between his exercise and the readings?

THE APPLE ORANGE COMPANY EXERCISE*

Administration Instructions

1. Tell the students:

"Read the purpose and the description of the Apple Orange Company, then choose either the functional or the product organization and jot down your reasons for your choice. Wait for further instructions before continuing."

(Instructor's note: Give them five or six minutes to read the situation and record their answers.)

Processing Instructions

1. Ask the students:
"How many chose the functional form?"

(Instructor's note: About half of the people will choose functional.)

2. Ask the students:
"How many chose the product form?"

(Instructor's note: About half will choose this alternative.)

3. Ask those who chose the functional form to give their reasons.

(Instructor's note: Their reasons will include, among other things, the value of specialization and the efficiency of the functional approach.)

4. Ask the students who chose the product form their reasons for their choice.

(Instructor's note: Students give such reasons as the form is more customer oriented, easier to coordinate, etc.)

*Source: Tosi, Henry L., and Young, Jerald W. Instructor's Guide to accompany. Management: Experiences and Demonstrations, pp. 115-118. Irwin, Inc. Homewood, Illinois, 1982. Reproduced and translated with permission.

	Functional	Product
1. Job specialization will be most extensively developed; that is, in a typing pool one person might specialize in correspondence and another in reprints.	X	
2. Individual will perform a fairly broad range of activities in their job area. They will be less likely to become specialists.		X
3. People will very likely be promoted in their field of specialization and will probably supervise several subordinates who do similar work.	X	
4. Managers of major departments are more likely to have subordinates who do a wide variety of different jobs.		X
5. Individuals can learn a lot about their field of specialization because they will be working with people who do similar work.	X	
6. Coordinating and scheduling the activities between production, research, and marketing will be difficult.	X	
7. Coordinating and scheduling production, marketing, and research will be easier.		X
8. Departmental conflict between functional units (production, marketing, and sales) will be less.		X
9. There is less tendency for those in the organization to be overspecialized in their work area.	X	
10. Individuals will tend to learn a good deal about all the things that must be done to produce the product.		X

5. Lead the students through a discussion of the ten questions following the instructions. These questions focus on the differences between the functional form and the production form of the organization.
6. Following are some thought starters for some of the processing questions in the book.

Ask: "What do you think happened to the product type organization when it becomes larger?"

(Instructor's note: It often adds an organizational components that reflect a functional design.

Ask: "What do you think happens when a functional organization gets larger?"

Ask: "Which one of the firms do you think will be more efficient?"

(Instructor's note: The functional design is more efficient because it reduces the chance of duplication of effort.)

Ask: "Which one would provide the best product or be more customer related?"

(Instructor's note: The product design would be more customer oriented to provide the best service because the organizational members have the production of the product as their primary organizational focus.

Things to Watch Out For

1. Students are sometimes hesitant to offer their reasons for their choice of functional or product organization. Friendly goading helps to bring them out. Also, students are sometimes frustrated by the lack of a "right solution" to this exercise. You should point out that the intention of this exercise is to raise the central and important issues that managers must face when considering how an organization or department within an organization should be designed.

Finally, some students will also point out that apples and oranges do not grow in the same part of the country. Instead of taking this opportunity to comment on the lack of carefulness with which the students read the exercise, you can point out that there are other factors that affect the structural design, one of which is, of course, the consideration of geographical location.

What's a Growth Company?
Case 1

Each of the two men is both right and wrong. Any business needs to ear the costs of capital, or it is destroying economic substance and is incapable of self-renewal. But, a baker isn't going to be a growth business, no matter what is done with it--not in a developed country in which bread consumption goes down with rising incomes and standards of living. Such a business must be run for minimum costs and maximum cash generation. It must be run as the basic business it is--which means *Playboy* centerfolds rather than modern art on the walls, and linoleum rather than rugs on the floor, and everything else (especially staffs and management overhead) set up accordingly.

BANCO MERCANTIL: ORGANIZATION STRUCTURE

Case 2

Both plans are simulated decentralization...probably the only kind of decentralization possible in a commercial bank. But, the president puts the emphasis on decentralization by "businesses" such as commercial banking, corporate banking, international banking, and so on. The regions put the emphasis on the business on the geographic units, with the services subordinated to geography. Banks have found that they need both. The head of the London Office of Citibank or Bank of America is not just a landlord and office manager, but the head of a business. Yet the heads of the respective major services, operating out of London--corporate banking, multinational banking, etc.--are also (and often primarily) parts of a world-wide corporate banking business or multinational banking business. Banco Mercantil is moving towards such a (rather messy) matrix organization.

What the case does not bring up (although it is strongly implied) is that neither plan thinks through adequately the role and organization of top management (the president does not see such a function at all) or the role and organization of innovation.

BANCO MERCANTIL: WHAT IS A SERVICE STAFF?

Case 3

This case is, of course, first a case of the classification of activities: the difference between the traditional staff concept and the reality of work, for the data processing function in a bank is really operating work. It produces results even though it does not produce revenues. But, the case also highlights the need to make major organizational and career-ladder changes to adapt to technology. The computer cuts off the traditional career-ladder in banking. It is the reason that banks have gone in for direct recruiting. Management trainees who get only a minimum of exposure to the work that used to be the traditional "entrance level" job, such as the position of teller. It also explains why these jobs that were once considered the last step toward being a banker are increasingly being staffed with part-time people who do not want to become bankers.

BANCO MERCANTIL: BUSINESS OR SERVICE?

Case 4

Dr Perez is, of course, right. There are only two choices. The activity can be totally inhouse, a cost center within the bank that works exclusively for the bank. Or, it has to be run as a business in which all customers are being treated alike with no preference being given to Banco Mercantil. Anything else would fail.

THE FAMILY HOTEL
Case 5

Glen Chase convinced the Schmidt family to decentralize and allow the properties to have more autonomy. He decided that the informal structure they'd been operating with was really a functional structure or a matrix that refused to acknowledge itself. He tried to strengthen the GM's position by developing a GM's council and encouraging them to make decisions with him rather than merely trying to figure out what the family wanted. A bonus system was set up for each property which rewarded the GMs for innovations in their hotel. The executive committees on the properties were encouraged to solve problems and work as teams. However, so many of the managers were young and lacking in managerial skills that integration problems still occurred.

Chase's tactic with the vice presidents at headquarters was to have them do project work on system problems and/or innovations. This kept them too busy to do the daily monitoring that occurred in the past and caused them to be seen as special resources by the staff on the properties. The system evolved into a matrix form in which the GMs became the primary authority on the properties and the corporate staff were technical resources and back-up support for the hotel employees.

The design of an organization should depend upon the environment, the technology, the people, and the strategy. Far from being a negligible factor, the design of the organization has a direct influence upon effectiveness. As the opening vignette showed, design issues can be crucial to an organization's ability to compete.

**MANAGEMENT
FOR
SMALL BUSINESS INSTITUTES
IN POLAND**

Part Two

Sponsored by

**The U.S. Agency for
International Development**

Developed by

**Solidarity Economic Foundation
Gdańsk, Poland**

**Polish American
Enterprise Institute
Rzeszów, Poland**

**Center on Education and
Training for Employment
The Ohio State University
Columbus, Ohio**



**MANAGEMENT FOR
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1993

These materials were developed as a product of the Entrepreneurship Institute Project in Poland, funded under the U.S. AID grant EUR-0029-G-00-1040-00.

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FOREWORD

The United States Agency for International Development (U.S.AID) sponsored this project as part of the U.S.Congress initiative entitled Secure Eastern European Democracy (SEED Act). This project is one of a number of university-based initiatives to provide education for university faculty in emerging countries about business management and economics in support of the newly established market economy.

Since June of 1991, the International Enterprise Academy at The Ohio State University has worked cooperatively with the Solidarity Economic Foundation in Gdańsk, Poland, to facilitate the creation of three Polish-American Enterprise Institutes in connection with the universities in Białystok, Poznań and Rzeszów. In each site two coordinators and fifteen or more faculty members have established courses for business owners in Entrepreneurship, Marketing, Management, Finance, Strategic Planning, and Export-Import. In addition, we developed skills among the faculty for business advising in these areas and developed case studies of Polish entrepreneurs.

The development of the six curriculum products took place over a two-year period and were the cooperative efforts of the coordinators from the Polish Institutes and the faculty from various American Universities. We are indebted to the following people for their dedication, patience and understanding in addition to their outstanding expertise in the area.

ENTREPRENEURSHIP	Vicky Rash, The Ohio State University Andrzej Jurgilewicz, The Białystok Business School
MARKETING	Gerald Hills, The University of Illinois at Chicago Walery Lach, Bogdan Sojkin Poznań Academy of Economics
MANAGEMENT	Eugene Gomolka, The University of Dayton Adam Góral, The Maria-Skłodowska University in Rzeszów
FINANCE	Lynn Neeley, Northern Illinois University Bogusław Plawgo, The Białystok Business School
STRATEGIC PLANNING	Randy Rollinson, The University of Illinois at Chicago Zdzisław Krajewski and Bogdan Sojkin, Poznań Academy of Economics

EXPORT-IMPORT

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BUSINESS ADVISING

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CASE STUDIES OF POLISH ENTREPRENEURS

Lisa Mazzei, The Ohio State University
Alicja Zajączkowska and Alicja Unterschuetz of the
Solidarity Economic Foundation

In addition, we are deeply indebted to our counterpart staff at the Solidarity Economic Foundation: Mirosław Mironowicz, Małgorzata Bałkowska, Alicja Zajączkowska, Alicja Unterschuetz, Marcin Flisykowski and Hanna Litka. They contributed so much to the adaptation and translation of materials into Polish.

The editors of these six curriculum products deserve special thanks for two years of attention to detail and schedules that everyone thought was impossible. Both Piotr Koryński and Elżbieta Jacowicz have masters degrees in economics from the University of Gdańsk in Poland. Since the beginning of this project, they have worked at The Ohio State University in an effort to make these curriculum products appropriate for use in their country.

We also thank the secretaries in both countries and others who worked hard on these six very ambitious curriculum projects. At The Ohio State University we especially want to thank Barbara Rahe, Jeanne Thomas, Janet Ray, and Kathy Summerfield. In Poland, we want to thank Dagmara Topolewicz, Ewa Dratwa, Małgorzata Tyburczy, Edyta Rusin and Dorota Małaszkiwicz.

Because these curriculum products include many copyrighted materials that we have obtained limited permission to use for this project, this product may not be published or used for other purposes without express permission from The Center on Education and Training for Employment at The Ohio State University.

We believe that these materials will provide long-term benefits to the faculty for whom they were designed and the business owners who will participate in their courses. We hope that these American models of business training will make a difference in the communities where they are used and impact on their success in a market economy.

M. Catherine Ashmore
Director, International Enterprise Academy

ACKNOWLEDGEMENTS

We are grateful to the primary author, Eugene G. Gomolka, for development of this teaching outline for use in the Enterprise Institutes in Poland. He was assisted by Adam Góral, Krzysztof Kaszuba, Piotr Koryński and M. Catherine Ashmore, as the materials were assembled in 1991-93.

We are also indebted to the publishers or authors who gave permission to use selected portions of their copyrighted materials. They include the following:

Houghton Mifflin Company, Boston
McGraw-Hill Professional Publishing Group, N.Y.
Prof. Henry L. Tosi
Prof. Allan A. Zoll
Richard D. Irwin, Inc. Homewood, Illinois
John Wiley & Sons, Inc.
Prentice-Hall, Inc.
Pfeiffer & Company

MANAGEMENT MODULE

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MANAGEMENT COMPETENCIES

Management is the capability to get things done through people.

Small business management is the application of management techniques to the particular circumstances of a small firm, which generally include limited resources, general rather than specific skills, limited markets, many competitors, close contact with customers, quick reaction time, focus on the here-and-now, etc.

The task of small business management is to analyze the present circumstances of the firm, set goals, establish standards, make things happen, solve problems, deal with people, find resources, and think about the future.

Specific competencies which will be developed by the Management Course in the Entrepreneurship Institute Program include the ability to:

- Set realistic goals for the business.
- Train employees to be efficient workers.
 - Schedule making
 - Determination of wage levels
 - Hiring and firing
 - Training and development
 - Understanding human behavior at work
 - Dealing with groups
 - Evaluation
 - Coaching
 - Team building
 - Confidence building
- Use communications skills in the business.
 - Conflict resolution
 - Communication channels
 - Persuasion
- Manage activities of the business.
 - The organization of people, resources, machines and operations
 - Leadership and supervision
 - Employee relations
 - Managing growth
 - Managing change

- **Negotiate effectively.**
 - **Develop strategies**
 - **Focus on the interests involved**
 - **Generate a range of alternative solutions**
 - **Avoid common obstacles and mistakes**

- **Manage small business operations.**
 - **Develop operations strategies**
 - **Develop a framework for forecasting demand**
 - **Identify the importance of inventory management**
 - **Construct performance measurement systems**
 - **Control operations**

UNIT 7

Title: HUMAN RESOURCE MANAGEMENT

Purpose: This unit is designed to help the participants to deal with the aspects of small business management which involve the selection, hiring, development, retention, appraisal, and dismissal of employees.

Objectives: Upon completion of this unit, the participant will:

- have participated in the setting of employee policies for one's small business company,
- have sought the solution to typical employee problems,
- have recognized the need for employee training,
- have recognized the importance of small group dynamics for the small business,
- have applied performance appraisal concepts,
- have developed an understanding of the compensation process,
- understand the goals of team building.

Materials:	Transparency 7-1:	What Do Employees Want From Their Jobs?
	Transparency 7-2:	Advantages of Employment in a Small Firm
	Transparency 7-3:	Recruiting Employees
	Transparency 7-4:	The Employee Recruiting Process
	Transparency 7-5:	Establishing Personnel Requirements
	Transparency 7-6:	Chart for Forecasting Labor Requirements
	Transparency 7-7:	Establishing Job Specifications
	Transparency 7-8:	Job Specification Form
	Transparency 7-9:	Finding Potential Employees
	Transparency 7-10:	Hiring Employees
	Transparency 7-11:	Need for Training
	Transparency 7-12:	Results From Training
	Transparency 7-13:	Coaching Strategies
	Transparency 7-14:	Human Resource Policy Suggestions
	Transparency 7-15:	Performance Appraisal Learning Points
	Transparency 7-16:	Performance Appraisal Tips for Managers
	Transparency 7-17:	Compensation Expectancy Model
	Transparency 7-18:	Model of the Wage and Salary Determination Process
	Transparency 7-19:	Areas of Human Costing
	Transparency 7-20:	Goals of Team Building

Transparency 7-21:	Ways for an Owner to Create a Motivating Environment in a Small Business
Transparency 7-22:	Dealing with Disciplinary Problems
Transparency 7-23:	Employee Termination
Handout 7- 1:	Setting Your Employee Policy Exercise 1
Handout 7-2:	Production Assembly Exercise 2
Handout 7-3:	Coaching/Training Exercise 3
Handout 7-4:	Coaching Action Plan
Handout 7-5:	The Slade Company Case
Handout 7-6:	The Electronics Stock Control Group Case
Handout 7-7:	Performance Appraisal
Handout 7-8:	Swiss Catering Services

Product: A document which plans for employee policies. Notes on exercises related to employee problem-solving and coaching/training. An action plan for future coaching applications.

Assignment: Review and refine employee policies, coaching strategies, and performance evaluation, documents for implementation in the participant's small business company. Prepare case for the next unit.

Note to Instructor: Exercise and case notes are provided.

Estimated Time:

Lecture and discussion	approximately 1 hour
Running and discussion of five exercises	approximately 2½ hours
Discussion of three cases	approximately 3 hours

CONTENT	PROCESS
<p>3. Hiring Employees</p>	<p>tor should be prepared to spend the time necessary to develop the meaning of this exercise with the participants, and to compare it with the experiences of the students.</p> <p>After each person has read his/her assigned role, ask the group to act out a meeting of the group to solve the problem. At the end of the meeting the instructor should discuss what happened and ask for ideas from the class.</p> <p>The following series of transparencies goes through a step-by-step description of the process that a small business owner should go through when hiring employees.</p> <p>Discuss TP 7-3: Recruiting Employees</p> <p>Discuss TP 7-4: The Employer Recruiting Process</p> <p>Discuss TP 7-5: Establishing Personnel Requirements. Make copies of TP 7-6 for the class to use for their own business. Discuss how to use this form using it as a transparency also.</p> <p>Discuss TP 7-7: Establishing Job Specifications and TP 7-8: Job Specification Form. The form should also be duplicated as a handout for each participant to use for their own business.</p> <p>Discuss TP 7-9: Finding Potential Employees.</p> <p>Discuss TP 7-10: Hiring Employees</p>

CONTENT	PROCESS
<p>4. Training</p>	<p>Show TP 7-11: Need for Training.</p> <p>Show TP 7-12: Results from Training. Run Exercise 3: Coaching/Training. Have the participants discuss their experiences with training to supplement the exercise. Training is an area often neglected by small business owners. Stress its importance.</p> <p>Assign coaches and problem solvers and give appropriate instruction pages to the coaches. Give all class members the sample problem to try before starting the activity.</p> <p>Information about the problems is in the notes to instructor at the end of the unit. No one but you should know that the correct answer to Problem 1 is $21978 \times 1 = 87912$ and the answer to Problem 2 is $9567 + 1085 = 10652$.</p>
<p>5. Coaching</p>	<p>Show TP 7-13: Coaching Strategies.</p> <p>Run Exercise 7-4: Coaching Action Plan. This is an excellent exercise to integrate the students' experience into the course.</p> <p>Show TP 7-4: Human Resource Policy Suggestions.</p>
<p>B. Small Groups</p>	<p>Discuss Handout 7-5: The Slade Company. This is an excellent example of why small group dynamics must be accounted for in small business organizations. Suggestions for how to deal with this case are in Notes to Instructor at the end of the unit. Because of the time required to do the activity in full you will probably want to select only the parts that are most useful for the participants</p>

CONTENT	PROCESS
	<p>to understand how groups can affect productivity. These notes give some ideas about how to work with classroom groups as well.</p> <p>The Electronics Stock Control Group Case (Handout 7-6) may also be used to demonstrate group development. It is not as complex as the previous case and can be discussed more quickly</p> <p>Discuss TP-14: Human Resource Policy Suggestions.</p>
<p>C. Performance Appraisal</p> <p>All small businesses which have employees, must evaluate them at some point. This section points out important learning points on this topic.</p>	<p>Show TP 7-15: Learning Points.</p> <p>Show TP 7-16: Tips for Managers. This should also be copied to give participants for future reference.</p> <p>Run Exercise 5: Personal Application of Performance Appraisal. This exercise integrates personal experience with course applications. Notes on this activity are in Notes to the Instructor at the end of this unit</p>
<p>D. Wage Levels</p>	<p>Show TP 7-17: Compensation Expectancy Model.</p> <p>Show TP 7-18: Model of the Wage and Salary Determination Process.</p> <p>Show TP 7-19: Areas of Human Resource Costing. Discussion of the local <i>wage</i> conditions in Poland needs to be provided by the instructor.</p>
<p>E. Team Building</p>	<p>Show TP 7-20: Goals of Team Building. This information is of use to the larger small business and growing small businesses.</p>

CONTENT	PROCESS
<p>F. Applications</p> <p>Hiring and Firing Training and Development</p>	<p>Show TP 7-21: Ways for an Owner to Create a Motivating Environment in a Small Business.</p> <p>Show TP 7-22: Dealing With Disciplinary Problems.</p> <p>Use Swiss Catering Service Case (Handout 7-8) for discussion of the need for training. Discuss how this might relate to local conditions in Poland. Ask participants to analyze the case by answering the questions at the end of the case. Detailed answers to the questions are in the Notes to Instructor for this case at the end of Unit 7.</p>
<p>G. Assignment</p>	<p>Ask participants to read the cases for Unit 8 prior to the next class</p>

WHAT DO EMPLOYEES WANT FROM THEIR JOBS?

- **FAIR WAGES**
- **CONTINUOUS EMPLOYMENT**
- **REASONABLE HOURS OF WORK**
- **PLEASANT AND SAFE WORKING CONDITIONS**
- **SENSE OF IMPROVING SITUATION**
- **FEELING OF CONTRIBUTION**
- **RESPECT**

ADVANTAGES OF EMPLOYMENT IN A SMALL FIRM

- **CO-WORKERS ARE OFTEN NEIGHBORS AND ENJOY SOCIAL AND SPORTING EVENTS TOGETHER**
- **COMPLAINTS AND IRRITATIONS CAN BE SOLVED QUICKLY**
- **ACHIEVEMENTS OF EMPLOYEES ARE VISIBLE**
- **EMPLOYEES HAVE GREATER OPPORTUNITIES TO TRY DIFFERENT JOBS**
- **EMPLOYERS PAY CLOSER ATTENTION TO EMPLOYEE TALENTS AND DESIRES**
- **EMPLOYEES CAN MORE EASILY TAKE PART IN DECISION MAKING**

RECRUITING EMPLOYEES

- **RECRUITING EMPLOYEES CAN HAVE A MAJOR IMPACT ON THE FUTURE EFFECTIVENESS AND EFFICIENCY OF THE SMALL BUSINESS FIRM.**

- **AMONG THE MOST IMPORTANT ACTIVITIES WHICH A SMALL BUSINESS OWNER MUST CONSIDER AS A MANAGER.**

- **A SMALL BUSINESS OWNER CAN HAVE AN EXCELLENT BUSINESS PLAN. BUT, IF YOU DON'T HAVE ANYONE TO PUT THE PLAN INTO ACTION, THE PLAN IS WORTHLESS.**

THE EMPLOYEE RECRUITING PROCESS

- **ESTABLISHING PERSONNEL REQUIREMENTS**
- **ESTABLISHING JOB SPECIFICATIONS**
- **FINDING POTENTIAL EMPLOYEES**
- **HIRING**

ESTABLISHING PERSONNEL REQUIREMENTS

- **PLAN AHEAD FOR COMPANY'S NEEDS**
- **DECIDE WHAT THE COMPANY'S GOALS WILL REQUIRE IN THE WAY OF NEW EMPLOYEES**
- **DESCRIBE THE KIND OF INDIVIDUAL NEEDED TO PERFORM EACH OF THE TASKS REQUIRED TO ACCOMPLISH THE COMPANY'S GOAL**
- **ESTIMATE HOW MANY LABOR HOURS WILL BE NEEDED TO ACCOMPLISH REQUIRED TASKS**
- **DECIDE WHETHER EXISTING EMPLOYEES CAN COMPLETE REQUIRED TASKS, OR WHETHER NEW EMPLOYEES WILL BE NEEDED**
- **USE A FORECAST CHART (TP 7-6) TO AID IN THIS PROCESS**
- **READJUST FORECASTS AS NEEDED**

CHART FOR FORECASTING LABOR REQUIREMENTS

Project/Task	Type of Individual Required	Hours of Work Estimated by Month											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Monthly Labor Requirements by Title (1)													
Current Labor Resources or Hand (2)													
Additional Labor Required (1) - (2)													

ESTABLISHING JOB SPECIFICATIONS

- **THE ESTABLISHMENT OF PERSONNEL REQUIREMENTS RESULTS IN A LIST OF PERSONNEL NEEDS, PLUS A TIME PERIOD FOR HIRING.**
- **THE NEXT TASK IS TO WRITE A DETAILED DESCRIPTION OF THE JOB THAT THESE INDIVIDUALS WILL PERFORM.**
- **A JOB SPECIFICATION FORM (TP 7-8) SHOULD BE COMPLETED FOR EACH JOB.**

JOB SPECIFICATION FORM

1. Job title: _____ **2. Required by:** _____

3. Reporting to: _____

4. Background: _____

5. Required Tasks: _____

6. Desired prior experience: _____

7. Desired education: _____

JOB SPECIFICATION FORM
(continued)

8. Special problems: _____

9. Factors that would definitely exclude a candidate from
consideration: _____

10. Travel requirements: _____

11. Salary range: _____

12. Other compensation: _____

13. Why should someone take this job? _____

FINDING POTENTIAL EMPLOYEES

- **SOURCES OF PERSONNEL:**
 - **PERSONNEL CURRENTLY IN COMPANY**
 - **PERSONNEL IN OTHER COMPANIES**
 - **NEWLY GRADUATED INDIVIDUALS FROM COLLEGES, UNIVERSITIES, TECHNICAL SCHOOLS, ETC.**
 - **CURRENTLY UNEMPLOYED INDIVIDUALS**
 - **EMPLOYMENT AGENCIES**
 - **TEMPORARY WORKERS**

- **SELECT RECRUITING METHOD:**
 - **WORD-OF-MOUTH**
 - **ADVERTISING**
 - **GOVERNMENT EMPLOYMENT AGENCIES**
 - **SCHOOLS**
 - **PROFESSIONAL ASSOCIATIONS**

HIRING EMPLOYEES

- **APPLICANT SCREENING**
 - RESUME
 - APPLICATION FORM
 - COMPARE APPLICANTS' CREDENTIALS WITH JOB SPECIFICATION
 - REFERENCE CHECK
 - NARROW LIST TO 3-5 APPLICANTS

- **INTERVIEWING**
 - **PREPARE FOR AND PLAN THE INTERVIEW:**
 - Start with General and Open Questions
 - Ask Specific and Detailed Questions about Former Compensation, and Salary Expectations for position

 - NO INTERRUPTIONS DURING THE INTERVIEW

 - REVIEW APPLICATION FORM AND/OR RESUME

 - REVIEW JOB SPECIFICATION FORM

 - PREPARE QUESTIONS FOR THE INTERVIEW

 - TELL CANDIDATE ABOUT THE JOB, COMPANY, BENEFITS, ETC.

 - PROMISE TO INFORM CANDIDATE OF THE HIRING DECISION BY A PARTICULAR DATE

- **EVALUATE CANDIDATES**
 - ASSESS AND RANK CANDIDATES AGAINST JOB SPECIFICATION FORM REQUIREMENTS

 - MAKE AN OFFER TO BEST CANDIDATE

 - INFORM OTHER CANDIDATES OF DECISION

NEED FOR TRAINING

- **NEW EMPLOYEES**
- **READILY AVAILABLE AND ADEQUATE REPLACEMENTS FOR PRESENT PEOPLE WHO MAY LEAVE**
- **ADOPT AND USE NEW TECHNIQUES**
- **A MORE EFFICIENT, EFFECTIVE, AND HIGHLY MOTIVATED WORK TEAM WHICH ENHANCES THE COMPANY'S COMPETITIVE POSITION AND IMPROVES WORKER MORALE**
- **EXPANSION INTO NEW PROGRAMS**
- **HOW TO USE TRAINING**
- **NEED FOR A TRAINING PLAN**

RESULTS FROM TRAINING

- **INCREASED PRODUCTIVITY**
- **REDUCED TURNOVER**
- **DECREASED COSTS OF MATERIALS AND EQUIPMENT**
- **LESS SUPERVISION REQUIRED**

COACHING STRATEGIES

- **PREPARE THE LEARNER**
- **DEMONSTRATE THE OPERATION**
- **CREATE A POSITIVE ATMOSPHERE**
- **HAVE THE LEARNER PERFORM THE OPERATION**
- **FOLLOW UP**

HUMAN RESOURCE POLICY SUGGESTIONS

- **CREATING A POSITIVE "IMAGE" OF SMALL BUSINESS**
- **REGULAR MEETINGS WITH EMPLOYEES TO DISCUSS PROBLEMS**
- **HAVE THE EMPLOYEES EXPRESS THEIR OWN OPINIONS EVEN CONTRADICTORY TO YOURS**
- **JOB ANALYSIS**
- **DEVELOPING UNDERSTANDING OF USEFULNESS OF EACH WORK**
- **RECRUITING AND TRAINING POTENTIAL EMPLOYEES**

PERFORMANCE APPRAISAL LEARNING POINTS

- 1. PERFORMANCE APPRAISALS ARE USED TO IMPROVE PERFORMANCE AND MOTIVATE EMPLOYEES.**
- 2. FEEDBACK SERVES THE FOLLOWING FUNCTIONS FOR EMPLOYEES:**
 - a. Helps to form their self-concept.**
 - b. Reduces uncertainty about whether their behavior is on track.**
 - c. Signals which organizational goals are most important.**
- 3. THE ATTITUDE MANAGERS BRING TO PERFORMANCE APPRAISAL DETERMINES THE EFFECTIVENESS OF THAT APPRAISAL. MANAGERS WHO ARE SINCERELY TRYING TO DEVELOP THEIR EMPLOYEES AND PROVIDE THEM WITH OBJECTIVE FEEDBACK ARE MORE SUCCESSFUL THAN ARE THOSE WHO TAKE A JUDGMENTAL APPROACH.**
- 4. PERFORMANCE APPRAISAL REQUIRES THAT THE MANAGERS TAKE ON THE ROLE OF HELPER-CONSULTANT.**
- 5. THE "IDEAL" PERFORMANCE APPRAISAL SYSTEM IS DESIGNED TO ACHIEVE FOUR BASIC OBJECTIVES:**
 - a. Provide feedback to employees to facilitate their ability to achieve organizational and personal goals.**
 - b. Provide management with data to make salary and promotional decisions.**
 - c. Identify areas for improvement to facilitate employee career development.**
 - d. Motivate employees to be more effective workers.**

*Source: Kolb, David A., Rubin, Irwin M., & Osland, Joyce M. Organizational Behavior: An Experimental Approach, p. 448. Prentice Hall, Englewood Cliffs, 1991. Reproduced by permission of the publisher.

**PERFORMANCE APPRAISAL
LEARNING POINTS
(continued)**

6. PERFORMANCE APPRAISAL IS A PROCESS THAT BEGINS WITH:

- **Translating organizational goals into clear expectations for each individual,**
- **Training people to do their jobs,**
- **Providing effective supervision,**
- **Determining strengths and weaknesses, and**
- **Developing plans for the employee.**

IT IS NOT A ONCE-A-YEAR EVENT, BUT AN ONGOING ACTIVITY.

7. PROVIDING IMMEDIATE FEEDBACK GIVES THE EMPLOYEE AN OPPORTUNITY TO IMPROVE, ENSURES THAT THE APPRAISAL IS NOT A SURPRISE, AND KEEPS THE EMPLOYEE-MANAGER CHANNEL OF COMMUNICATION OPEN.

SAVING UP NEGATIVE FEEDBACK AND "DUMPING" CAN CAUSE A DEFENSIVE REACTION.

8. FAIRNESS IS ALWAYS A MATTER OF CONCERN WITH APPRAISALS. PEOPLE TEND TO RATE THOSE WHO ARE SIMILAR TO THEMSELVES MORE HIGHLY THAN THOSE WHO ARE DIFFERENT.

9. ATTRIBUTIONS OR INFERENCES ABOUT WHY PEOPLE BEHAVE THE WAY THEY DO CAN ALSO BIAS THE APPRAISAL PROCESS.

PERFORMANCE APPRAISAL*

TIPS FOR MANAGERS

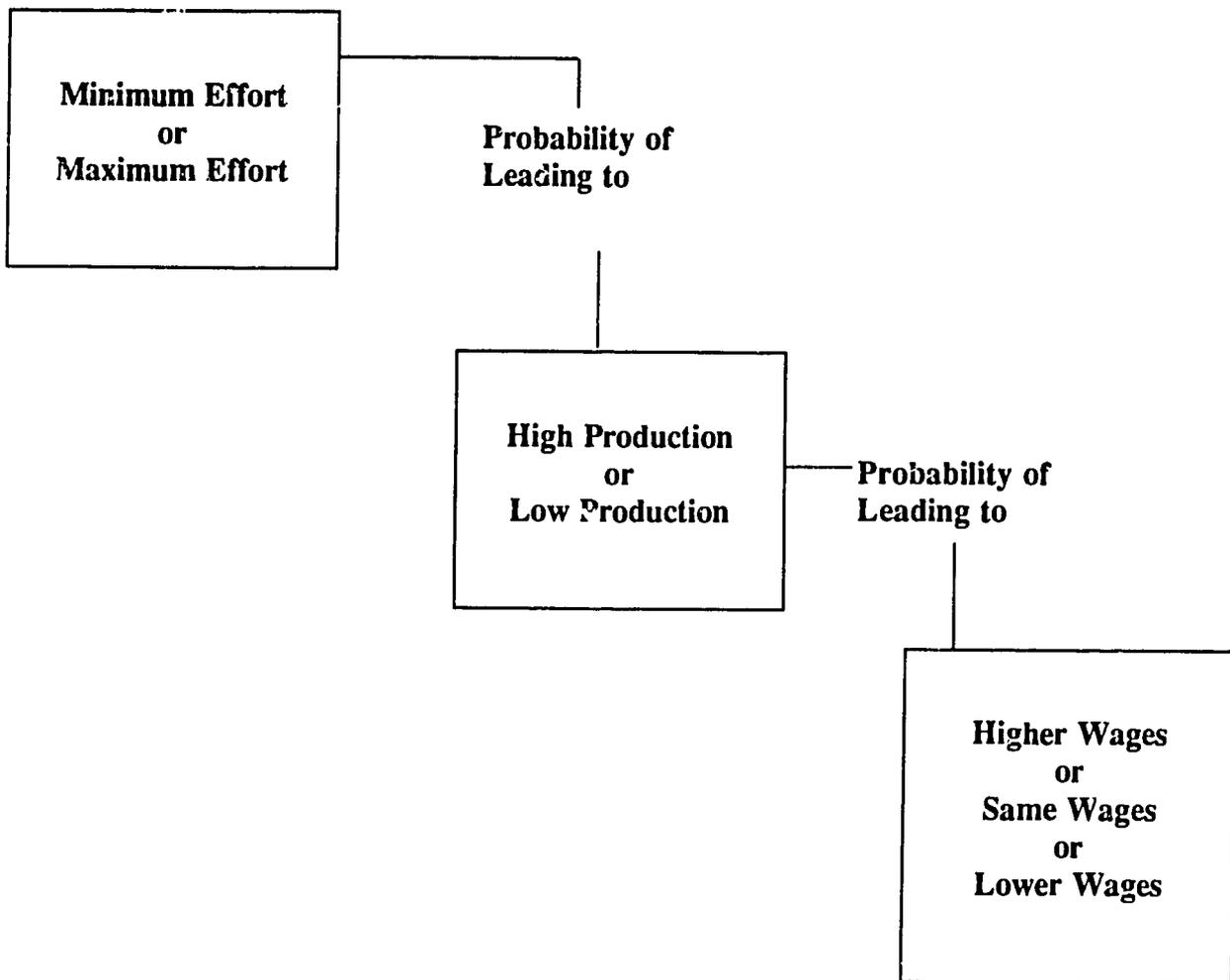
- **A major purpose of an appraisal interview is to provide the interviewees with data that will allow them the opportunity to change their behavior, but you can outline the likely consequences of their behavior in an objective fashion.**
- **The appraisal interview can be an occasion for great anxiety for some individuals. This means that their ability to take in information may be impaired, so verbal or written summaries of what has been said are useful. People with low-self-concepts may hear only the negative feedback, while others will hear only positive and completely miss the changes you would like to see made.**
- **Being evaluated evokes authority issues for many individuals and results in defensive communication. Taking care to posture yourself more as a counselor than a judge and creating a non-defensive climate by the way you communicate are two ways to decrease defensiveness.**
- **When people succeed, they are likely to attribute their success to the internal qualities they possess (e.g., tenacity, intelligence). When they fail, some are likely to blame external conditions (e.g., their boss, the company's policies). Assigning blame is not as important as is trying to figure out ways to improve in the future.**

*Source: Kolb, David A., Rubin, Irwin M., & Osland, Joyce M. Organizational Behavior: An Experimental Approach, p. 449. Prentice Hall, Englewood Cliffs, 1991. Reproduced by permission of the publisher.

PERFORMANCE APPRAISAL TIPS FOR MANAGERS

- **Managers are sometimes guilty of keeping their employees from performing well. For that reason, this issue should be addressed by managers. Employees are less likely to bring this subject up, though it may well be on the tip of their tongue. Sessions involving mutual feedback are usually more effective than one-way feedback. If you give feedback, you should expect to receive it.**
- **No matter how objective managers try to be, there is always a possibility of bias or misperception. Incorrect evaluations are very demotivating. There are two ways to avoid making incorrect evaluations. One is to collect good data and even check out your perceptions with other colleagues. The second way is to allow the employee the opportunity to present their self-evaluation first and carefully consider the employee's viewpoint. This does not mean that managers should back down from their statements if an employee disagrees. There are times when people cannot agree because of perceptual processes or ego defenses. The message here is to beware of possible bias or lack of information and collect enough data so you are well prepared.**
- **When employees have an opportunity to present their self-evaluations and explain contingencies that have affected their performance, they are more likely to see the appraisal as valid. For this reason, effective managers ask the employee to prepare a self-evaluation before coming to the interview and either wait until after the interview to prepare their own review or prepare only a draft that can be modified on the basis of information received during the interview.**
- **Some managers focus more on what employees do wrong than on what they do right.**

COMPENSATION EXPECTANCY MODEL
Range of Effort Choice



MODEL OF THE WAGE AND SALARY DETERMINATION PROCESS

Organization and Environmental Constraints	Organizational Techniques	Outcomes
Labor Market Availability Labor Market Prices Legal Requirements (e.g., minimum wage, equal pay, etc.) Ability to Pay Industry Practices Organizational Philosophy (e.g., Train and Develop Skills vs. Buy Skills in Labor Market, etc.) Extent of Unionization	Job Analysis Job Evaluation Job Worth/Job Structure Job Grades Wage and Salary Survey	Job Pricing/Wage Structure Internal Equity External Equity Individual Equity

AREAS OF HUMAN RESOURCE COSTING

ATTRACTING	HIRING	DEVELOPING	KEEPING	LOSING
Advertising	Application blanks	On-the-job training	Wages	Turnover
Recruiting Visits	Application processing	Orientation	Merit pay	Absenteeism
Agency fees	Interviewing medical exams	Upgrade training	Error rates	Exit interviews
Literature	Testing	Initial employee costs in:	Bonuses and awards	Severance pay
Public relations	Reference checks	production	Performance appraisals	Sick leave pay
	Applicant travel expenses	maintenance,	Benefits	Unemployment compensation
	Overhead	supervision,	Social Security	Retirement
		accidents,	Ineffective performance	Tardiness
		waste	Accidents	Work stoppages
			Grievances	
			Downtime	

GOALS OF TEAM BUILDING

- 1. ACHIEVING CONSENSUS ON OBJECTIVES AND GOALS OF THE TEAM.**
- 2. IDENTIFYING PROBLEMS PREVENTING THE ACHIEVEMENT OF THESE GOALS.**
- 3. DEVELOPING TEAM-PLANNING, GOAL-SETTING, PROBLEM-SOLVING, AND DECISION-MAKING SKILLS AND IMPROVING THE WORK HABITS OF THE TEAM SUCH AS THE USE OF TIME.**
- 4. DIAGNOSING THE PRESENT TEAM STYLE AND DETERMINING WHAT WOULD BE THEIR PREFERRED STYLE OF OPERATING.**
- 5. UTILIZING FULLY THE INDIVIDUAL RESOURCES OF TEAM MEMBERS ... STRENGTHS, EXPERTISE, AND IDEAS NOT INTEGRATED INTO GROUP ACTIVITIES.**
- 6. DEVELOPING ACTION AGENDAS, RESPONSIBILITIES, AND SETTING SPECIFIC DATES FOR FOLLOW-UP OF THESE AND ACTIVITIES IDENTIFIED AS IMPORTANT DURING THE SESSION.**

WAYS FOR AN OWNER TO CREATE A MOTIVATING ENVIRONMENT IN A SMALL BUSINESS

- **CARE ABOUT THE PEOPLE WHO WORK FOR YOU AND BE CONCERNED WITH THEIR PROBLEMS AND OPPORTUNITIES.**
- **TAKE RESPONSIBILITY FOR YOUR ACTIONS. ACKNOWLEDGE YOUR MISTAKES, DON'T BLAME THEM ON EMPLOYEES.**
- **TREAT EMPLOYEES WITH RESPECT.**
- **GIVE PRAISE WHEN A JOB IS WELL DONE.**
- **SO FAR AS POSSIBLE, FOSTER INDEPENDENCE IN YOUR EMPLOYEES.**
- **BE WILLING TO LEARN FROM YOUR EMPLOYEES.**
- **ALWAYS EXHIBIT ENTHUSIASM AND CONFIDENCE.**
- **KEEP OPEN LINES OF COMMUNICATION TO YOUR EMPLOYEES. LISTEN TO THEIR OPINIONS.**
- **WORK WITH YOUR EMPLOYEES TO HELP THEM DO THEIR JOBS.**
- **SET STANDARDS FOR YOURSELF AND THE COMPANY AND COMMUNICATE THESE STANDARDS TO EMPLOYEES.**
- **ALWAYS LET EMPLOYEES KNOW WHERE THEY STAND.**
- **ENCOURAGE EMPLOYEE INITIATIVE, INNOVATION, AND INGENUITY.**
- **DON'T LET YOUR PREJUDICES AND BIAS INTERFERE WITH THE TREATMENT AND EVALUATION OF EMPLOYEES.**
- **ALWAYS BE FLEXIBLE.**

DEALING WITH DISCIPLINARY PROBLEMS

- **RULES AND STANDARDS MUST BE REASONABLE.**
- **COMMUNICATE THE REASONING BEHIND RULES.**
- **MAKE SURE THAT THE RULES ARE KNOWN AND UNDERSTOOD BY ALL EMPLOYEES.**
- **THERE SHOULD BE NO FAVORITISM.**
- **MODIFY RULES FOR SPECIFIC EXTENUATING CIRCUMSTANCES, IF NECESSARY.**
- **CONSIDER MODIFICATION OF RULES THAT EMPLOYEES PERCEIVE AS UNFAIR OR UNNECESSARY.**
- **PUNISHMENT FOR BREAKING RULES SHOULD BE THOROUGHLY EXPLAINED AND UNDERSTOOD BY EMPLOYEES.**
- **ESTABLISH AN APPEALS PROCEDURE SO THAT EMPLOYEES HAVE A WAY TO HAVE THEIR POINT OF VIEW HEARD IF THEY FEEL THAT THERE IS AN UNFAIR DECISION.**

EMPLOYEE TERMINATION GUIDELINES

- **WARN AND COUNSEL AN EMPLOYEE WHOSE DISMISSAL IS CONTEMPLATED PRIOR TO THE DISMISSAL DECISION.**
- **ONCE IT IS DEFINITELY DECIDED TO DISMISS AN EMPLOYEE, DO NOT DELAY.**
- **HOLD A TERMINATION INTERVIEW WITH THE EMPLOYEE, EXPLAINING TACTFULLY BUT STRAIGHT-FORWARDLY THE REASONS FOR TERMINATION.**
- **BE SURE THAT YOU HAVE THE EMPLOYEE'S CORRECT FORWARDING ADDRESS AND TELEPHONE NUMBER.**
- **PAY ALL WAGES THAT ARE DUE TO THE EMPLOYEE.**
- **IF SEVERANCE PAY IS PART OF THE CONTRACT, BE SURE THAT IT IS PAID.**
- **MAINTAIN A FILE ON TERMINATED EMPLOYEES WHICH INCLUDES THE REASONS FOR TERMINATION.**
- **RESPOND TO ANY REQUESTS FOR INFORMATION FROM THE WORKERS' COMPENSATION DISABILITY INSURANCE OR UNEMPLOYMENT INSURANCE BOARD IF YOUR TERMINATED EMPLOYEE APPLIES FOR ANY OF THESE BENEFITS.**

HO 7-1 (continued)

The U.S. Small Business Administration has compiled a list of things that contribute to employee morale in order of their importance to employees. Check the items you will offer your employees and explain how you will offer them.

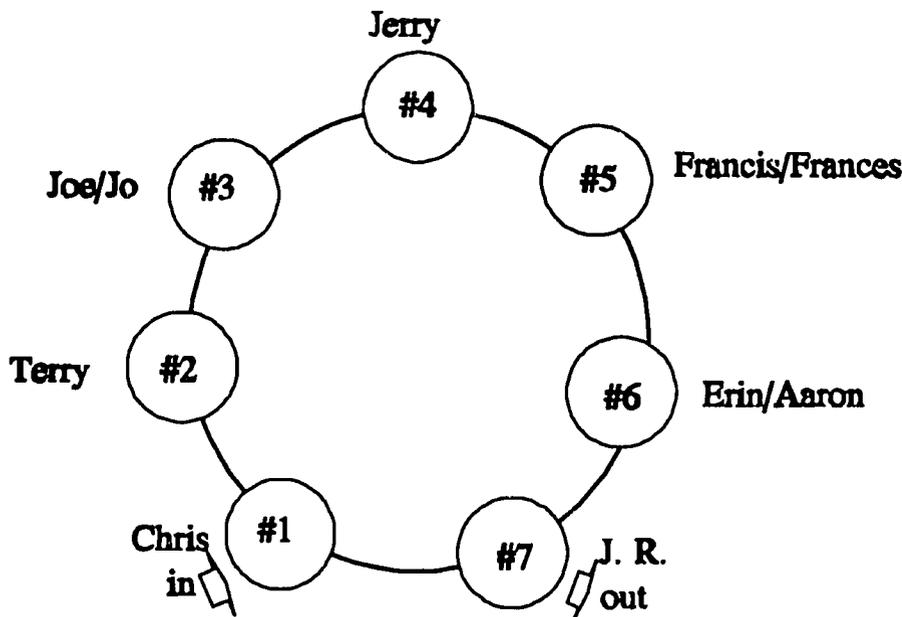
Item	Will you offer?	How will you offer?
1. Job Security		
2. Job Interest		
3. Opportunity for Advancement		
4. Appreciation from Management		
5. How Open and Ethical the Business is in Dealings with Employees, Customers, and Vendors.		
6. Many Different Aspect to the Job		
7. Salary/Wages		
8. Supervision (Close? Work Independently?)		
9. Social Aspects of Job		
10. Working Conditions		
11. Communication		
12. Working Hours		
13. Difficulty		
14. Benefits		

PRODUCTION ASSEMBLY EXERCISE

Exercise 2

General Instructions

This exercise is concerned with a subassembly operation in which seven man and/or women, working in a circle, assemble a part of a car. The article enters the circle at one point, and each person adds his or her pieces and pushes the unit to the next worker who adds his or her elements. When the unit leaves the circle, it is a completed part. This arrangement is diagrammed below.



There are four such assembly stations, each one supervised by an advisor. Station A assembles 85 units per day; Station B, 80 per day; Station C, 60 units per day; and Station D, 55 units. Station D previously assembled 60 units per day. The advisor was dissatisfied with the production and reprimanded the group; thereafter, production fell to 50 units.

The assembly work is straightforward and requires a minimum of training. The aptitude requirement is primarily good finger dexterity. The materials for each assembly position are located in bins that are supplied by material handlers, so that each worker has the essential material at his or her elbow. The job has been analyzed by time-and-motor experts so that the positions are of equal difficulty. Pay is based on hourly rates.

The total factory production is dependent on receiving the required number of assembled units from these four stations. The production is now so low that the factory output has had to slow down. The desired output is 300 parts per shift for the four stations combined.

We are concerned with Station C, producing at the rate of 60 units. The work piles up at the position of Joe (or Jo) Jones (position #3). Advisors on nonproduction jobs are not willing to accept Jo (or Joe) as a transfer. Jo(e) has previous good service with the company. Emphasis on improving production has brought his (or her) deficiencies to light.

ROLE SHEET

Robin Benton, Advisor

You are the new advisor for Unit C and have been instructed by your superiors to increase production. A time-and-motion study analysis has shown that the amount of work at each position is practically the same. The number three position (Jo and Joe's position) is, however, slightly easier than the others in that one less motion is required. Undoubtedly, the previous advisor put Jo(e) there to reduce the bottleneck. You have received training in solving problems by using the crew's participation and you are going to try to work out the problem by this method. You, therefore, have stopped the production line for a discussion. You understand that Jo(e) is your problem--you cannot pass him off to another advisor. You find Jo(e) a likeable person, and it is your impression that he (or she) gets along well with the other workers in the unit.

ROLE SHEET

Chris, No. 1 Position

You find that you can easily do more work but have to slow down because Jo(e) gets behind. In order to make him (or her) feel bad, you hold back. You don't want to get Jo(e) into trouble.

ROLE SHEET

Terry, No. 2 Position

You and Chris work closely together, and you are usually waiting for your part from Chris. This is more likely to happen in the later part of the day than in the beginning. To keep busy, you often help out Jo(e), who can't keep up. However, you are careful not to let the advisor catch you helping Jo(e) because he or she might let Jo(e) go.

ROLE SHEET

Joe or Joe, No. 3 Position

You work hard but just aren't as fast as the others. You know you are holding things up, but no matter how you try, you get behind. The rest of the workers are great people, but apparently have more energy and skill than you do.

ROLE SHEET

Jerry, No. 4 Position

Jo(e) has trouble keeping up, so you sometimes grab Jo(e)'s part and finish it for him or her when the advisory isn't looking. Jo(e) can't keep up the pace and feels the strain. For you the job is easy, and you feel the whole job is slowed down too much because of Jo(e). You ask yourself why Joe couldn't be given less to do.

ROLE SHEET

Francis or Frances, No. 5 Position

You feel a bit uneasy on this job. There isn't enough to do, so you have to act busy. If only Jo(e) could speed up a bit. Why don't they move in or her out of the group? Is the company so blind that they can't see where the production trouble is?

ROLE SHEET

Erin or Aaron, No. 6 Position

You are able to keep up with the pace, but on the last assembly job, you were pressed. Fortunately, Jo(e) is slower than you are so he keeps the pressure off you. You are determined that Jo(e) not be moved off the job. Somebody has to protect people from speedup tactics.

ROLE SHEET

J.R., No. 7 Position

You get bored doing the same operations over and over. On some jobs, you vary your pace by working fast for awhile and then slowly. On this job though, you can't work fast because the parts aren't fed to you fast enough. It gets you down to keep doing exactly the same thing over and over in slow motion. You are considering getting a job some place where they can keep a worker busy.

CLASS DISCUSSION EXERCISE

Coaching/Training Exercise

COACHING/TRAINING EXERCISE

Exercise 3

ABSTRACT

This section presents an experiential exercise designed to put into practice individual and small group behavioral aspects of learning, coaching, and operant conditioning. After attempting to solve a hard problem individually, a series of meetings are held with coaches utilizing different styles of teaching. The effect of the different styles of coaching upon the success of problem solving, as well as the problems encountered in operationalizing the different styles of coaching are the point of the exercise.

INTRODUCTION

Purpose: To demonstrate concepts of learning and problem solving, including operant conditioning and vicarious learning, and to experience the process of coaching under difficult circumstances.

Advance Preparation: The participants should have a basic understanding of the concepts of learning and coaching.

Group Size: The exercise is formulated to be done in a group of six, preferably with a group with which there has been prior experiential exercise experience.

Time Required: Approximately 90 minutes.

Special Materials: Instruction sheet for each participant, problem solving sheet for each participant, role sheet for each of the three coaches in each group.

Related Topics: Group dynamics, self-evaluation, and perception.

PROCEDURE

Step 1 - Instructions

This step requires 5 minutes. The instruction sheet (Appendix I) is read, and each group of six is randomly divided into three coaches and three problem solvers. The methodology of the exercise, including an individual problem solving step and three meetings with different coaches, is outlined.

Source: "Problem Solving: "An Exercise on Learning, Coaching and Operant Conditioning" by Gomolka Eugene, G., Virginia Polytechnic Institute & S.U. and Mackin Joanne L., Consultant.

Step 2 - Individual Problem Solving

This step required 15 minutes. Working alone, each individual is to solve a problem, such as the multiplication problem shown on the problem sheet (Appendix II). Additionally, each individual answers questions relating to self-confidence, and the evaluation of the abilities of their group members.

Step 3 - Coaching

This step requires 30 to 45 minutes. According to the schedule established on the instruction sheet (Appendix I), three successive meetings are held between problem solvers and coaches. Each problem solver gets to experience three different styles of coaching: positive operant conditioning, negative operant conditioning, and vicarious learning. The instruction sheets for the coaches are given in Appendix III.

Step 4 - Discussion

This step requires approximately 25 minutes, and involves a briefing of the results, and a discussion of their significance.

COACHING AND PROBLEM SOLVING

Instructions and Schedule:

Each individual in your class group will be assigned the activity of coach or problem solver. During the exercise, the problem solver will meet with various coaches according to the following schedule:

	Coach	Problem Solver
Meeting #1	A	1
	B	2
	C	3
Meeting #2	A	2
	B	3
	C	1
Meeting #3	A	3
	B	1
	C	2

The instructor will assign individual duties, meeting place, and the length of time for each meeting. Please note the list of individual assignments below, as the instructor announces them for your group.

Your Group _____

Coaches: A _____ Problem Solver: 1 _____

B _____ 2 _____

C _____ 3 _____

Problem Solvers are to continue with the solution of the problems, but in the presence of the coaches. If you solve the first problem, go on to the second.

Coaches will be given their instructions on a separate sheet of paper.

Your Group _____

Your Name _____

PROBLEM SOLVING

- a. Referring to the problem below, supply a digit for each letter so that the equation is correct. There is only one set of digits that will work. A given letter always represent the same digit:

$$\begin{array}{r} \text{A B C D E} \\ \cdot \quad \quad \times 4 \\ \hline \text{E D C B A} \end{array}$$

- b. Do you think that you can solve this problem within 15 minutes.

_____ Yes _____ No

Which members of your work group do you think can solve this problem within 15 minutes? List them by name.

If you could select one person from your work group to help you with the solution of this problem, which group member would it be? List the name of the one person.

- c. Workspace and solution.
- d. If you finish the first problem, here is another problem which is to be solved following the same rules given in Part a.

$$\begin{array}{r} \text{S E N D} \\ + \text{M O R E} \\ \hline \text{M O N E Y} \end{array}$$

- e. Workspace and solution.

COACH A

Your coaching style is to be centered on positive operant conditioning. Reinforce attempts at solving the problem with kind words contingent upon accomplishment. Give intermittent praise and encouragement, feedback on performance, etc. to shape behavior.

One of the other coaches will be using negative operant conditioning, centering upon punishment to shape behavior. Your coaching style should provide a marked contrast in the environment which the problem solver encounters while trying to solve the problem.

Do not reveal your instructions to any of the problem solvers that you coach! Be evasive if they want to know what you are up to.

Until the instructor calls time, spend a few moments thinking how you will implement positive operant conditioning. After each meeting with a problem solver, reflect upon the kinds of problems and difficulties you encountered in this role. After the completion of the exercise, a general discussion of specific experiences will be held.

If you are not sure of exactly how to solve the problem, do the best that you can to create an atmosphere of reward and positiveness.

COACH B

Your coaching style is to be centered on negative operant conditioning. Use as punishment unkind words based upon lack of accomplishment. Try to shape behavior by criticism, and telling what isn't being done right. Even if you are not sure how to solve the problem, create an atmosphere of punishment as best as you can.

One of the other coaches will be using positive operant conditioning, centering upon reward, to shape behavior. Your coaching style should provide a marked contrast in the environment in which the problem solver operates.

Do not reveal your instructions to any of the problem solvers that you coach! Be evasive if they want to know what you are up to.

Until the instructor calls time, spend a few moments thinking how you will implement negative operant conditioning. After each meeting with problem solver, reflect upon the kinds of problems general discussion of specific experiences will be held.

COACH C

Your coaching style is to be based upon vicarious learning. Have your assigned problem solver listen to you as you solve or recite the solution of a similar problem. You will be given extra copies of the sample problem to share with the problem solver, but do not let the problem solver see your answer sheet, since the vicarious learning is to be based totally upon oral, not visual instruction. Once again, read or recite the demonstration of the solution of the sample problem to the problem solver as often as the time you have together allows. If you do not understand exactly how to solve the problem, do the best that you can in relay-ing information to the problem solver. If you encounter someone who has solved the first problem, still go through with your training, since your information may be helpful in solving the second problem.

Until the instructor calls time, spend a few moments reading the solution to the sample problem, and thinking how you will implement vicarious learning. After each meeting with a problem solver, reflect upon the kinds of problems and difficulties that you encountered in this role. After the completion of the exercise, a general discussion of specific experiences will be held.

Sample Problem:

$$\begin{array}{r} \text{A B} \\ \times 5 \\ \hline \text{C C B} \end{array}$$

Solution:

- Since B multiplied by 5 results in a B in the answer, B must be either 0, 1, or 5, since these are the only possibilities which can result in this outcome.
- If B was a 0, then $5 \times 0 = 0$, with no carryover to the next part of the multiplication. Therefore, $5A$ would have to equal C C. There is no value of A which when multiplied by 5 gives a result whose two digits are the same. Therefore, B cannot be 0.
- If B was 3, then $5 \times 3 = 15$; hence a 2 is carried over the next part of the multiplication. Therefore, $5A + 2$ would have to equal C C. The value of 4 for A would create the result of $(5 \times 4) + 2 = 22$, which gives a result whose two digits are the same.
- If B was 3, then $5 \times 3 = 15$; hence a 1 is carried over to the next part of the multiplication. Therefore, $5A + 1$ would have to equal C C. The value of 2 for A would create the result of $5(2) + 1 = 11$, which gives a result whose two digits are the same.
- Therefore, this sample problem could have to possible solutions, which are:

$$\begin{array}{r} 45 \quad 23 \\ \times 5 \quad \text{and} \quad \times 5 \\ \hline 225 \quad 115 \end{array}$$

However, the problems in the exercise have only one solution!

PROBLEM SOLVING
Exercise Results

Group	Member	Can You Solve?	Did You Solve?	Who In Your Group Can Solve?	Who In Your Group Would Be Helpful To Solve?
1	A	Yes	No	C, D, F	D
	B	Yes	No	D, F	F
	C	Yes	Yes	A, D, F	F
	D	No	No	C	C
	E	No	No	D, F	F
	F	Yes	Yes	B, C, D, E	B
		4 Yes 2 No	2 Yes 4 No	A-1, B-1, C-3 D-4, 4-1, F-4	B-1, C-1, D-1, F-3
2	A	No	No	C	C
	B	No	No	A, C	C
	C	Yes	Yes	A, F	A
	D	Yes	No	A	A
	E	Yes	Yes, 162	A, B, C, D, F	F
	F	-	-	-	-
		3 Yes 2 No	2 Yes 3 No	A-4, B-1, C-3, D-1, F-2	A-2, C-3, F-1
3	A	Yes	No	C, D, F	F
	B	Yes	No	A, C, D, E, F	C
	C	Yes	Yes, 162	A, F	A
	D	No	Yes	C, F	C
	E	No	No	A, C, F	C
	F	-	-	-	-
		3 Yes 2 No	2 Yes 3 No	1-3, C-4, D-2 E-1, F-5	A-1, C-3, F-1

COACHING ACTION PLAN

Exercise 4

1. Briefly describe the coaching opportunity. _____

2. Make some notes regarding how you will accomplish each of the following steps in the coaching process.

a. Prepare the learner: _____

b. Demonstrate the operation (Consider necessary materials, tools, equipment):

c. Create a positive atmosphere: _____

d. Have the learner perform (When? Under what conditions?): _____

e. Follow up: _____

COACHING ACTION PLAN
Exercise 4

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a. Prepare the learner: _____

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c. Create a positive atmosphere: _____

d. Have the learner perform (When? Under what conditions?): _____

e. Follow up: _____

THE SLADE COMPANY CASE*

Ralph Porter, Production Manager of The Slade Company, was concerned by reports of dishonesty among some employees in the Plating Department. From reliable sources, he had learned that a few men were punching the timecards of a number of their workmates who had left early. Mr. Porter had only recently joined the Slade organization. He judged from the conversations with the previous production manager and other fellow managers that they were, in general, pleased with the overall performance of the Plating Department.

The Slade Company was a prosperous manufacturer of metal products designed for industrial application. Its manufacturing plant, located in central Michigan, employed nearly 500 workers, who were engaged in producing a large variety of clamps, inserts, knobs, and similar items. Orders for these products were usually large and on a recurrent basis. The volume of orders fluctuated in response to business conditions in the primary industries which the company served. At the time of this case, sales volume had been high for over a year. The bases upon which The Slade Company secured orders, in rank of importance, were quality, delivery, and reasonable price.

The organization of manufacturing operations at the Slade plant is shown in Exhibit 1. The departments listed there are, from left to right, approximately in the order in which material flowed through the plant. The diemaking and setup operations required the greatest degree of skill, supplied by highly paid, long-service craftsmen. The finishing departments, divided operationally and geographically between plating and painting, attracted less highly trained but relatively skilled workers, some of whom had been employed by the company for many years. The remaining operations were largely unskilled in nature and were characterized by relatively low pay and high turnover of personnel.

The plating room was the sole occupant of the top floor of the plant. Exhibit 2 shows the floor plan, the disposition of workers, and the flow of work throughout the department, plating or oxidizing the metal parts or preparing parts for the application of paint at another location in the plant. The department's work occurred in response to orders communicated by production schedules which were revised daily. Schedule revisions, caused by last-minute order increases or rush requests from customers, resulted in short-term volume fluctuations, particularly in the plating, painting, and shipping departments. Exhibit 3 outlines the activities of the various jobs, their interrelationships, and the type of work in which each specialized.

Exhibit 4 rates the various types of jobs in terms of the technical skill, physical effort, discomfort, and training time associated with their performance.

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* Source: Lau, James B. & Jelinek, Mariann Behavior in Organizations: An Experimental Approach, pp. 177-184. Richard D. Irwin, Inc. Homewood, Illinois 1984, 3rd edition. Translated and reproduced with permission.

Exhibit 1

THE SLADE COMPANY: Manufacturing Organization

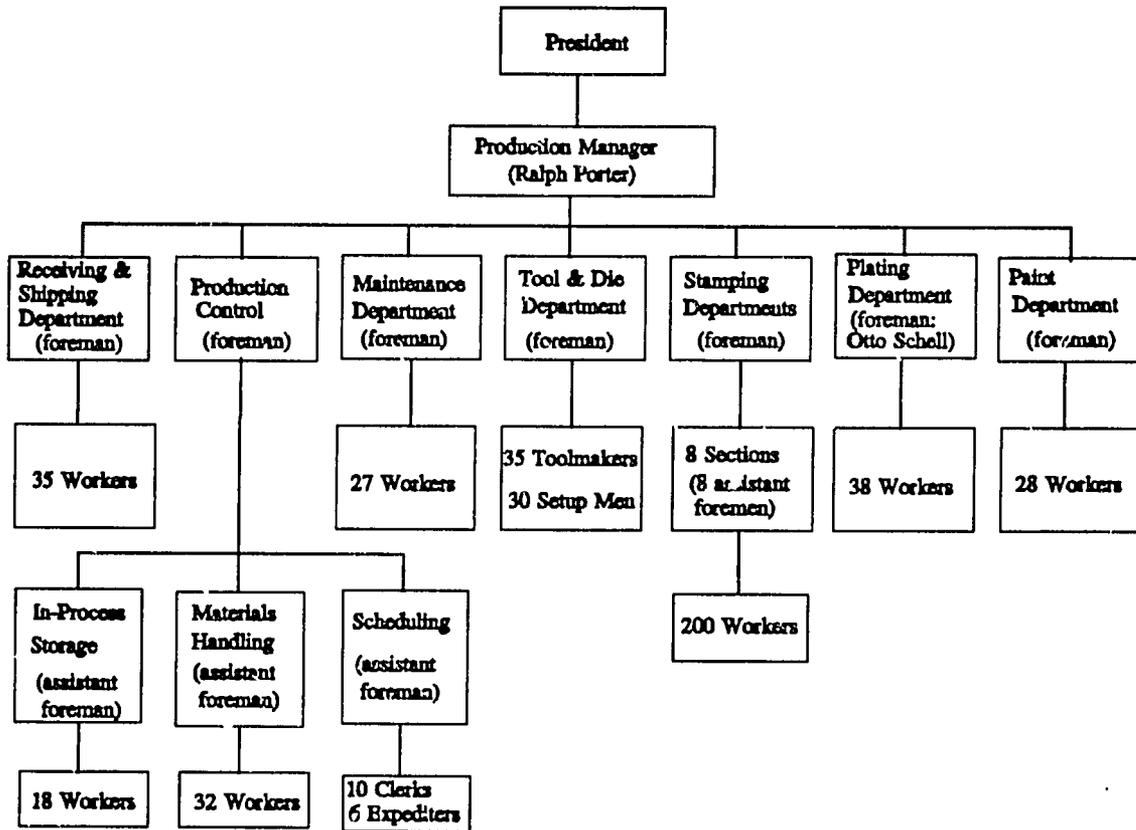
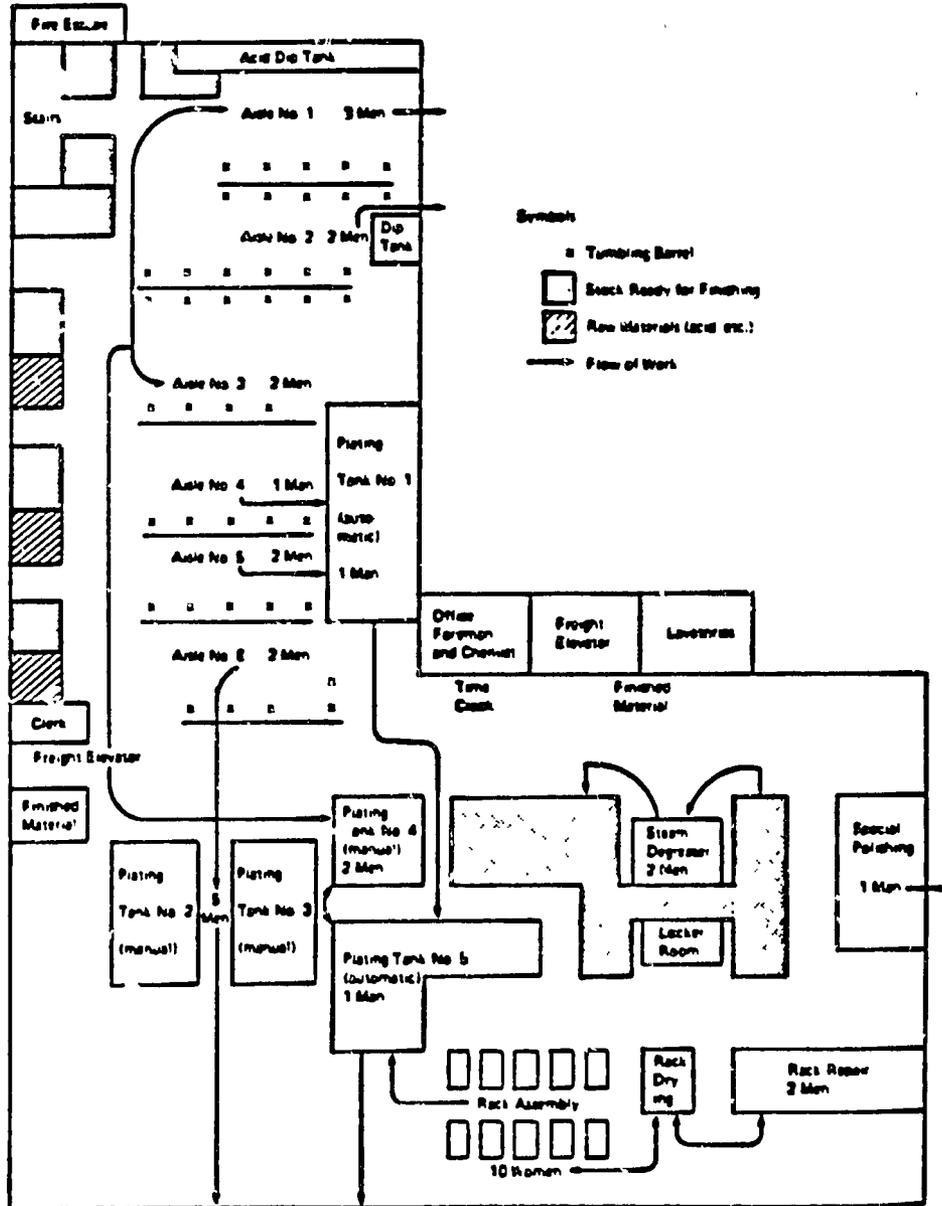


Exhibit 2
 THE SLADE COMPANY: Plating Room Layout



The activities which took place in the plating room were of three main types:

1. Acid dipping, in which parts were etched by being placed in baskets which were manually immersed and agitated in an acid solution.
2. Barrel tumbling, in which parts were roughened or smoothed by being loaded into machine-powered revolving drums containing abrasive, caustic, or corrosive solutions.
3. Plating-either manual, in which parts were loaded on racks and were immersed by hand through the plating sequence; or automatic, in which racks or baskets were manually loaded with parts which were then carried by a conveyor system through the plating sequence.

Within these main divisions, there were a number of variables, such as cycle times, chemical formulas, abrasive mixtures, and so forth, which distinguished particular jobs as they have been categorized in Exhibit 3.

The work of the plating room was received in batch lots whose size averaged a thousand pieces. The clerk moved each batch, which was accompanied by a routing slip, to its first operation. This routing slip indicated the operations to be performed and when each major operation on the batch was scheduled to be completed, so that the finished product could be shipped on time. From the accumulation of orders before him, each man was to organize his own work schedule so as to make optimal use of equipment, materials, and time. Upon completion of an order, each man moved the lot to its next work position or to the finished material location near the freight elevator.

The plating room was under the direct supervision of the foreman, Otto Schell, who worked a regular 8:00 to 5:00 day, five days a week. The foreman spent a good deal of his working time attending to maintenance and repair of equipment, procuring supplies, handling late schedule changes, and seeing that his people were at their proper work locations.

Working conditions in the plating room varied considerable. That part of the department containing the tumbling barrels and the plating machines was constantly awash, alternately with cold water, steaming acid, or caustic soda. Men working in this part of the room wore knee boots, long rubber aprons, and high-gauntlet rubber gloves. This uniform, consistent with the general atmosphere of the "wet" part of the room, was hot in the summer, cold in winter. In contrast, the remainder of the room was dry, was relatively odorfree, and provided reasonably stable temperature and humidity conditions for those who worked there.

The men and women employed in the plating room are listed in Exhibit 5. This exhibit provides certain personal data on each department member, including a productivity-skill rating (based on subjective and objective appraisals of potential performance), as reported by the members of the department.

Exhibit 3

THE SLADE COMPANY: Outline of Work Flow, Plating Room

Aisle 1:	Worked closely with Aisle 3 in preparation of parts by barrel tumbling and acid dipping for high quality* plating in Tanks 4 and 5. Also did a considerable quantity of highly specialized, high-quality acid-etching work not requiring further processing.
Aisle 2:	Tumbled items of regular quality and design in preparation for painting. Less frequently, did oxidation dipping work of regular quality, but sometimes of special design, not requiring further processing.
Aisle 3:	Worked closely with Aisle 1 on high-quality tumbling work for Tanks 2 and 3.
Aisles 4 and 5:	Produced regular tumbling work for Tank 1.
Aisle 6:	Did high-quality tumbling work for special products plated in Tanks 2 and 3.
Tank 1:	Worked on standard, automated plating of regular quality not further processed in plating room, and regular work further processed in Tank 5.
Tanks 2 and 3:	Produced special, high-quality plating work not requiring further processing.
Tank 4:	Did special, high quality plating work further plated in Tank 5.
Tank 5:	Automated production of high- and regular-quality, special- and regular-design plated parts sent directly to shipping.
Rack Assembly	Placed parts to be plated in Tank 5 on racks.
Rack Repair:	Performed routine replacement and repair of racks used in Tank 5.
Polishing:	Processed, by manual or semimanual methods, odd-lot special orders which are sent directly to shipping. Also, sorted and reclaimed parts rejected by inspectors in the shipping department.
Degreasing:	Took incoming raw stock, processed it through caustic solution, and placed clean stock in storage ready for processing elsewhere in the plating room.

Exhibit 4
The Slade Company: Skill Indices by Job Group*

Jobs	Technical Skill Required	Physical Effort Required	Degree of Discomfort Involved	Degree of Training Required†
Aisle 1	1	1	1	1
Tanks 2-4	3	2	1	2
Aisles 2-6	5	1	1	5
Tank 5	1	5	7	2
Tank 1	8	5	5	7
Degreasing	9	3	7	10
Polishing	6	9	9	7
Rack assembly and repair	10	10	10	10

* Rated on scales of 1 (the greatest) to 10 (the least) in each category.

† The amount of experience required to assume complete responsibility for the job.

The pay scale implied by Exhibit 5 was low for the central Michigan area. The average starting wage for factory work in the community was about \$1.25. However, working hours for the plating room were long (from 60 hours to a possible and frequently available 76 hours per week). The first 60 hours (the normal five-day week) were paid for on straight-time rates. Saturday work was paid for at time and one-half; Sunday pay was calculated on a double-time basis.

As Exhibit 5 indicates, Philip Kirk, a worker in Aisle 2, provided the data for this case. After he had been a member of the department for several months, Kirk noted that certain members of the department tended to seek each other out during free time on and off the job. He then observed that these informal associations were enduring, built upon common activities and shared ideas about what was and what was not legitimate behavior in the department. His estimate of the pattern of these associations is diagrammed in Exhibit 6.

The Sarto group, so named because Tony Sarto was its most respected member and the one who acted as arbiter between the other members, was the largest in the department. The group, except for Louis Patrici, Al Bartolo, and Frank Bonzani (who spelled each other during break periods), invariably ate lunch together on the fire escape near Aisle 1. On those Saturdays and Sundays when overtime was required, the Sarto group operated as a team, regardless of

weekday work assignments, to get overtime work completed as quickly as possible. (Few department members not affiliated with either the Sarto or the Clark groups worked on weekends). Off the job, Sarto group members often joined in parties or weekend trips. Sarto's summer camp was a frequent rendezvous.

Sarto's group was also the most cohesive one in the department in terms of its organized punch-in and punch-out system. Since the men were regularly scheduled to work from 7:00 a.m. to 7:00 p.m., he could punch the time cards of a number of men and help them gain free time without pay loss. (This system operated on weekends also, at which times members of supervision were present, if at all, only for short periods.) In Sarto's group, the duty of staying late rotated, so that no man did so more than once a week. In addition, the group members would punch in a man in the morning if he were unavoidably delayed. However, such a practice never occurred without prior notice from the man who expected to be late and never if the tardiness was expected to last beyond 8:00 am, the start of the day for the foreman.

Sarto explained the logic behind the system to Kirk:

You know that our hourly pay rate is quite low, compared to other companies. What makes this the best place to work is the feeling of security you get. No one ever gets laid off in this department. With all the hours in the week, all the company ever has to do is shorten the work week when orders fall off. We have to tighten our belts, but we can all get along. When things are going well, as they are now, the company is only interested in getting out the work. It doesn't help to get it out faster than it's really needed-so we go home a little early whenever we can. Of course, some guys abuse this sort of thing-like Herman-but others work even harder, and it averages out.

Whenever an extra order has to be pushed through, naturally I work until 7:00. So do a lot of the others. I believe that if I stay until my work is caught up and my equipment is in good shape, that's all the company wants of me. They leave us alone and expect us to produce-and we do.

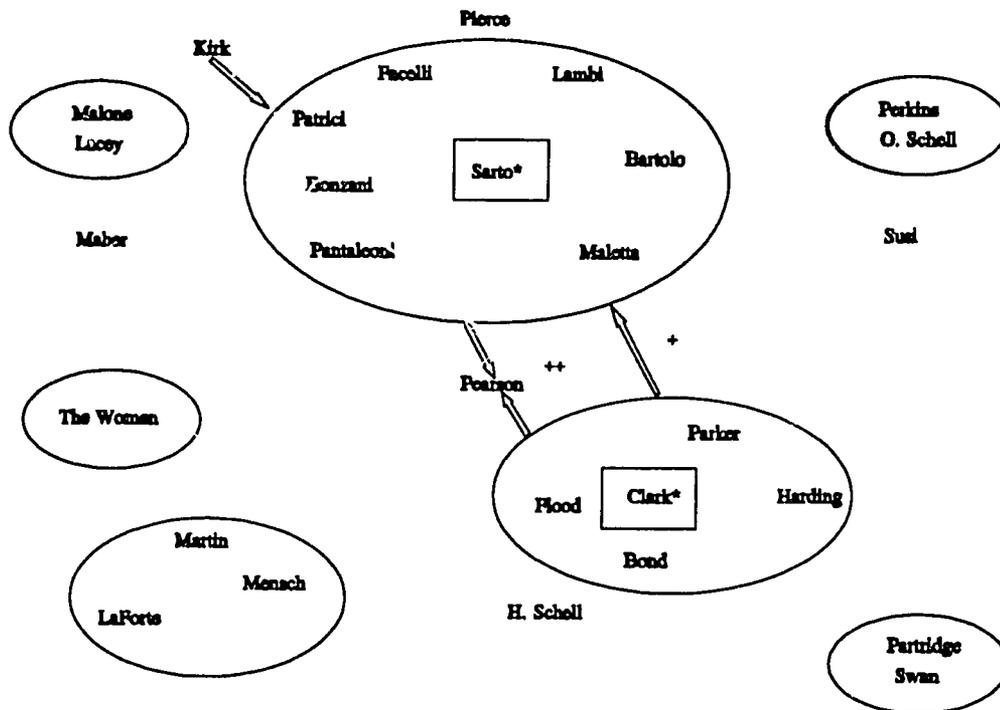
EXHIBIT 5: THE SLADE COMPANY: Plating Room Personnel

Location	Name	Age	Marital Status	Company Seniority	Department Seniority	Pay	Education	Familial Relationships	Productivity-Skill Rating*
Aisle 1	Tony Sarto	30	M	13 years	13 years	\$1.50	High School	Louis Patrici, uncle	1
	Pete Facelli	26	M	8 years	8 years	1.30	High School	Pete Facelli, cousin	2
	Joe Iambi	31	M	5 years	5 years	1.20	2 yr H.S.	Louis Patrici, uncle	
Aisle 2	Herman Schell	48	S	26 years	26 years	1.45	Grade School College	Otto Schell, brother	8
	Phillip Kirk	23	M	1 year	1 year	.90			+
Aisle 3	Dom Pantaleoni	31	M	10 years	10 years	1.30	1 yr H.S.		2
	Sal Maletta	32	M	12 years	12 years	1.30	3 yrs H.S		3
Aisle 4	Bob Pearson	22	S	4 years	4 years	1.15	High School	Father in tool & die dept.	1
Aisle 5	Charlie Malone	44	M	22 years	8 years	1.25	Grade School	Brother in paint dept.	7
	John Lacey	41	S	9 years	5 years	1.20	1 yr H.S.		7
Aisle 6	Jim Martin	30	S	7 years	7 years	1.25	High School		4
	Bill Mensch	41	M	6 years	2 years	1.10	Grade School		4
Tank 1	Henry LaForte	38	M	14 years	6 years	1.25	High School		6
Tanks 2 & 3	Ralph Parker	25	S	7 years	7 years	1.20	High School		4
	Ed Harding	27	S	8 years	8 years	1.20	High School		4
	George Flood	22	S	5 years	5 years	1.15	High School		5
	Harry Clark	29	M	8 years	8 years	1.20	High School		3
	Tom Bond	25	S	6 years	6 years	1.20	High School		4
Tank 4	Frank Bonzani	27	M	9 years	9 years	1.25	High School		2
	Al Bartolo	24	M	6 years	6 years	1.25	High School		3
Tank 5	Louis Patrici	47	S	14 years	14 years	1.45	2 yrs. College	Tony Sarto, nephew Pete Facelli, nephew	1
Rack assbly.	10 Women	30-40	9M,1S	10 years (average)	10 years (average)	1.05 (avrg)	Grade School (average)	6 with husbands in company	4 (average)
Rack maintenance	Will Partridge	57	M	14 years	2 years	1.20	Grade School		7
	Lloyd Swan	62	M	3 years	3 years	1.10	Grade School		7
Degreasing	Dave Susi	45	S	1 year	1 year	1.05	High School		5
	Mike Maher	41	M	4 years	4 years	1.05	Grade School		6
Polishing	Russ Perkins	49	M	12 years	2 years	1.20	High School		4
Foreman	Otto Schell	56	M	35 years	35 years	n.a.	High School	Herman Schell, brother	3
Clerk	Bill Pierce	32	M	10 years	4 years	1.15	High School		4
Chemist	Frank Rutlage	24	S	2 years	2 years	n.a.	2 yrs College		6

* On a potential scale of 1 (top) to 10 (bottom), as evaluated by the men in the department.

+ Kirk was the source of data for this source of data for this case and, as such, in a biased position to report accurately perceptions about himself.

Exhibit 6
THE SLADE COMPANY: Informal Groupings in the Plating Room



- * The boxes indicate those men who clearly demonstrated leadership behavior (most closely personified the values shared by their groups, were most often sought for help and arbitration, and so forth).
- + While the two- and three-man groupings had little informal contact outside their own boundaries, the five-man group did seek to join the largest group in extraplant social affairs. These were relatively infrequent.
- ++ Though not an active member of any group, Bob Pearson was regarded with affection by the two large groups.

When Kirk asked Sarto if he would not rather work shorter hours at higher pay in a union shop (Slade employees were not organized), he just laughed and said: "It wouldn't come close to an even trade."

The members of Sarto's group were explicit about what constituted a fair day's work. Customarily, they cited Herman Schell, Kirk's work partner and the foreman's brother, as a man who consistently produced below that level. Kirk received an informal orientation from Herman during his first days on the job. As Herman put it:

I've worked at this job for a good many years, and I expect to stay here a good many more. You're just starting out, and you don't know which end is up yet. We spend a lot of time in here; and no matter how hard we work, the pile of work never goes down. There's always more to take its place. And I think you've found out by now that this isn't light work. You can wear yourself out fast if you're not smart. Look at Pearson up in Aisle 4. There's a kid who's just going to burn himself out. He won't last long. If he thinks he's going to get somewhere working like that, he's nuts. They'll give him all the work he can take. He makes it tough on everybody else and on himself, too.

Kirk reported further on his observations of the department:

As nearly as I could tell, two things seemed to determine whether or not Sarto's group or any others came in for weekend work on Saturday or Sunday. It seemed usually to be caused by rush orders that were received late in the week, although I suspect it was sometimes caused by the men having spent insufficient time on the job during the previous week.

Tony and his group couldn't understand Herman. While Herman arrived late, Tony was always half an hour early. If there was a push to get out an extra amount of work, almost everyone but Herman would work that much harder. Herman never worked overtime on weekends, while Tony's group and the men on the manual tanks almost always did. When the first exploratory time study of the department was made, no one in the aisles slowed down, except Herman, with the possible exception, to a lesser degree, of Charlie Malone. I did hear that the men in the dry end of the room slowed down so much you could hardly see them move; but we had little to do with them, anyway. While the men I knew best seemed to find a rather full life in their work, Herman never really got involved. No wonder they couldn't understand each other.

There was quite a different feeling about Bobby Pearson. Without the slightest doubt, Bob worked harder than anyone else in the room. Because of the tremendous variety of work produced, it was hard to make output comparisons, but I'm sure I wouldn't be far wrong in saying that Bob put out twice as much as Herman and 50 percent more than almost anyone else in the aisles. No one but Herman and a few old-timers at the dry end ever criticized Bobby for his efforts. Tony and his group seemed to feel a distant affection for Bob, but the only contact they or anyone else had with him consisted of brief greetings.

To the men in Tony's group, the most severe penalty that could be inflicted on a man was exclusion. This they did to both Pearson and Herman. Pearson, however, was tolerated; Herman was not. Evidently, Herman felt his exclusion keenly, though he answered it with derision and aggression. Herman kept up a steady stream of stories concerning his attempts to gain acceptance outside the company. He wrote popular music which was always rejected by publishers. He attempted to join several social and athletic clubs, mostly without success. His favorite pastime was fishing. He told me that fishermen were friendly, and he enjoyed meeting new people whenever he went fishing. But, he was particularly quick to explain that he preferred to keep his distance from the men in the department.

Tony's group emphasized more than just quantity in judging a man's work. Among them had grown a confidence that they could master and even improve upon any known finishing technique. Tony himself symbolized this skill. Before him, Tony's father had operated Aisle 1 and had trained Tony to take his place. Tony in turn was training his cousin Pete. When a new finishing problem arose from a change in customer specifications, the foreman, the department

chemist, or any of the men directly involved would come to Tony for help, and Tony would give it willingly. For example, when a part with a special plastic embossing was designed, Tony was the only one who could discover how to treat the metal without damaging the plastic. To a lesser degree, the other members of the group were also inventive about the problems which arose in their own sections.

Herman, for his part, talked incessantly about his flats in design and finish creations. As far as I could tell during the year I worked in the department, the objects of these stories were obsolete or of minor importance. What's more, I never saw any department member seek Herman's help.

Willingness to be of help was a trait Sarto's group prized. The most valued help of all was of a personal kind, though work help was also important. The members of Sarto's group were constantly lending and borrowing money, cars, clothing, and tools among themselves and, less frequently, with other members of the department. Their daily lunch bag procedure typified the "common property" feeling among them. Everyone's lunch was opened and added to a common pile, from which each member of the group chose his meal.

On the other hand, Herman refused to help others in any way. He never left his aisle to aid those near him who were in the midst of a rush of work or a machine failure, though this was customary throughout most of the department. I can distinctly recall the picture of Herman leaning on the hot and cold water faucets which were located directly above each tumbling barrel. He would stand gazing into the tumbling pieces for hours. To the passing, casual visitor, he looked busy; and as he told me, that's just what he wanted. He, of course, expected me to act this same way, and it was this enforced boredom that I found virtually intolerable.

More than this, Herman took no responsibility for breaking in his assigned helpers as they first entered the department, or thereafter. He had had four helpers in the space of little more than a year. Each had asked for a transfer to another department, publicly citing the work as cause, privately blaming Herman. Tony was the one who taught me the ropes when I first entered the department.

The men who congregated around Harry Clark tended to talk like and copy the behavior of the Sarto group, though they never approached the degree of inventive skill or the amount of helping activities that Tony's group did. They sought outside social contact with the Sarto Group; and several times a year, the two groups went "on the town" together. Clark's group did maintain a high level of performance in the volume of work they turned out.

The remainder of the people in the department stayed pretty much to themselves or associated in pairs or triplets. None of these people were as inventive, as helpful, or as productive as Sarto's or Clark's groups, but most of them gave verbal support to the same values as those groups held.

The distinction between the two organized groups and the rest of the department was clearest in the punching-out routine. The women could not work past 3:00 p.m., so they were not involved. Malone and Lacey, Partridge and Swan, and Martin, LaForte, and Mensch arranged within their small groups for punch-outs, or they remained beyond 5:00 and slept or read when they finished their work. Perkins and Pierce went home when the foreman did. Herman Schell, Susi, and Maher had no punch-out organization to rely upon. Susi and Maher invariably stayed in the department until 7:00 p.m. Herman was reported to have established an arrangement with Partridge whereby the latter punched Herman out for a fee. Such a practice was unthinkable from the point of view of Sarto's group. It evidently did not occur often because Herman usually went to sleep behind piles of work when his brother left or, particularly during the fishing season, punched himself out early. He constantly railed again the dishonesty of other men in the department, yet urged me to punch him out on several "emergency occasions."

Just before I left The Slade Company to return to school after 14 months on the job, I had a casual conversation with Mr. Porter, the Production Manager, in which he asked me how I had enjoyed my experience with the organization. During the conversation, I learned that he knew of the punch-out system in the Plating Department. What's more, he told me, he was wondering if he ought to "blow the lid off the whole mess."

THE ELECTRONICS STOCK CONTROL GROUP CASE*

This case concerns a group of approximately 23 Civil Service workers employed in an inventory control point for military electronics material. Each worker was personally responsible for controlling worldwide stocks of a range of 300-3,000 repair parts. The workers were known as stock control analysts, and for each repair part in the analysts's category, a "stock status" sheet was housed in a "tube file" alongside the analyst's desk. On the basis of reports received daily from field stocking depots, these stock status sheets were updated weekly by a Univac computer. The analysts were responsible for reviewing the computer recommendations concerning the necessity for additional procurement, redistribution of assets between stock points, or interservice transfer of excess material. This manual review of the computer's work was necessary because the computer operation had not been in effect long enough to validate its accuracy, and because management felt that the price and military essentiality of the items in question warranted a selective human judgment review.

The workers were split into the following organizational components: (a) two secretarial, (b) ten electron tube analysts, (c) four nontube analysts, and (d) six service section. As shown in Exhibit 1, the physical layout of the office isolated the work group in question from other workers on the first floor of the building. The work area was compact, and as a result, the workers were generally aware of what their neighbors were doing and of what was going on around their supervisor's desk.

There was a fairly strong sentiment among the workers that the job of electron tube analyst was more glamorous than any of the other jobs in the section. The fact that electron tubes were in general very high-cost items and had wide application in "exotic" military equipment no doubt accounted for this feeling.

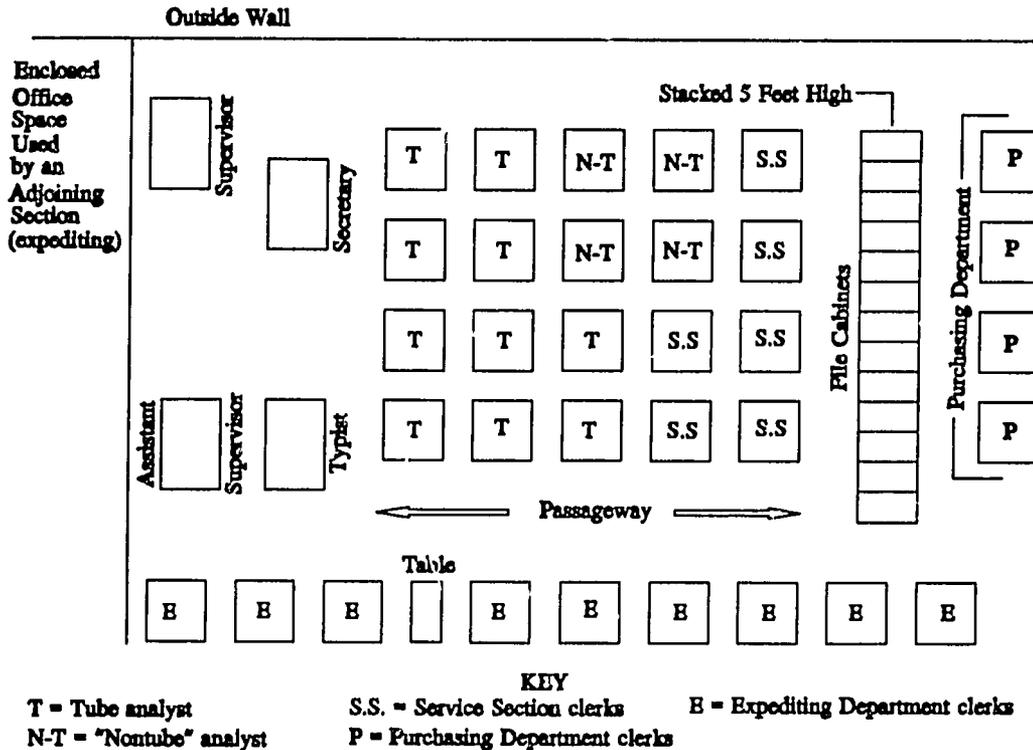
The non-tube analysts performed identical work and were paid the same salary given to the tube analysts, but the commodities they handled were not in themselves glamorous.

In general, there were more working problems related to electron tube than to nontube items; this was because of the technical complexity, price, and military essentiality of the tubes. As a consequence, the supervisor and assistant had to spend more time working with the tube analysts than with other people in the section.

* Source: Lau, James B. & Jelinek, Mariann Behavior in Organizations: An Experimental Approach, pp. 104-106. Richard D. Irwin, Inc. Homewood, Illinois 1984, 3rd edition. Translated and reproduced with permission.

Exhibit 1

The Electronics Stock Control Group: Expediting Department Floor Plan before Change



Service section personnel maintained files that contained historical logistic data related to the repair parts controlled by the section. The workers in this section performed research for the analysts and made available historical data as requested by the analysts. The salary of the service section personnel was about three-fourths of an analyst's salary.

Each analyst worked independently and was solely responsible for the complete control of a specific range of repair parts. The only required interaction between analysts was in the nature of temporary assistance to a fellow worker whenever the workload become unbalanced, as it sometimes did. Such assistance was inside the lines of the separate organizational components (i.e., tube analysts assisted only other tube analysts, nontube analysts assisted each other, and service section personnel likewise assisted only other service section personnel).

The technology of the situation required that each worker exercise sound judgment and be particularly conscientious. An error on the part of any individual worker would normally not be detected for days or weeks after it happened, but could have rather serious consequences. The group was quite mixed with regard to age, ethnic background, and education.

ASSIGNMENT

Answer these questions:

1. Would you expect productivity to be high or low? Why?
2. What satisfactions do you predict the employees of the Electronics Stock Control Group will attain from their work? Make as thorough a list as possible. Give reasons for your answers.
3. What are the potential sources of dissatisfactions the employees are apt to experience? Why?
4. What problems of coordination do you foresee?
5. What actions would you take as a manager to deal with the above areas?

PERSONNEL APPLICATION OF PERFORMANCE APPRAISAL*

This assignment is to write about a performance experience that you want to explore further.

A. Concrete Experience

1. *Objectively* describe the experience ("who," "what," "when," "where," "how" type information).
2. *Subjectively* describe your feelings, perceptions, and thoughts that occurred *during* (not after) the experience.

B. Reflective Observation

1. Look at the experience from different points of view. How many points of view did you include that are *relevant*?

C. Abstract Conceptualization

1. Relate concepts from the assigned readings and the lecture to the experience (i.e., what theories that you heard in the lecture or read that relate to your understanding of this incident?).
2. You can also create an original model or theory, but it should not replace course concepts.

D. Active Experimentation

1. Write about what you will do in the future that will improve your effectiveness. Use rules of thumb or action resolutions.
2. Are they described specifically, thoroughly, and in detail?

* Source: Kolb, David A., Rubin, Irwin M., Osland, Joyce M. Organizational Behavior: An Experimental Approach, pp. 439-442. Prentice Hall, Englewood, Cliffs, 1991. Translated and reproduced with permission.

SWISS CATERING SERVICES*
Human Resource Concepts

Swiss Catering has been in business for seven months. During that time, they have been quite successful. The owner of the business, Marie de Fand, was born in France and studied gourmet cooking for a number of years until she reached the point where she was declared a master chef. Although she did not need to work because of her family back-ground and affluence, Marie wanted to do something challenging, and she loved cooking unusual specialties. When she came to America, she decided to enter the catering business in Dallas, Texas. She loved Dallas and she felt that there was a target market for her type of catering which placed emphasis on quality food and the manner in which it was served.

Marie followed the European approach to catering, and it was a smashing success. Each of the people who worked for her had to be impeccably clean and dress accordingly. She even taught them useful French phrases and expected them to use them when serving guests. All the wines were imported from Europe, but she was careful to make certain that the steak came from Texas. Her prices were outrageous, but it seemed that the consuming public did not mind a bit, and as a matter of fact it only increased her sales. When good clients called her and asked what type of wine they should use a small gathering, Marie would send a few bottles of the appropriate wines to their house for free of charge. Marie did not advertise. She did not believe in it and felt that her reputation was the best advertising she could get. It did not cost anything but exacting service from her and her employees.

In the beginning, Marie did all the cooking. Eventually, she had to start training and supervising others in the art. She tried to employ some of her chef friends from France, promising them excellent wages and bonuses but with no success. In any case, she struggled to do her best with her personnel. She had some employees who refused to learn French and she had to fire them.

In the beginning she was not afraid of firing people, for she knew she had to have perfection. However, she was developing a larger full-time staff and she was afraid of a union. Marie had catering group supervisors who would promise to do things her way, and then when they went out on a job would change specifications. Then she had problems with some of the waiters trying to fraternize with the guests. It was a known fact that her clientele were the best and were extremely wealthy so it was to be expected that a few of the younger employees might use their charms to attempt to become friends with some of the guests. Marie did not have a tip program for the employees who did the catering. They were paid a flat \$10 per hour for their services and the bill to the client was a total bill with no provision for tips. Sometimes the clients did give tips to the waiters, but Marie made it clear to her clients that they were only obliged to pay the bill and that a tip was not necessary. The waiters did not like this because they were used to a different system.

* Source: de Young, John E. Cases in Small Business Management, pp. 225-228. Merrill Publishing Co., Columbus, Ohio. Reproduced with permission.

Marie was also having a problem with appearance. It was the responsibility of each supervisor for a catering group to check on employees' appearance, whether they were clean, whether they had any body odor, and in general to make certain that each member had everything in place and had not forgotten their white gloves. Each supervisor was to bring with him/her the cleaning materials to clean uniforms, shoes or gloves. This policy was not being carried out and Marie did receive a few complaints.

Marie was also starting to get complaints that the food was not hot and that the waiters were speeding up the meals and drinks. She also received complaints that the bartenders did not mix the drinks properly or they were purposely trying to get some people drunk. In one case, a client reported that the host for the party was drunk thirty minutes after the affair began. While he did manage to stay on his feet, he collapsed on the table when he was making a toast to the Ambassador from Holland.

Marie was trying desperately to straighten out the employees, but they did not seem to want to work with her. She had less difficulty with the women, but she wanted men to balance the staff. She was also having difficulty with the cooking. In one affair, a very important client in the oil business ordered Beef Wellington for all the guests and instead of getting what they ordered they received "Arroz con Pollo" (rice with chicken). The cake, which was to have been something special cooked by Marie, was mixed up with a small cake that was inscribed on the top, "Happy Birthday Milagros." The affair was a complete bust and Marie was furious. It was obvious that the supervisor had taken the wrong cake but she could not understand the meal confusion, for she did not have any orders that day for Spanish cooking. The guests, however, did enjoy the meal, but Marie apologized and did not charge them for the entire catering party.

The work was piling up on Marie, and she knew that something had to change. She was determined to get the right people for the catering force. A friend of hers told her that maybe she should have a profit sharing plan, but she flatly refused that recommendation. Finally, the supervisors approached Marie and told her that they could not take her treatment of them. They resented her screaming and shouting and her fussiness about cleanliness. They also resented the compensation program, especially the no tip policy. They also complained that the hours were too long. If she did not want to lose her temper until she obtained some advice. Marie told them she would get back to them and thanked them for their candor. She felt everything could be arranged to their satisfaction.

Marie did nothing about the situation for a week. One evening, she received a call at her private number which she only gave to her most important clients. It seems that T.R. Sanders was furious because at a reception he gave for his daughter, the bartenders were nasty and crude and kept messing up the orders. His little daughter, Mandy Lou, who does not drink, was given Shirley Temples with gin in them, and she threw up all over the dining room table. The waiters started swearing at some of the guests, and when he complained, the waiter went over and dropped an entire dish of hot creamed soup over his pants. The entire party was a complete failure. Further, he threatened to sue for getting his daughter drunk and for the injuries he

suffered. He was going to tell everyone in Dallas and Fort Worth that they should discontinue using her services until she managed to get things back to their original standards. Marie pleaded with T.R. and he managed to calm down after she told him about all her problems. He finally offered to put some of this management experts on her case to see what they could do to help her. He added, "Marie, we like you and we need your type of service in Dallas, but not the version we saw tonight." However, he said, "I will do everything in my power to help you even if I have to send my managers over there to run the place. If that doesn't work, I'll buy the place from you at any price and make you president." However, he assured her not to worry.

Marie was relieved, but now it was final. She had to come to grips with her catering force which now numbered 245 people including chefs.

Questions

1. Why do you think Marie's business was such an instant success?
2. Do you think that Marie grew too fast? Do you feel she should have grown at a slower pace? Why?
3. What seems to be the basic problem with Marie? Why won't her supervisors and other employees do what she asks? Do you think it was wise for her to demand that they learn French phrases? Do you think she was right to check them out for body odor?
4. Do you think Marie needs a better training program for her employees? What other type of programs would you recommend?
5. Do you think that her program dealing with the tips was satisfactory, or do you think that she should have made some other arrangements?
6. What changes, if any, should be made in the compensation program?
7. What should Marie do about the cooks? Should she bring master chefs from Europe who have been trained for years, no matter what the price? How would you approach that problem? Should Marie spend more time in the kitchen? Do you think in a short period of time Marie can train chefs in this country to be as good as the French?
8. What other recommendations should she make to Marie to not only get the organization straightened out but to get back those clients who were disappointed in her service?

COACHING/TRAINING EXERCISE*

This exercise has shown to be extremely useful in providing participants with a feeling for the pros and cons of positive and negative operant conditioning. Previous reading about operant conditioning is helpful in setting up the exercise. The coaching roles can provide extremely useful experience, particularly in those situations where the coach was not able to solve the problem by himself or herself during Step 2 of the exercise. The discussion portion of the exercise usually results in illuminating comments about the operational aspects of operant conditioning and coaching. Interesting outcomes usually result from comparison of the results expected by the participants listed on the questions in Step 2, and the actual results obtained. Significant expectations and their results lead to interesting discussions about the foundations of perceptions of group members, and leadership in the group. A copy of results from a recent application of this exercise is presented in Appendix IV. The answer to Problem 1 is $21978 \times 4 = 87912$, and the answer to Problem 2 is $9567 + 1085 = 10652$. The source of the problems was Fixx, *Games for the Super-Intelligent*, Doubleday, 1972. It is not a requirement of this exercise that the average student be able to solve the problem selected. Indeed, hard problems which cannot be solved in the time allotted for Step 2 are preferable, allowing for continuing problem solving during Step 3.

* Source: Gomolka, Eugene & Mackin, Joanne L. "Developments in Business Simulation and Experiential Learning". Vol. 11, 1984; pp. 202-205

"THE SLADE COMPANY"*

The following is a "school solution" analysis of the Slade Case. Students have the greatest problem with Item 2, which they frequently analyze with the data they learn on the Sarto group. *It is well to point out in advance that this should be made from the viewpoint of the Script factors only, as if the company were just being started and no Actors were yet employed.* This permits a full realization of the high potential for frustration in this system. In items 4 and 5 they will realize the power of the emergent role system, developed by the Actors, in overcoming the frustrations and creating satisfactions.

1. What background factors are important for understanding the emergent role system that developed in the plating room? Make a list, in the space provided below, of only those specifically mention in the case, e.g., Slade was not unionized. (You do not have to give reasons for each factor, but be prepared to do so if called upon).

External Factors

1. Sales volume high.
2. Large recurrent orders fluctuating with business conditions.
3. Higher pay scale outside than in company

Internal Factors

1. Nonunion.
2. Loose management.
3. 12 hour day - 7:00 to 7:00.
4. Spatial arrangements in plating room.
5. Difficult working conditions.

2. The required system can be understood from the description in Exhibit 3 and in the text explaining it. Assume that all you know about the plating room operations are the important background factors listed in 1 above, including this required system; make your prediction as to what satisfactions and frustrations would be experienced by the workers in the plating room. Note: Include also any inferences you can draw from Exhibit 1. Do this by commenting on each level of the hierarchy of needs in the space provided on the following page.

* Source: Lau, James B. & Jelinek, Mariann. Behavior in Organizations: An Experimental Approach, pp. 66-69. Richard D. Irwin, Inc. Homewood, Illinois. 1984, 3rd edition. Translated and reproduced with permission.

Potential Frustrations

Potential Satisfactions

High potential Few if any apparent opportunities for self actualization.	SA	Low
	Esteem	Some skills requirements. 2nd highest prestige group in company.
High potential. Low interaction requirement. Too noisy to talk.	Social	Low.
	Safety	Predictable working conditions Steady job.
High potential Routine & uncomfortable working conditions.	Physiological	Pay.

Character of The Actors

3. On Exhibit 6 the various subgroups are shown which developed in the plating room. The Sarto and Clark subgroups are the two most important. What are some of the factors or characteristics that probably account for group membership in each subgroup. That is, there are certain similarities of the members within a group and certain differences between the two subgroups. Use Exhibit 4 and 5 as your source of data in making your analysis. Make a list of your answers in the appropriate spaces below:

Sarto Subgroup

Italians and relatives.
High skills and high training.
Functionally and spatially inter-
related in work.
Mixed on age, education and marriage.

Clark Subgroup

Non-Italian, Anglo-Saxon.
Medium skills and training.
Functionally and spatially interrelated.
22-29 years of age.
Mostly single.
All high school graduates.

Actors Playing Their Roles

4. Make a complete list of the norms of the emergent role system that developed in his case. (Use the Sarto group norms, since they seem to determine the behavior of the other subgroups.)
1. Punch-in/punch-out system -- "day's work."
 2. Stay until 7:00 pm when load is heavy.
 3. High productivity.
 4. Best place to work -- security.
 5. Did not want union.
 6. Carry a guy like Herman Schell.
 7. Hard work respected, e.g., Pearson.
 8. Innovation, craftsmanship; train new people well.
 9. Exclude nonconformist from group.
 10. Socializing -- lunches, outside gathering.
5. In what way did the norms of the emergent role system meet the needs of workers? Indicate by commenting on which norms fulfilled needs at each level of the hierarchy.

Hierarchy	Satisfaction of Need
Self Actualization	(Innovations in their craft; high standards.)
Esteem	(Craftsman skills; productivity accomplishment; self directing work system, control over the system; high status of Sarto group, medium for Clark group.)
Social	(Well established and active socializing.)
Safety	(Control over the work and the work system; best place to work.)
Physiological	(Some control over pay; adequate pay.)

The above represents a well-organized, cohesive, powerful human organization or emergent role system providing for productivity and satisfaction that hardly would have been predicted from the Script factors alone. If management does not guide, mold, and influence the actors in the development of the actor system, the actors will do so on their own.

Exercise 13: Alternative Courses of Managerial Action in the Slade Case

Plan C. For teams following the Appendix B team development which includes four outside team meetings, this is the second. (See Figure 3 in the introduction of this manual for the complete sequencing). Since the teams have so few outside meetings, and since these are necessary to generate enough team dynamics for the members to have sufficient data upon which to make a group analysis (in Exercise 26), emphasize that they should plan on at least two hours for this purpose. Also, they are to turn in a one page summary of their results as indicated in the exercise instruction. They also are to turn in attendance sheets. If you don't do this, they always say required attendance is the only way to go, and they are glad to have had the extensive group experience.)

Exercise 9: Team Development

This exercise was assigned to be completed with the Values exercise (No. 8). We have found some teams recommend that it not be given until this point because teams have not had enough experience together to enable them to do this meaningfully. Other teams have disagreed. At any rate, you may want to experiment as you run the courses by using Exercise 9 with the Values in Business for one course and following this Exercise 13 for another.

Discussing the Alternatives in Class. As with all case studies there is no right or wrong solutions. But, we can always fall back on our old criteria of consequences in trying to select a course of action.

Have a spokesperson for each team present its solution, but tell the class not to make evaluating comments on what they hear until all teams have reported, otherwise, the time may get devoted completely to the first reported. List the elements of each report on the board, team by team.

During the discussion, the following points are usually brought out. Management has given up considerable control of its operations to the Sarto group. The Sarto group has a lot of power and autonomy (n-power motivation) and is not likely to give it up willingly, particularly when this motivation is reinforced by their control over pay. Also, wages are low compared with other factories in the region. Any unilateral action by management in which strong supervision is undertaken for the purpose of having the employees work hard for twelve hours a day will in all likelihood meet with resistance. Sarto's group could undertake to unionize the plant. So the probability is that management would be best off by negotiating with the employees, presumably the Sarto group, unless they put the work force on an eight-hour day with a pay rate that permits earnings to be equivalent to the present twelve hours. (We don't have sufficient data to explore this.)

Some students say management has little control over the work system and if the external factors change rapidly, this could become a serious problem. At least, they need a plan that recognizes the primary factors operating in the emergent system in the plant.

In bringing this into perspective at the conclusion, use the three criteria for evaluating consequences we introduced in Chapter 7 of the text: productivity, worker satisfaction, and organizational health. Of course, you could have given them the requirement of applying these criteria to their solutions when you made the assignment of Exercise 13. We usually do not because a wider range of possible solutions emerges when they have less guidance.

In your wrap-up, emphasize again that there is no right or wrong answer, that there may be a number of solutions that would work. Even a highly autocratic approach might work if all the conditions were right. Certainly the autocratic solutions have been successful on many occasions. Particularly in hard times, people often feel they are fortunate to have work, so they keep their mouths shut and work hard. However, as your students what approaches were being used in the period of heavy recession of the early eighties. What is going on now between labor and management under conditions of international competition and bad economic times. Certainly there are many attempts to preserve our markets, our jobs, productivity, our standard of living and quality of life. Participation has been a part of this.

Team Papers. Sometimes we have forgotten to have back team solutions with our comments. Teams sometimes get upset about this. If the team really put time on the solution, they want your views on how well they did - and they often think they did better than other teams. However, they tend to become defensive and turned off if they are graded less than A or if your comments are too judgmental. Therefore, we list the strengths on each paper and also say where it could have been stronger in considering certain factors. As long as the team seems to be involved and committed to the activity, we try to maintain a supportive relationship that will encourage continued involvement. Of course, if the team did a poor job by not giving anything but superficial attention to the task, this should be confronted - at times a meeting with a specific team to discussion performance is necessary.

THE ELECTRONICS STOCK CONTROL GROUP CASE*

This chapter is preceded by the case study, "The Electronics Stock Control Group, Part I," which provides a means for the student to predict what the nature of the human organization will be, based upon the data provided. In Part I, only the script factors are presented and the student has been given no concepts with which to work. This makes it a rather difficult and ambiguous task and presumably makes the students more aware of the need for conceptual tools with which to improve their predictions. Even so in the class discussion, many are quite skilled in their analyses. The types of responses that students are apt to give to the assignment questions on page 106 as follows:

1. Would you expect productivity to be high or low? Why? Most vote for low, because of the close spatial conditions and routine work which require little interaction with others. Some say high because the desks being close together give people much opportunity to socialize.
2. What satisfactions do you predict the employees of the Electronic Stock control Group will attain from their work? Pride in work since it is important to the military, socializing, and development and use of skills are among answers given.
3. What are the potential sources of dissatisfaction the employees are apt to experience? Why? Routine and confining work, and status differences between the three groups involved.
4. What problems of coordination do you foresee? The fact that no coordination between the two tube units is needed and that the foreman interacts more frequently with the glamour group could cause some friction.
5. What action would you take as a manager to deal with the above areas? Here the students often have some good suggestions from their work experience. For instance, one woman had worked in a bank where similar units not requiring coordination were in conflict; they were changed from three separate work areas and the desks intermingled into one area so that interaction took place just by walking to and away from one's desk. She reported feelings between the three units were greatly improved, luncheon patterns were changed, etc.

* Source: Lau, James B. & Jelinek, Mariann. Behavior in Organizations: An Experimental Approach. Richard D. Irwin, Inc. Homewood, Illinois. 1984, 3rd edition. Translated and reproduced with permission.

One that the professor might suggest which the students do not usually think of is that of career progression planning. People in the clerical area who show analysts' skills could be considered for a nontube analyst job when an opening occurs and nontube analysts could be considered for tube analyst vacancies.

Job enlargement could be used: Design an analyst role which includes mostly tube projects with some non-tube responsibilities added. Timing would be important here because of an old-time tube analyst might regard this as de-enriching the job while an old-time nontube analyst could see it as job enrichment. If the jobs had been set up this way in the first place, it would have been better planning.

Parts II through IV of the case appear in Appendix I of the book and you should read them aloud and discuss them in sequence. For Part II, as, "How do you account for the great congeniality, cooperation, and high productivity of the group?" Students do not comprehend the ideas of a social system of group norms and role systems at this point so it can be introduced briefly, to be followed up in Chapter 8. At this point, list the board the norms of this work group that have become their informal rules of behavior which better meet their own needs and in this case, those of management. These include:

- high productivity
- pride in unit
- conscientiousness
- cooperation
- importance of work
- helping one another
- socializing, intermingling of sub-groups at lunch
- potential conflicts handled by joking

For Parts III and IV, it becomes evident that management has been completely unaware of the problems of the human organization - satisfaction/dissatisfactions, norms, interaction patterns - that would be influenced by the change in spatial arrangements of the desks. The failure to take these into account had serious effects upon both productivity and morale. You can point out, that in Part IV, a new emergent role system has come into existence which is a response to their frustrations and which is somewhat anti-organizational in character. The system of norms in Part IV includes:

- absenteeism
- blame supervisors for errors
- sarcasm instead of joking
- no intergroup lunches
- rivalry
- etc.

Management's Role in Controlling and Designing the Script (Background Factors and the Formal Organization)

The above case illustrates well that management must always consider in advance the **consequences** of changing the script factors upon the human organization before taking action. Management's usual viewpoint is that people are supposed to go along with changes -- "After all that is what they are being paid for and everyone is expected to be cooperative." Emphasize that management can design or redesign the work to make it more challenging and acceptable to the employees and the professional manager will take this factor into account. Failure to do so can be costly to the organization.

Making the Student Aware of the Need for a Theoretical and Conceptual Framework for Understanding the Interaction between the Formal and the Human Organization

Even though students will bring out the points for discussion on this case, most of them will also have missed some and, hopefully, will now have a need for conceptual tools with which they can make a better analysis. These will be provided especially in Chapter 8 on Small Group Dynamics, Chapter 9 on Motivation to Work, and Chapter 14 on Intergroup Activities, among others.

Presentation of Chapter 7

The intent of the authors was to be as complete as possible in presenting the theory and concepts in the textbook so little can be added here. After the students have read the chapter, it is essential to go over the three analytical tools, Figure 7-1, Operational Blueprint; Figure 7-2, Actors Play in Their Roles; and Figure 7-3, Character of the Actors. The first two models will be applied in the Claremont Instrument case, which follows Chapter 8, and all three will be used in the analysis of The Slade Company, which follows Chapter 9.

Operational Blueprint. This can be viewed as a planning model that a task force preparing for the establishment of a new business might use to guide them. It can also be used to analyze an ongoing industry; however, it is somewhat more difficult to use when the people are already on the scene and working. Emphasize to students that, when using it to analyze a case, they **should use only the specific external and internal background factors that are mentioned in the case study.** If you do not do this, they are apt to try to use all appearing on the blueprint, much to their frustrations. Also, emphasize that the purpose of this instrument is to help them better plan for and predict the behavior of the people who will be hired. And most important, the required role system is the central focus because it is here that the Actors will spin their webs of norms, values, roles, etc., that they will follow as informal rules of behavior in carrying out their tasks.

PERFORMANCE APPRAISAL

Performance appraisals are often one of the least favorite activities of managers. Yet, they can be a valuable managerial tool for maintaining and improving performance. An analogy is sometimes made between performance appraisal systems and seat belts - people believe in them but do not want to use them personally. Without such systems, however, personnel decisions about promotions, raises, and terminations might have little objective basis. Appraisal systems can never be totally objective because humans operate them, but they do represent the organization's attempt to evaluate fairly using a standardized method.

Given what we know about the correlation between feedback and high performance, it is surprising how many organizations do not evaluate employees in a systematic fashion. Even when organizations have systems in place, many managers fail to comply. In such instances, employees often interpret skipped or late reviews as an indication that their manager is not concerned about them and does not appreciate their work. It is not uncommon to find organizations in which reviews hold great significance for employees but are perceived as little more than a waste of time by their managers.

Why the difference in opinion about performance reviews? At the organizational level, some appraisal systems are outdated and cumbersome and seem to measure only that which can be quantified. It's difficult for managers to take such systems seriously and see how they have any positive results. On the personal level, some managers resent the time consumed by appraisals and feel uncomfortable sitting in judgment upon another person. McGregor argued that the conventional approach to performance appraisal:

unless handled with consummate skill and delicacy, constitutes something dangerously close to a violation of the integrity of the personality. Managers are uncomfortable when they are put in the position of "playing God." The respect we hold for the inherent value of the individual leaves us distressed when we must take responsibility for judging the personal worth of a fellow man. Yet, the conventional approach to performance appraisal forces us, not only to make such judgments and to see them acted upon, but also to communicate them to those we have judged. Small wonder we resist!¹

Those systems that force managers to compare and rank all their employees goes against the values some hold about the importance of valuing people in their own right and not creating

¹Douglas McGregor, "An Uneasy Look at Performance Appraisal," *Harvard Business Review*, Vol. 35, no. 3(May-June 1957), pp. 89-94.

"losers" merely to comply with a bureaucratic requirement. Many people are uncomfortable giving negative feedback to people and fear that doing so may make a bad situation even worse.

In contrast to these reasons why managers tend to avoid appraisals, we know that managers who see appraisals as a useful tool can utilize their human resources more effectively. Research has shown that monitoring and providing feedback on performance is one of the most effective ways to improve performance.² Appraisals allow managers the opportunity to give feedback on performance as well as to set goals for future performance that, as we learned earlier, is an effective way to motivate employees.

Furthermore, performance feedback serves a variety of functions for the employee:³

1. Contributing to the development of one's self-concept.
2. Reducing uncertainty about the appropriateness of one's goal behavior and how it is perceived by others.
3. Signaling which organizational goals are most important in relation to the others.
4. Helping individuals to master their environment and feel competent.

An awareness of these functions may help managers to realize that a performance appraisal session means more to employees than just finding out what their salary will be for the next year.

Let's return to McGregor's statement that managers feel uncomfortable when they are put in the position of "playing God." To an extent, this is determined by the attitude the manager has toward appraisal. If the manager's underlying approach is to help the employee develop, his or her feedback is more likely to be effective and well received. The theory-in-use that underlies this approach is one that acknowledges the role of enlightened self-interest. In other words, if employees understand what is required of them and what they need to do or stop doing to be promoted or receive good performance ratings, they will do it. Managers utilizing this approach see their function as presenting employees with objective feedback about their performance and career plans. A less successful managerial approach to appraisal is the judgmental "gotcha.;

²D.A. Nadler, C. Cammon, and P. Mirvis, "Developing a Feedback System for Work Units: A Field Experiment in Structural Change," *Journal of Applied Behavioral Science*, Vol. 16 (1980), pp. 41-62, and D.R. Ilgen, C.D. Fischer, and M.S. Taylor, "Consequences of Individual Feedback on Behavior in Organizations," *Journal of Applied Psychology*, Vol. 64 (1979), pp. 359-371.

³S.J. Ashford and L.L. Cummings, "Feedback as an Individual Resource: Personal Strategies of Creating Information," *Organizational Behavior and Human Performance*, Vol. 32 (1983), pp. 370-398.

which is more likely to result in defensiveness than in the behavioral changes the manager desires.

The performance appraisal activity requires that leaders or managers switch into the helper and consultant role. As we found in the previous chapter, it is only with a recognition that the roles of leader and helper are substantially overlapping that managers will be able to help their subordinates help them (the managers) to be more effective.

The leadership role of helper and consultant, while an element of managerial behavior on a day-to-day basis, is especially clear in the performance appraisal situation. While the specific mechanics of implementation will vary across organizations, the "ideal" performance appraisal system is designed to achieve four basic objectives:

1. Provide feedback to subordinates to facilitate their ability to achieve organizational (and personal) goals.
2. Provide management with data to make salary and promotional decisions.
3. Motivate employees to be more effective workers.

Depending on how this process gets implemented, managers often find themselves in a role conflict. On the one hand, they are asked to be helper-coaches in the feedback process; on the other hand, they serve as judges - linking performance assessment to salary and promotion decisions. Some research on the performance appraisal process points strongly to the need to separate these roles.⁴

The inevitability of the dilemma between being both helper and evaluator means that effective managers need to understand the dynamics of the helping relationship that were presented in the preceding chapter. In addition to these skills, it's important to understand the unique aspects of the performance appraisal process, which are presented in the next section.

PERFORMANCE APPRAISAL

Too often managers see appraisals as a once-a-year event. In reality, appraisal is a process that begins long before the appraisal interview and consists of the following steps:

1. Translating organizational goals into individual job objectives or requirements.
2. Setting clear expectations for job performance and communicating both expectations and instructions clearly.

⁴H.H. Meyer, E. Kay, and T.R.P. French, Jr., "Split Roles in Performance Appraisal," *Harvard Business Review*, Vol. 43, no. 1 (1985), pp. 123-129.

3. Providing employees with the job training or coaching that they require to meet the expectations.
4. Supplying adequate supervision and feedback throughout the year.
5. Diagnosing employees' relative weaknesses and strengths and presenting them objectively during the appraisal interview.
6. Using the appraisal interview to establish a development plan with the employee, which includes an action plan for improved performance or further education and the efficient future use of the employee's abilities.

Framing performance appraisal as a process rather than an annual interview, means that appraisal is better integrated with the rest of the organization's functions. For example, if promotions are closely tied to appraisals, managers are more likely to be held responsible for the quality of their appraisals, and more likely to give them the attention they require to have an impact upon performance or morale. We know that people generally focus their energies on that which is evaluated. If leaders measure only tangibles (such as financial and output figures), the intangibles (like service orientation, ability to get along with coworkers, etc.) are given less importance. The same phenomena can be observed with performance appraisal systems. Organizations that evaluate managers on how well they develop their subordinates are more likely to give the appraisal process the attention it requires to be effective.

There are four common responses to appraisals that wise managers seek to avoid:

1. "I never knew that's what the boss expected me to do!"
2. "Why didn't they tell me before they weren't happy with my work?"
3. "I wish I had known all along that they liked my work. I wouldn't have wasted so much time worrying about it?"
4. "I got a poor review because my boss doesn't like me."

By clarifying expectations carefully, giving immediate feedback throughout the year, and demonstrating a concern for fairness, managers can avoid some of these reactions.

Providing immediate feedback has several advantages. First, it offers an opportunity to improve performance. Second, it gives employees an idea about how their supervisor sees them so that the appraisal does not come as a shock. Third, it can keep the channel of communication open between managers and employees. Often new supervisor see an employee doing something

incorrectly but are not sure how to give feedback. Instead, they become more and more angry with the employee and either "dump" the feedback when they can no longer contain themselves or save it for the appraisal interview. This is sometimes referred to as "gunny-sacking." In the meantime, their relationship with the employee can suffer, and they may have rounded out the employee's character with negative attributions that are inaccurate. The feedback given during the appraisal interview, be it positive or negative, should never come as a surprise to employees.

The fairness issue with appraisals relates to the necessity for managers to know themselves and their personal tendencies. The research on similarity and attraction indicates that people prefer those who are similar to themselves.⁵ To describe corporations, Moore employed the metaphor of a "bureaucratic kinship system" based upon "homosexual reproduction," in which men with the power to hire and promote, reproduce themselves.⁶ It is not uncommon to look around a table of senior managers and discover that they resemble one another, either physically or socially. Thus, it is easy for managers to perceive an employee they like more positively than the person really deserves. The opposite can occur with employees that managers either dislike or perceive as different from themselves. This is what occurred in this chapter's vignette, "A Description of Rejection," in which a medical student was not judged upon her outstanding test scores and patient care, but upon her "differentness," which was apparently unacceptable.

Attribution theory maintains that we make attributions about the causes of the behavior of both others and ourselves to understand that we see occurring.⁷ We guess or infer the causes of people's behavior and base our reactions to their behaviors on these inferences rather than on the way they really are or behave. A practical example of attribution theory might be the "golden boys or girls" who surface, to the puzzlement of their peers, in some organizations. While such people usually possess a certain degree of talent, they are seldom as outstanding as their superiors apparently need to believe. Attributions, like perceptions, sometimes have more to do with the observer than with the person being observed. Appraisals are yet another instance when managers have to step back and ensure that their decisions and evaluations are not overly biased, either positively or negatively, by their personal values and likes.

⁵For a fascinating description of a corporation, see Rosabeth Moss Kanter's *Men and Women of the Corporation* (New York: Basic Books, 1977).

⁶Wilbert Moore, *The Conduct of the Corporation* (New York: Random House, 1962), p. 109.

⁷J. Jaspars, F.D. Finchman, and M. Hewstone, *Attribution Theory and Research: Conceptual Developmental and Social Dimensions* (London: Academic Press, 1983).

SWISS CATERING SERVICE*

Overview

This is a case wherein a French-born female Master Chef from an affluent family in France settles in Dallas and starts up a catering business using the European approach to catering. The business becomes an instant success and the company grows at an incredible pace. As a consequence, Marie deFand, the owner, has problems with her staff, and friction develops between her and the employees because of her policies, her management style, and her compensation program. In addition, the employees, who cannot make Marie understand their views, start sabotaging some of her parties and are the cause of quite a few embarrassing incidents which could impact upon her business.

The student is asked to analyze the problems and make recommendations to straighten out a highly successful business with problems in the Human Resources and management areas. The case also points out the problems that can develop when a business expands at such a rapid pace that the owner makes decisions which she probably would not have made if she had had time to think.

Answers to Questions

1. Marie's filled a definite need in the community. She imported to Dallas the European approach to the catering business, which until her entry onto the scene was served by the traditional catering firms that gave the usual type of service. While the competition has nothing very different in the way of food, Marie, with her French accent and the way she positioned her company as being purely European and unique, was an immediate attraction. The waiters had to learn a few French phrases, which gave the company a different image, and since she was very knowledgeable about wines and was able to offer advice on other catering matters, her clients felt that they were getting the very best. In addition, Marie charged outrageous prices, and sometimes people have tendency to relate quality with the price of the product or service. She went to any length to serve her clients, and they appreciated her special attentions. In other words, Marie gave a touch of class to the catering business, and as a consequence, she surpassed her competition, for they had nothing to compare with her type of service.
2. There is no question that Marie did grow too fast, but with a service like the one Marie was offering, it stands to reason that clients will rush to her place when they find they can get something different, and in this case that something was now "in" with Dallas society. She could not turn business down, but she was not able to exercise the same care in the hiring process that she did when she started the business. As a consequence,

she hired some people who did not like taking orders from a wo-man, and further, they resented the fact that she was a foreigner.

She also grew at such a pace that she did not have time to develop a management team that would have given her the assistance she needed so badly to operate the organization in the manner and style she wanted to offer her consumers. Therefore, Marie grew too fast, and it is also evident that she does not have the management background or experience in handling people in the United States.

She should have realized her limitations and grown at a slower pace. It is difficult to slow down the pace when people are clamoring for service, and that is the problem Marie was faced with. She just could not turn down clients, and the staff got too big for one person to handle. Because her service is unique and outstanding, she needs experienced help. If she had grown at a slower pace, then she would have been able to train and develop more employees along the lines she desired. It would mean losing business, but she was taking a greater risk by hiring as fast as she did.

3. Marie has practically no management background, and she was not grounded in the American culture or methods of doing business. She was typically European in that she demanded much from her employees, and she expected they would jump at her every order. Marie brought her management style to American, and it was not appropriate for this country. As a result, the employees resented her style.

They resented some of her policies with respect to tips and other demands, and because she would not even talk to them as equals or make any concessions, they decided to do what many employees will do when they are unhappy, and that is cause problems. The use of French phrases is one of the unique features she offers her clients. When a guest is served by someone who speaks a few French phrases, it gives off an air of class and status that makes the guests feel somehow more delighted at being asked to attend the affair. It also raises the level of the host, for it certainly indicates that he has spared no expense to make the function a special occasion. As a result of the classes conducted by Marie on using French phrases, she was able to position her service as different from her competitors.

If a waiter has underarm odor and serves a table and the wind blows in the wrong direction, it could affect the guests and reduce the rating of the affair from super to disgusting. She was serving food at the highest prices, and it was important that everything had to be impeccably clean, including the waiters. What Marie should have done was point out to her help what makes this company different and the importance of learning phrases, acting courteously at all times, and fulfilling all the needs of the clients;

at the same time, she should have pointed out the importance of impeccable cleanliness on their part so they would understand where she was coming from and her reasons for being so concerned about their appearance and especially body odor.

4. As already pointed out, Marie has to develop an orientation and complete training program for all her employees that will not only cover the new employees but keep the others up to date. They should not only be taught to understand the necessity for appearance and cleanliness, but they should be shown the right and wrong way to serve a client and all the other little niceties that go with the service, such as the proper way of pulling out a chair when someone wants to sit or get up. They should also be taught how to bow slightly when a client requests something or thanks them for some service. The entire program revolved around the European approach, and they must be versed and taught that they are considered the elite of their profession and should strive for that status at all times. What Marie needs is a full-time trainer to take over that all-important function.

The bartenders who mix drinks and handle the alcohol should be taught the right way to mix drinks, not making them too strong, and to serve the clients in a proper manner. The employees should be divided into groups, and while all should go through a basic training program, there should be specialists in certain areas, such as bartenders, those who wait on tables, those who walk around collecting glasses, etc.

She should also develop a program for her supervisors whose job it is to check on all the activities at each function and see to it that everyone is doing his/her job as outlined and to the host's satisfaction. From time to time, the supervisors should check in with the host to make certain that all is well and to ask if there is any other service they can render.

Marie should also have a policy manual outlining exactly what her people can and cannot do, such as fraternizing with the guests. When mistakes occur at the functions, the supervisors should turn in a report on all activities, and any employee who did not perform properly should be asked to take further training. If the same thing happens again, then she should drop that employee.

5. This is one area where Marie made a mistake. Naturally, she imported this concept from Europe and she felt it was the right approach, but American workers really give that extra push if they think they can make extra dollars by doing a perfect job. When she refused to permit tips, she took away an important incentive from her workers. Considering that Marie had the best of clients, the waiters and other help stood to make a fortune if the service was good. She deprived them of that special incentive, which would make them want to follow out her instructions to the letter, because they knew that even if the host was very satisfied, no extra tip would be given to the crew. If a tip policy had been in effect, after receiving a few large tips, the employees would have no problem understanding her system and methods and would no doubt have looked forward to being a little different in order to earn that extra tip.
6. As already pointed out, she should allow them to earn not only a flat \$10.00 per hour, but also tips. The supervisor should also participate in the tips, and she will have to work out a system together with her employees on whether they split the entire tip equally or it is broken down by groups. The latter might cause a little difficulty, but if done equally, which is what most catering companies do, she will have a happier group. The supervisors, if they do not already, should be earning more money, for they have a great responsibility. However, the tip program is the key problem, and if the employees have some input on the distribution, she will find most of her problems disappearing.
7. There are many excellent chefs in this country, and they are the equal of the French or any other nation. What she will have to do is try to spend some time with them, teaching them the various recipes she has for her menu and the methods she uses to make certain dishes. This is one of the reasons why Marie must get a management staff together so she can spend some time in the kitchen to make certain that quality control is always operating at the maximum level.

Importing chefs from France is not the answer unless she can find one who really wants to come to this country and is willing to accept a compensation package that is not well beyond what competing chefs are getting in other companies. Marie should pay above the competitive level for first-quality chefs, but it should not be absurd. If she could import one French chef, then it would be a great relief to her, for he/she could do most of the cooking and training and she would have better quality control.

Marie should attempt to hire and import a French chef as outlined, but at the same time, she should look around for top chefs and give them an excellent compensation package with bonuses.

Marie should spend some time in the kitchen until she has full confidence in her chefs. Cooking the French style takes years of training. They are excellent chefs, and it takes years before one becomes a Master Chef as Marie is at this time. She could do much in teaching and no doubt over a short period of time. She could do much in teaching and no doubt over a short period of time could teach her chefs what they need to know.

Marie is not offering a menu with 100 selections. She probably has a limited menu and from time to time makes suggestions to the host as to certain recommendations, but the number of offerings would be limited, and her chefs should be able to master those in accordance with her requirements within a short time.

8. First of all, Mr. Sanders was very gallant and should be sent a nice letter of apology, a case of vintage wine, and special thanks for his offer to give her some assistance. In view of the fact that Marie is uncertain as to the direction she should follow, she might let someone advise her regarding how to set up a proper management system and establish clear-cut policies for the organization.

The recommendations would probably be as follows:

- a. Establish the criteria for hiring employees for various positions throughout the company.
- b. Establish an orientation and training program that is on-going at all times to keep the organization up to date and unique from competition. This should cover employees and supervisors. A video presentation should be incorporated into the program.
- c. Change the compensation policy immediately to permit tips, or she will be looking at a union within a very short period of time.
- d. Maintain the inspection programs she now has in force but make the employees understand that the company's marketing differential is based on the fact that her company offers something different. When the compensation program is changed, the problems she is not experiencing with her personnel will decline dramatically.
- e. Either import a French chef or spend more time in the kitchen teaching her present chefs the methods and techniques she wants followed to cook various dishes. She must not overlook quality control.

Notes for Instructors
for HO 7-8 (continued)

- f. Hire an assistant who has a background in management, speaks French, understands wines thoroughly, and can substitute for Marie when she is in other areas. Also, the person hired should have some experience dealing with people so that the little conflicts that arise can be handled before they become major problems.
- g. Delegate as much employee responsibility to her assistant as she possibly can, for she will not change her style overnight.
- h. Have a clear policy manual for all the employees of the organization as well as clear job descriptions so they will each know their obligations and those violations which will result in instant dismissal or suspensions.
- i. Have the supervisors report their observations and suggestions on a specially designed report after each affair. By having them make up such a report, Marie will have that assurance that problems are corrected without delay.
- j. Hire a Human Resources Manager who will handle the recruitment and selection function and at the same time also work out a project-scheduling system which will not overburden the employees who are complaining about long hours. However, once she permits them to receive tips, complaints about long hours will decline.

* Source: Lewicki, Roy J. & Litterer, Joseph A. Negotiation: Readings, Exercises and Cases. Irwin Homewood, Illinois. 1985. Translated and reproduced with permission.

UNIT 8
OPERATIONS MANAGEMENT

UNIT 8

Title: OPERATIONS MANAGEMENT

Purpose: This unit is designed to help the participants to understand the essential role which operations management plays in the management of successful small business companies.

Objectives: Upon completion of this unit, the participant will:

- have an awareness of the day-to-day operation requirements of small business companies,
- understand which data is essential for effective operations,
- understand the importance of inventory standards,
- understand the importance of quality control and inspection.

Materials:	Transparency 8-1:	Day-to-Day Operation Requirements
	Transparency 8-2:	Essential Data for Effective Operations
	Transparency 8-3:	Small Business Operation Functions
	Transparency 8-4:	Operations Management
	Transparency 8-5:	Facility Layout
	Transparency 8-6:	Examples of Facility Layouts
	Transparency 8-7:	Components of JIT (Just in time) Philosophy
	Transparency 8-8:	Managing Operations
	Transparency 8-9:	Four Basic Components of Demand
	Transparency 8-10:	Several Methods for Forecasting Demand
	Transparency 8-11:	Steps in Constructing A Forecasting Model
	Transparency 8-12:	Materials Requirements Planning System
	Transparency 8-13:	Managing Simple Service Operations
	Transparency 8-14:	Managing Inventory
	Transparency 8-15:	Four Basic Types of Inventory
	Transparency 8-16:	Analyzing Inventory Costs
	Transparency 8-17:	Examples of Inventory Standards
	Transparency 8-18:	Steps in Conducting an ABC Analysis
	Transparency 8-19:	Example of Conducting an ABC Analysis
	Transparency 8-20:	Results of ABC Analysis
	Transparency 8-21:	Suggested Inventory Planning and Control Techniques Based on ABC Analysis
	Transparency 8-22:	Controlling Operations
	Transparency 8-23:	Control Chart Example: Quarterly Profits

Transparency 8-24A/B	Steps in Producing \bar{X} and R Control Charts
Transparency 8-25:	Application of \bar{X} and R Control Charts to Seating in a Restaurant
Transparency 8-26:	Use of an \bar{X} and R Chart
Transparency 8-27:	Inventory Controls
Transparency 8-28:	Quality Control and Inspection
Transparency 8-29:	Purchasing for Manufacturing
Handout 8-1:	Defining Operations
Handout 8-1A:	Examples of Facility Layout
Handout 8-2:	Operations Management Exercise
Handout 8-3:	Managing Operations
Handout 8-3A:	Forecasting Problems Exercise
Handout 8-4:	Managing Simple Service Operations
Handout 8-5:	Managing Inventory
Handout 8-5A:	Four Basic Types of Inventory
Handout 8-6:	ABC Analysis
Handout 8-7:	Examples of Inventory Standards
Handout 8-8:	Steps in Conducting an ABC Analysis
Handout 8-9:	Examples of Conducting an ABC Analysis
Handout 8-10:	Results of ABC Analysis
Handout 8-11:	ABC Analysis Exercise
Handout 8-12:	Suggested Inventory Planning and Control Techniques Based on ABC Analysis
Handout 8-13:	Control Chart Example: Quarterly Profits
Handout 8-14A/B:	Steps in Producing \bar{X} and R Control Charts
Handout 8-15A/B:	Application of \bar{X} and R Control Charts to Seating in a Restaurant
Handout 8-16:	Use of an \bar{X} and R Chart
Handout 8-17:	Inventory Standards
Handout 8-18:	Quality Control and Inspection
Handout 8-19:	Controlling Operations

Products: An analysis of inventory standards.

Assignment: Have participants review and analyze the outcomes of the exercises in this unit to develop a plan to implement pertinent findings in their own small business company. Prepare cases for the next unit.

Estimated Time:

Lecture and discussion	25 minutes
Running and discussion of the five exercises	1 hour, 30 minutes

UNIT 8

OPERATIONS MANAGEMENT TEACHING OUTLINE

CONTENT	PROCESS
<p>A. Operations - Discuss and expand upon the transparencies.</p> <ol style="list-style-type: none"> 1. Day-to-day operation requirements 2. Essential data for effective operations. 3. Small business operation functions. 4. The definition of operations management. 5. Facility layout 6. Just-in-Time Philosophy 	<p>Use HO 8-1: Defining Operations.</p> <p>Show TP 8-1: Day-to-Day Operations Requirements</p> <p>Show TP 8-2: Essential Data for Effective Operations.</p> <p>Show TP 8-3: Small Business Operations Functions</p> <p>Ask the students for their definition of operations management.</p> <p>Show TP 8-4 Operations Management to express a commonly used definition of the field</p> <p>Ask the students to discuss the layout of the facilities of their small business, if they presently run a small business. Derive from the students what thoughts, concepts, and fundamentals went into the design of their facilities. Discuss TP 8-5: Facility Layout and TP 8-6: Examples of the Facility Layouts. Distribute Handout 8-1A. Have the students complete Handout 8-2: Operations Management.</p> <p>Determine from the students what their understanding of just-in-time methods of operations is. Discuss the concept, using TP 8-7: Components of JIT (Just-In-Time) Philosophy.</p>

CONTENTS	PROCESS
<p>B. Managing Operations</p> <p>1. The Determination of Demand</p> <p>2. Materials Requirements</p> <p>3. Service Operations</p> <p>4. Inventory</p>	<p>If anyone in the class is currently using this process, or has previous experience with it, have them describe their experience. What are the pros and cons of JIT?</p> <p>Use HO 8-3: Managing Operations as the basis for this discussion.</p> <p>Discuss TP 8-8: Managing Operations</p> <p>Determine how the students presently determine and predict the demand for the products and services of their small business firms.</p> <p>Use TP 8-9</p> <p>Discuss TP 8-10: Several Methods for Forecasting Demand, and TP 8-11: Steps in Constructing A Forecasting Model. Have the students complete Handout 8-3A: Forecasting Problem.</p> <p>Ask the participants to discuss how they handle the ordering of materials for their firms.</p> <p>Discuss the basic concepts discussed in TP 8-12: Materials Requirements Planning System.</p> <p>Comment on the operation of service organizations.</p> <p>Discuss TP 8-13: Managing Simple Service Operations. Distribute Handout 8-4 for future reference.</p> <p>Introduce the concept of inventory</p>

CONTENTS	PROCESS
<p>5. Inventory Costs</p>	<p>management. Discuss with the students how they manage inventory in their small firms.</p> <p>Use HO 8-5: Managing Inventory as the basis for this discussion.</p> <p>Discuss TP 8-14: Managing Inventory.</p> <p>Discuss TP 8-15: Four Basic Types of Inventory. Distribute Handout 8-5A. Discuss these types of inventory as they relate to the businesses in the class.</p> <p>Discuss the importance of being able to track inventory costs in small firms. Review the basic concept behind TP 8-16: Analyzing Inventory Costs.</p> <p>Discuss TP8-17; Examples of Industry Standards and distribute Handout 8-6. Discuss the importance of each responsibility as it relates to a small versus a large company.</p> <p>Make a presentation using Handout 8-7:ABC Analysis as the background. Discuss the basic concepts of ABC analysis with the students. Distribute Handout 8-8 through 8-11 for the following discussion.</p> <p>Review TP 8-18: Steps in Conducting an ABC Analysis. (Handout 8-8)</p> <p>Present TP 8-19: Example of Conducting an ABC Analysis. (Handout 8-9)</p> <p>Discuss TP 8-20: Results of an ABC Analysis. (Handout 8-10)</p> <p>Have the students work through Handout 8-11: ABC Analysis Problems on their own.</p>

CONTENTS	PROCESS
<p>6. Inventory Planning and Control</p>	<p>Review the results of these problems with the students.</p> <p>Discuss the importance of inventory planning and control. Use TP 8-21: Suggested Inventory Planning and Control Techniques Based on ABC Analysis. Distribute Handout 8-12. Have the students review how they use control concepts.</p> <p>Discuss TP 8-22: Controlling Operations. Distribute Handouts 8-13 through 8-18 for use in explaining Control Techniques.</p> <p>Discuss TP 8-23: Control Chart Example (HO 8-13)</p> <p>Discuss TP 8-24 A and B: Steps in Producing \bar{X} and R Control Charts (Handouts 8-14A/B).</p> <p>Discuss TP 8-25: Application of \bar{X} and R Chart. (Handout 8-15A/B).</p> <p>Discuss TP 8-26: Use of An X and R Chart (HO 8-16)</p> <p>Discuss TP 8-27: Inventory Controls. Ask students to perform the exercise on Inventory Standards (Handout 8-17). Discuss the outcomes of this exercise.</p>
<p>7. Quality Control and Inspection</p>	<p>Review Handout 8-18: Quality Control and Inspection. Lecture to the students on the concepts in this note. Discuss the current use which the students make of these concepts. Have students complete Handout 8-19: Controlling Operations. Discuss the outcomes of the exercise with the students.</p>
<p>C. Assignment</p>	<p>Provide students with copies of the Brithinee Electric Case to read for the next class (Handout 9-2).</p>

DAY-TO-DAY OPERATION REQUIREMENTS

DATA FOR CURRENT DECISIONS

EXPERIENCE

JUDGMENT

WILLINGNESS TO ASSUME RESPONSIBILITY

DELEGATION

HELPFUL ATTITUDE

ESSENTIAL DATA FOR EFFECTIVE OPERATIONS

DATA ANALYZED DAILY, WEEKLY, OR MONTHLY

**SCHEDULE NEEDS
SCHEDULE TRENDS
CUSTOMER REACTION
COST PER PIECE
EQUIPMENT PERFORMANCE
TRAINING
GROUP GOAL
PLANS
VACATION SCHEDULE
INVENTORY
EFFECTIVENESS OF PROCEDURES
EMPLOYEE MORALE**

LONG-RANGE DATA

**TRAINING PROGRAMS
SEASONAL VARIATIONS
EQUIPMENT CHANGES
MODULE CHANGES
PLANT LAYOUT
MATERIALS
SUPPLIERS
CUSTOMERS
CAR SALES**

**SMALL BUSINESS OPERATION
FUNCTIONS:**

- **PLANNING**
- **ORGANIZING**
- **CONTROLLING**
- **LEADING**
- **MOTIVATING**
- **CONTROLLING**
- **COMMUNICATING**

OPERATIONS MANAGEMENT

- **OPERATIONS MANAGEMENT IS THE PLANNING AND CONTROL OF THE ACTIVITIES REQUIRED TO TRANSFORM INPUTS INTO PRODUCTS OR SERVICES.**

- **OPERATIONS MANAGEMENT INCLUDES FORMULATING AN OPERATIONS STRATEGY WHICH MIGHT INCLUDE:**
 - **PRODUCT**
 - **LOW COST**
 - **FLEXIBILITY**
 - **SHORT LEAD TIME**
 - **PROCESS**
 - **HIGH QUALITY**
 - **FIELD SERVICE**
 - **DELIVERY AS SCHEDULED**

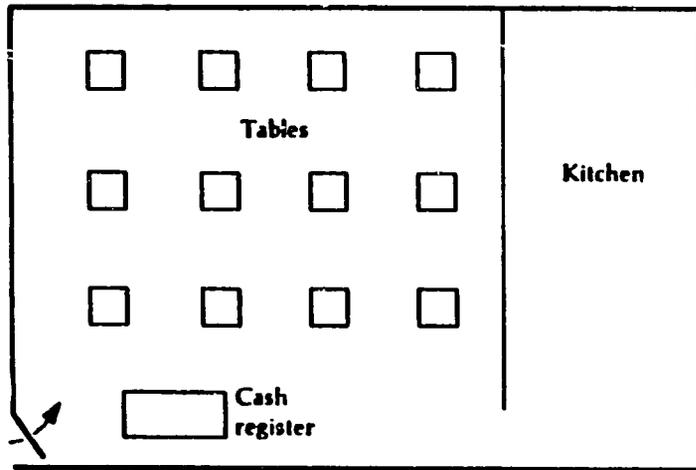
- **OPERATIONS MANAGEMENT INCLUDES SELECTING THE BEST METHODS OF COMBINING COMPANY RESOURCES (FACILITIES, MACHINERY, MATERIALS, WORKERS, AND MANAGERS) TO CARRY OUT THE OPERATIONS STRATEGY.**

FACILITY LAYOUT

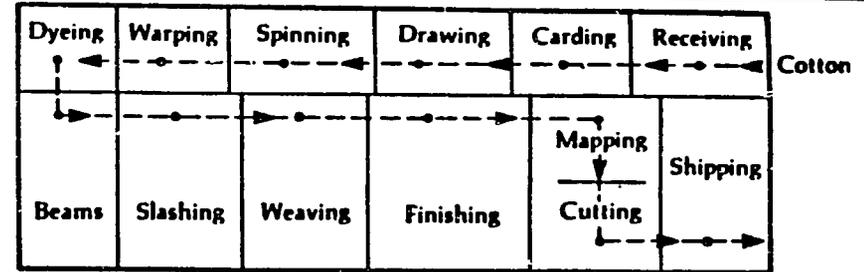
FOUR BASIC TYPES:

- **FIXED POSITION LAYOUT**
- **PROCESS OR FUNCTIONAL LAYOUT**
- **PRODUCT LAYOUT**
- **CELLUAR LAYOUT**

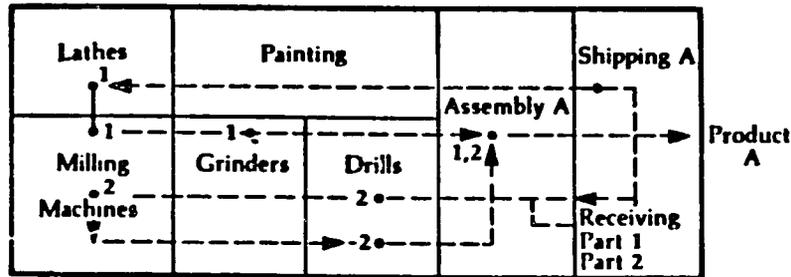
EXAMPLES OF FACILITY LAYOUTS



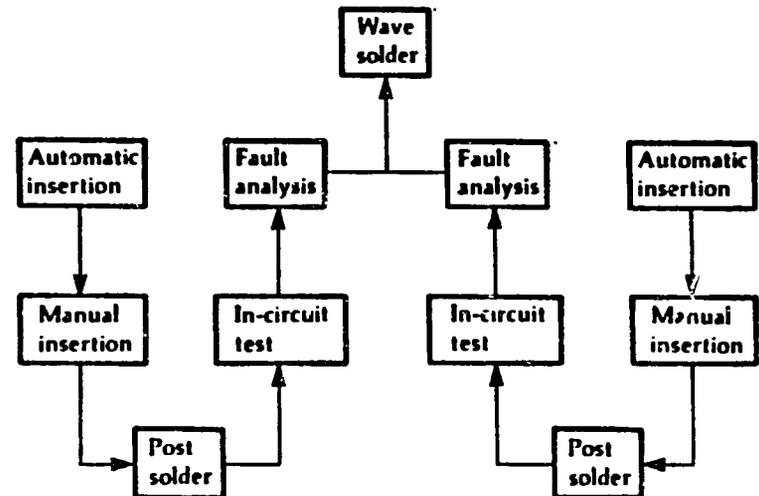
FIXED POSITION LAYOUT



PRODUCT LAYOUT



PROCESS OR FUNCTIONAL LAYOUT



WORK CELL LAYOUT

COMPONENTS OF JIT (JUST-IN-TIME) PHILOSOPHY

JIT IS BASED ON THE ELIMINATION OF WASTE AND THE CONTINUOUS IMPROVEMENT OF QUALITY, RELIABILITY, DELIVERY, PRODUCTS, AND PROCESSES. ITS MAJOR COMPONENTS ARE:

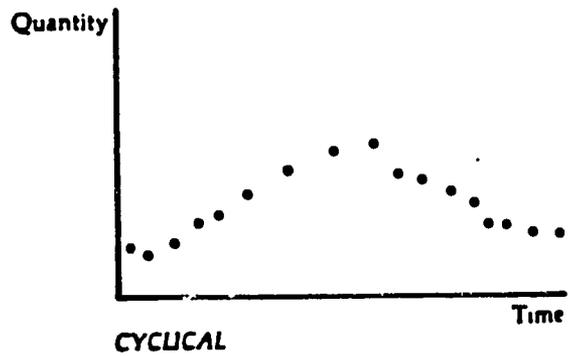
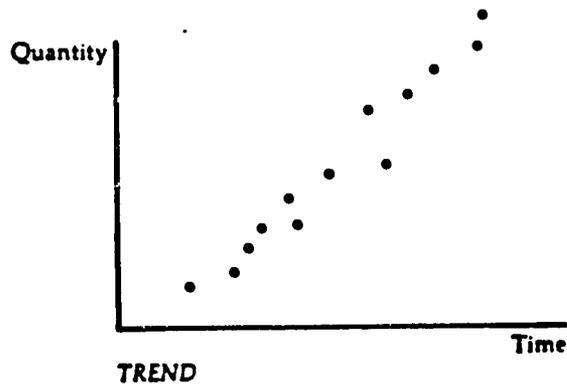
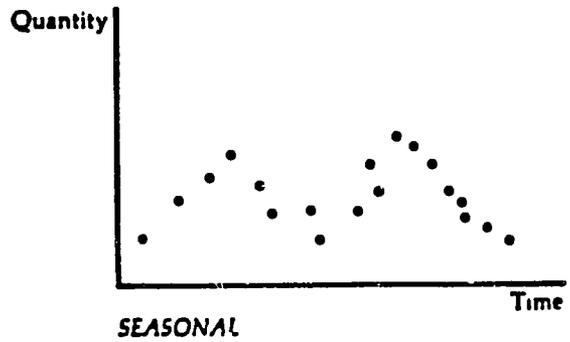
- 1. LAYOUT**
- 2. MANAGEMENT COMMITMENT**
- 3. FOCUSED FACTORY**
- 4. LEVEL SCHEDULE**
- 5. KANBAN SYSTEM**
- 6. SETUP REDUCTION**
- 7. REDUCED LOT SIZES**
- 8. SUPPLIER INVOLVEMENT**
- 9. MULTI-SKILLED WORKERS**
- 10. QUALITY CIRCLES**
- 11. WORKPLACE ORGANIZATION**
- 12. PREVENTIVE MAINTENANCE**
- 13. STATISTICAL PROCESS CONTROL**

MANAGING OPERATIONS

SEVERAL CONCEPTS AND TECHNIQUES ARE USEFUL TO MANAGING THE OPERATIONS OF A SMALL BUSINESS. THEY INCLUDE:

- **FORECASTING DEMAND FOR GOODS AND SERVICES**
- **PRIORITY PLANNING**
- **CAPACITY PLANNING**
- **CONTROL TECHNIQUES**
- **MATERIAL REQUIREMENTS PLANNING**
- **SYNCHRONOUS MANUFACTURING**

FOUR BASIC COMPONENTS OF DEMAND



SEVERAL METHODS FOR FORECASTING DEMAND

AVERAGE: **CONSTANT, AVERAGE, MOVING AVERAGE, OR SINGLE-ORDER EXPONENTIAL SMOOTHING**

SEASONAL: **EXPONENTIAL SMOOTHING WITH SEASONAL INDICES OR AVERAGE WITH SEASONAL INDICES**

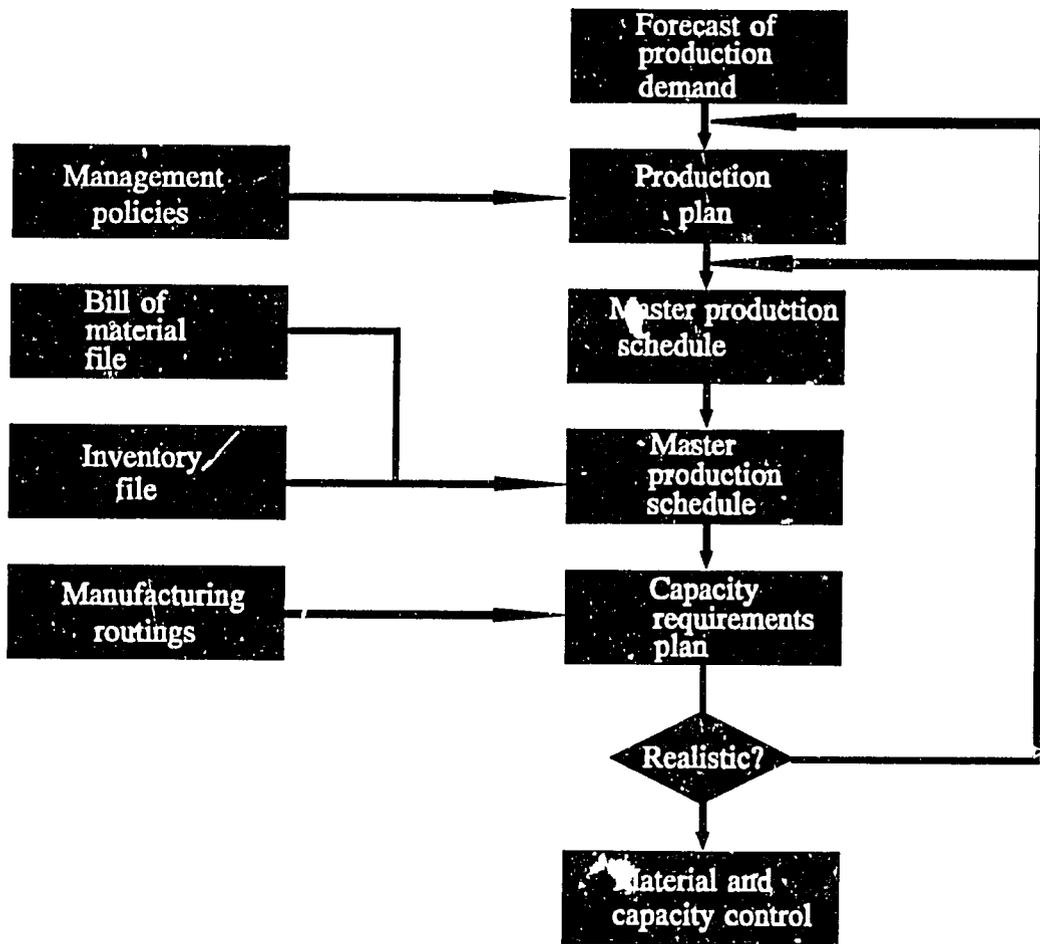
TREND: **TIME-SERIES REGRESSION OR EXPONENTIAL SMOOTHING WITH TREND ADJUSTMENT**

TREND-SEASONAL: **TIME-SERIES REGRESSION WITH SEASONAL INDICES OR WINTER'S EXPONENTIAL SMOOTHING MODEL**

STEPS IN CONSTRUCTING A FORECASTING MODEL

- 1. PLOT YOUR DEMAND DATA WITH RESPECT TO TIME**
- 2. COMPARE YOUR DEMAND PATTERN TO THE BASIC DEMAND COMPONENTS AND SELECT THE APPROP-RIATE DEMAND PATTERN**
- 3. SELECT AN APPROPRIATE FORECAS-
TING METHOD GIVEN THE PATTERN
YOU CHOOSE**
- 4. CONSTRUCT A FORECASTING MODEL
USING YOUR DATA**
- 5. COMPARE YOUR FORECAST TO THE
ACTUAL DEMAND TO DETERMINE HOW
USEFUL THE MODEL IS. ARE YOU
CONSISTENTLY OVER - OR UNDER-
ESTIMATING DEMAND? IF SO, TRY
ANOTHER MODEL**

MATERIALS REQUIREMENTS PLANNING SYSTEM



MANAGING SIMPLE SERVICE OPERATIONS

**FOUR BASIC FUNCTIONS ARE REQUIRED
IN MANAGING THE OPERATIONS OF
ANY BUSINESS**

- 1. PRIORITY PLANNING**
- 2. CAPACITY PLANNING**
- 3. PRIORITY CONTROL**
- 4. CAPACITY CONTROL**

MANAGING INVENTORY

- **INVENTORY MANAGEMENT INCLUDES DEVELOPING, IMPLEMENTING, AND ADMINISTERING INVENTORY PROCEDURES, POLICIES, AND SYSTEMS**
- **MATERIALS COSTS OFTEN REPRESENT THE LARGEST PART OF THE PRODUCT COST**
- **INVENTORY SHOULD BE THE RESULT OF CONSCIOUS DECISIONS**
- **INVENTORY IS MONEY**
- **INVENTORY IS BOTH AN ASSET AND A LIABILITY**
- **TOO MUCH INVENTORY CAN TIE UP MONEY WITH NO FINANCIAL RETURN**
- **TOO LITTLE INVENTORY CAN LOSE SALES**

FOUR BASIC TYPES OF INVENTORY

- **LOT SIZE OR CYCLE INVENTORIES**
- **FLUCTUATION OR BUFFER INVENTORIES**
- **BASIC PIPELINE STOCK**
- **ANTICIPATION INVENTORY**

ANALYZING INVENTORY COSTS*

LOT SIZING INVENTORY. TWO GROUPS OF COSTS ARE ASSOCIATED WITH LOT SIZING INVENTORIES: ORDERING AND CARRYING COSTS. BASED ON MINIMIZING THESE COSTS, THE ECONOMIC ORDER QUANTITY (EOQ) FORMULA CAN ASSIST YOU IN DECIDING HOW MUCH INVENTORY TO ORDER OF AN ITEM:

$$EOQ = \sqrt{\frac{2 \times \text{ANNUAL DEMAND} \times \text{ORDERING COST}}{\text{UNIT COST} \times \text{CARRYING COST PERCENTAGE}}}$$

* Source: Tate, L., Cox, J., Scarpello, V. & Stewart, W. Small Business Management and Entrepreneurship. PWS-Kent Publishing Company. Boston, 1992. Translated and reproduced with permission.

EXAMPLES OF INVENTORY STANDARDS

DUTY AND RESPONSIBILITY	STANDARDS OF PERFORMANCE
Maintaining adequate inventory.	Number of times an item is out of stock (as compared with previous years).
Ordering the best (optimum) quantities on fabricated items.	Evidence of evaluation of Economic Order Quantities.
Maintaining inventory turnover.	Number of times the inventory is used (as compared with previous years) and evidence of careful evaluation of reorder points.
Maintaining lowest possible cost of operating the inventory control department.	Budgets for all departmental costs and comparisons with previous years.
Maintaining good relations with other departments in the company.	Absence of complaints about the way personnel in the inventory control department meet the needs of other departments and their people.
Developing new opportunities (new or improved procedures).	Number and economic value of new programs, new ideas, and improvements in procedures.
Maintaining good departmental personnel policies, including the selection of employees and the development of their capabilities.	Competence of personnel and adequacy of training programs; departmental morale; number of inventory control people promoted to higher positions.
Reporting.	Accuracy, organization, and completeness of reports submitted to management and to other affected departments.

STEPS IN CONDUCTING AN ABC ANALYSIS*

- 1. LIST ALL INVENTORY ITEMS BY PART NUMBER, UNIT COST, AND TOTAL PROJECTED ANNUAL USAGE**
- 2. COMPUTE THE ANNUAL TOTAL PROJECTED DOLLAR VALUE FOR EACH ITEM BY MULTIPLYING THE UNIT COST BY THE TOTAL PROJECTED ANNUAL USAGE**
- 3. RANK THE INVENTORY ITEMS FROM THE LARGEST TOTAL PROJECTED ANNUAL DOLLAR VALUE TO THE SMALLEST**
- 4. RECOPY THE LIST USING THE RANKING AND LISTING THE RANK, PART NUMBER, UNIT COST, PROJECTED USAGE, AND PROJECTED DOLLAR VALUE**
- 5. COMPUTE THE CUMULATIVE USAGE AND CUMULATIVE PERCENTAGE FOR EACH ITEM**
- 6. SELECT THE DIVISIONS FOR THE A, B, AND C CLASSES:**

CLASS A: 0-70% ANNUAL DOLLAR VALUE

CLASS B: 70-90% ANNUAL DOLLAR VALUE

CLASS C: 90-100% ANNUAL DOLLAR VALUE

* Source: Tate, L., Cox, J., Scarpello, V. & Stewart, W. Small Business Management and Entrepreneurship. PWS-Kent Publishing Company. Boston, 1992. Translated and reproduced with permission.

EXAMPLE OF CONDUCTING AN ABC ANALYSIS

PART NUMBER	UNIT COST	PROJECTED ANNUAL USAGE	ANNUAL DOLLAR VALUE	RANK
101	\$1.50	30,000	\$45,000	1
102	0.06	9,000	540	7
103	0.11	25,000	2,750	6
104	0.05	85,000	4,250	5
105	0.08	125,000	10,000	3
106	0.15	200,000	30,000	2
107	0.03	9,000	270	9
108	0.12	3,000	360	8
109	0.20	44,000	8,800	4
110	0.07	2,100	147	10
			<u>\$102,117</u>	

RESULTS OF ABC ANALYSIS

Rank	Part Number	Cost	Annual Projected Usage	Annual Dollar Value	Cumulative Dollar Value	Cumulative Percentage
1	101	\$1.50	30,000	\$45,000	\$45,000	44.0
2	106	0.15	200,000	30,000	75,000	73.0
3	105	0.08	125,000	10,000	85,000	83.0
4	109	0.20	44,000	8,800	93,800	92.0
5	104	0.05	85,000	4,250	98,050	96.0
6	103	0.11	25,000	2,750	100,800	98.7
7	102	0.06	9,900	540	101,340	99.2
8	108	0.12	3,000	360	101,700	99.6
9	107	0.03	9,000	270	101,970	99.9
10	110	0.07	2,100	147	102,117	100.0

Results: Class A is parts 101 and 106
Class B is parts 105 and 109
Class C is parts 104, 103, 102, 108, 107, and 110

**SUGGESTED INVENTORY PLANNING AND CONTROL
TECHNIQUES BASED ON ABC ANALYSIS**

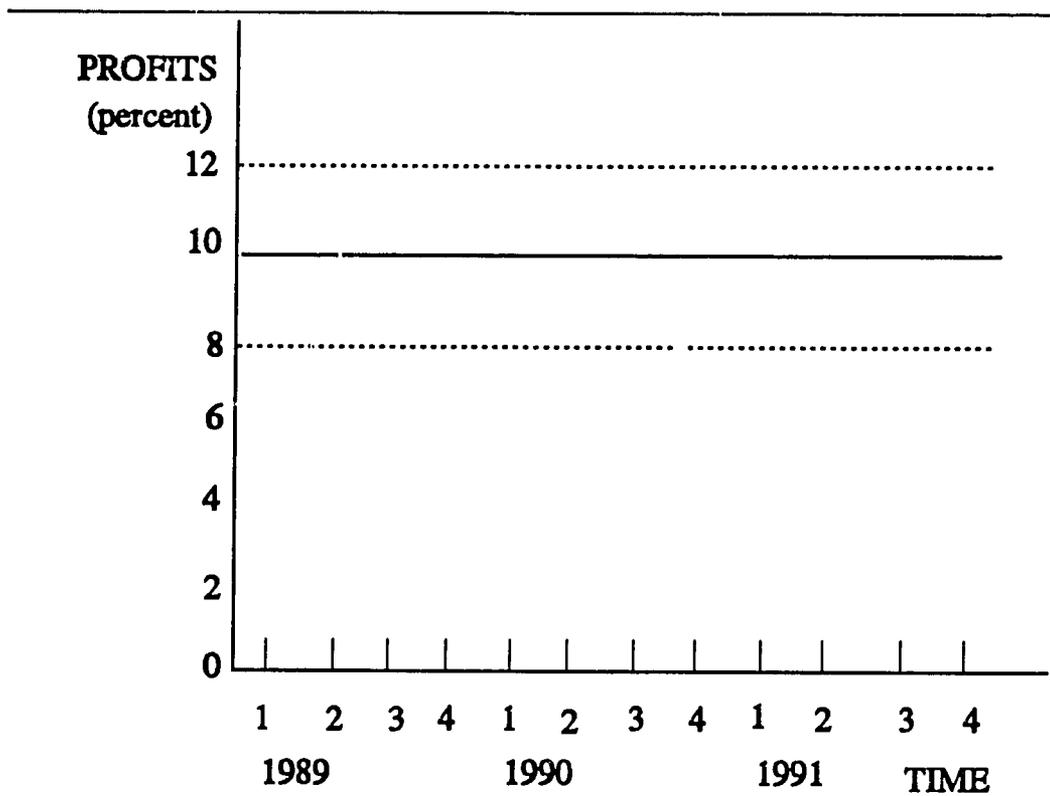
	INVENTORY CLASS		
TECHNIQUE	A	B	C
Forecasting	Detailed	Routine	Rough
Cycle counts	Frequently	Routinely	Occasionally
Records	Perpetual	Perpetual	Periodic
Frequency of order review	Continuous	Month	Annual
Safety stock	Small	Medium	Large
Lead time monitored	Continuous	Periodic	Seldom
Issuing method	Issue	Issue	Lot
Quantity ordered	Small	Medium	Large
Order frequency	High	Medium	Low

CONTROLLING OPERATIONS

- **A PERFORMANCE MEASUREMENT SYSTEM CONSISTS OF:**
 - **PERFORMANCE CRITERIA**
 - **STANDARDS**
 - **MEASURES**

- **FOR EACH PERFORMANCE CRITERIA YOU SHOULD:**
 - **ESTABLISH A STANDARD OR TARGET LEVEL**
 - **ESTABLISH LIMITS OR BOUNDARIES AROUND THE TARGET**
 - **MEASURE ACTUAL PERFORMANCE**
 - **COMPARE ACTUAL PERFORMANCE TO THE STANDARD AND ITS LIMITS**
 - **IDENTIFY THE CAUSE OF THE DEVIATION IF PERFORMANCE FALLS OUTSIDE THE LIMITS**
 - **TAKE APPROPRIATE ACTION**

CONTROL CHART EXAMPLE: QUARTERLY PROFITS



STEPS IN PRODUCING \bar{X} AND R CONTROL CHARTS

1. DETERMINE THE AVERAGE (\bar{X}) AND RANGE (R) FOR EACH OF TEN SUBGROUPS OF FOUR OBSERVATIONS EACH.
2. CALCULATE THE GRAND AVERAGE ($\bar{\bar{X}}$) AND AVERAGE RANGE (\bar{R}):

$$\bar{\bar{X}} = \frac{\sum \bar{X}}{n}$$

$$\bar{R} = \frac{\sum R}{n}$$

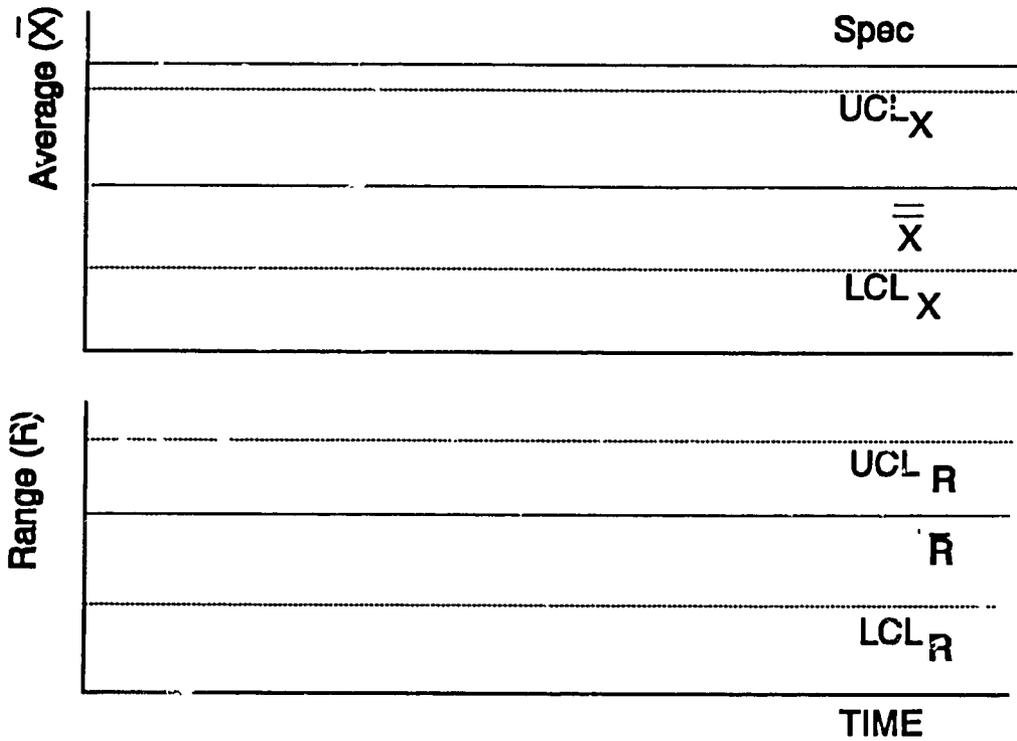
3. CALCULATE THE UPPER AND LOWER CONTROL LIMITS FOR \bar{X} . (USE THE APPROPRIATE A VALUE FROM EXHIBIT 23.3.)
4. CALCULATE THE CONTROL LIMITS FOR R. (USE THE APPROPRIATE D VALUE FROM EXHIBIT 23.3.)

$$UCL_R = D_4 \bar{R}$$

$$LCL_R = D_3 \bar{R}$$

5. CONSTRUCT AND PLOT THE CONTROL CHARTS FOR THE APPROPRIATE SAMPLE SIZE. ENTER YOUR CONTROL LIMITS AND PROCESS SPECIFICATIONS (SPECS).

STEPS IN PRODUCING \bar{X} AND R CONTROL CHARTS



FACTORS FOR COMPUTING \bar{X} AND R CONTROL CHARTS			
SAMPLE SIZE (n)	A	D ₃	D ₄
4	.73	0	2.28
5	.58	0	2.11
6	.48	0	2.00
7	.42	0.08	1.92

APPLICATION OF \bar{X} AND R CONTROL CHARTS TO SEATING IN A RESTAURANT

1. DETERMINE THE AVERAGE (\bar{X}) AND RANGE (R) FOR EACH OF TEN SUBGROUPS OF FOUR OBSERVATIONS.

Time	Time Until Seating (Seconds)				\bar{X}	R
8-9:00	30	25	35	40	32.50	15
9-10:00	35	30	40	45	37.50	15
10-11:00	25	15	40	40	30.00	25
11-12:00	20	25	25	30	25.00	10
12-1:00	25	35	50	55	41.25	30
1-2:00	30	40	25	30	31.25	15
2-3:00	30	40	30	40	35.00	10
3-4:00	40	40	30	35	36.25	10
4-5:00	45	40	35	40	40.00	10
5-6:00	20	25	25	30	25.00	10

2. CALCULATE THE GRAND AVERAGE ($\bar{\bar{X}}$) AND AVERAGE RANGE (\bar{R}).

$$\begin{aligned}\bar{\bar{X}} &= \frac{\sum \bar{X}}{n} = \frac{32.5+37.5+30+25+41.25+31.25+35+36.25+40+25}{10} \\ &= 33.4\end{aligned}$$

$$\bar{R} = \frac{\sum R}{n} = \frac{15+15+25+10+30+15+10+10+10+10}{10}$$

3. CALCULATE THE UPPER AND LOWER CONTROL LIMITS FOR \bar{X} .

$$UCL_{\bar{X}} = \bar{\bar{X}} + A\bar{R} = 33.4 + (.73)(15) = 44.35$$

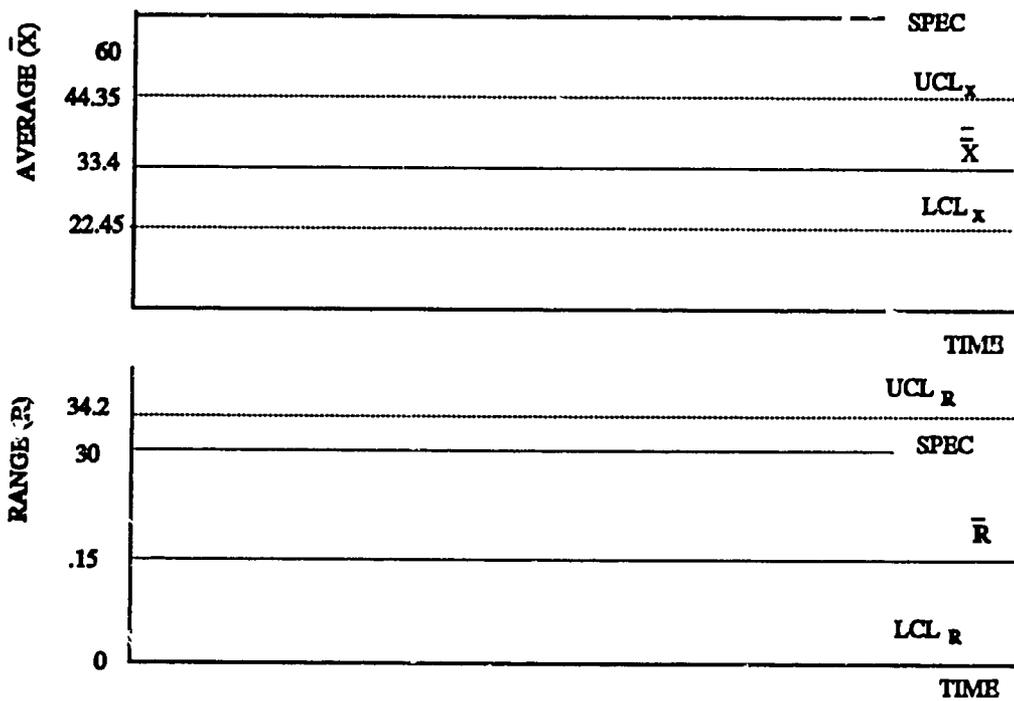
$$LCL_{\bar{X}} = \bar{\bar{X}} - A\bar{R} = 33.4 - (.73)(15) = 22.45$$

4. CALCULATE THE UPPER AND LOWER CONTROL LIMITS FOR R.

$$UCL_R = D_4\bar{R} = 2.28 (15) = 34.2$$

$$LCL_R = D_3\bar{R} = 0 (15) = 0$$

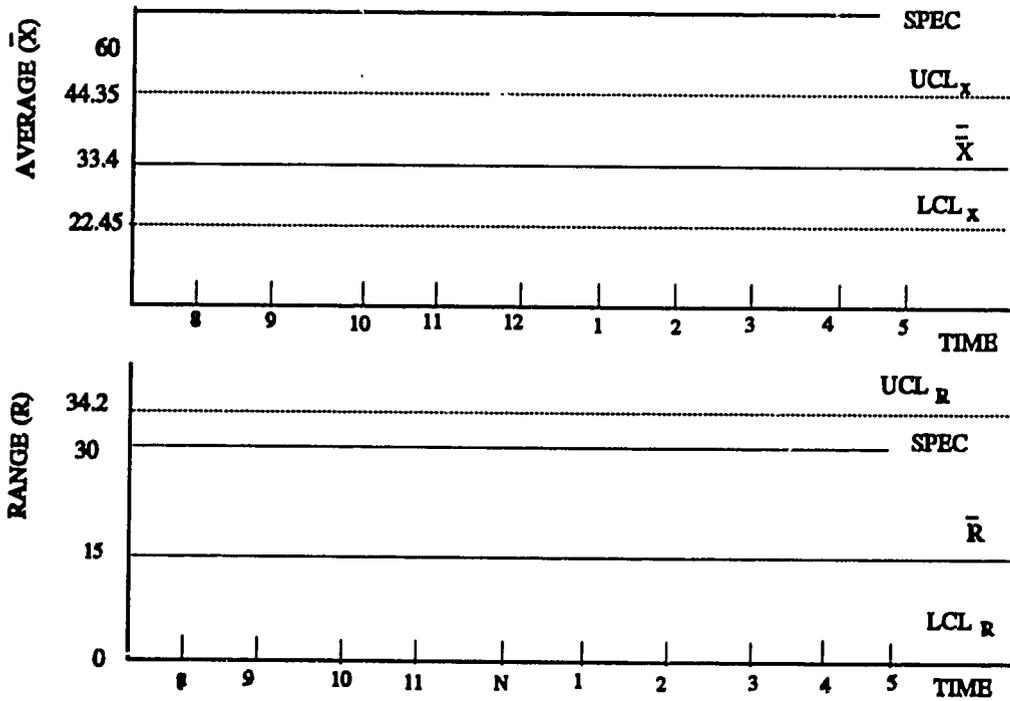
5. CONSTRUCT AND PLOT THE CONTROL CHARTS.



6. MAKE FOUR OBSERVATIONS DURING HOUR AND COMPUTE THE \bar{X} AND R FOR THE SAMPLE. ENTER THE VALUES ON THE CHARTS. (SEE EXHIBIT 23.5).

USE OF \bar{X} AND R CHART

Time	Time Until Seating (Seconds)				\bar{X}	R
8-9:00	35	20	30	35	30	15
9-10:00	40	20	25	35	30	20
10-11:00	50	30	35	45	40	20
11-12:00	45	35	45	50	43.75	15
12-1:00	70	65	45	70	62.50	25
1-2:00	40	45	25	30	35	20
2-3:00	20	30	30	20	25	10
3-4:00	30	35	40	35	35	10
4-5:00	25	35	25	20	26.25	15
5-6:00	30	40	50	30	37.50	20



INVENTORY CONTROLS

- **HOW MUCH TO ORDER AND WHEN**
- **PURCHASE DISCOUNTS**
- **INVENTORY TURNOVER**
- **METHODS OF VALUING INVENTORIES**

QUALITY CONTROL AND INSPECTION

- **INSPECTION**
 - **INSPECTION STANDARDS**
 - **POINTS OF INSPECTION**
 - **INSPECTION COSTS**
 - **100 PERCENT INSPECTION**

- **QUALITY CONTROL**

- **WORK STUDY**

- **WORK MEASUREMENT**

PURCHASING FOR MANUFACTURING

**MANUFACTURERS NEED RAW MATERIALS,
COMPONENT PRODUCTS, EQUIPMENT AND SUPPLIES**

FACTORS TO BE CONSIDERED

QUANTITY NEEDED

**GET THE ITEMS WHERE THEY ARE NEEDED
ON TIME**

PURCHASE AT THE RIGHT PRICE

DELIVERY

SERVICE

RELIABILITY

DEFINING OPERATIONS*

Operations management is the planning and control of the activities required to transform inputs into products or services. Every organization, whether a baker, drycleaner, department store, appliance repair shop, or dentist's office, has an operations function. Defining operations means formulating an operations strategy and selecting the best methods of combining company resources (facilities, machinery, materials, workers, and managers) to carry out this strategy. In this chapter, we discuss the basic types of layouts and their relationship to the volume of goods or services produced. We also discuss industrial engineering (IE) techniques to help you determine the best layout for your facility. These IE techniques are fundamental to analyzing and improving the flow of materials or customers. You will find these techniques critically important in implementing your operations strategy. We also describe a manufacturing philosophy that provides you, the small business owner, with a perspective on how to define, organize, and manage your operations effectively. The just-in-time (JIT) philosophy provides several useful concepts and techniques for the small business.

After reading this chapter, you will be able to:

- Develop an operations strategy that combines two or more competitive advantages.
- Describe the basic types of layout and identify when each type should be used.
- Identify how to use three basic industrial engineering techniques to analyze and improve operations within your small business.
- Explain the basic components of the just-in-time philosophy and how they might be used to make your small business more competitive.

In the past, companies have selected their business strategy based on one of the following competitive advantages:

- | | |
|-------------------|-------------------------|
| • Product | • Process |
| • Low cost | • High quality |
| • Short lead time | • Delivery as scheduled |
| • Flexibility | • Field service |

Many companies have developed an operations strategy around one overriding competitive advantage and been very successful. The fast-food industry provides examples of several well-known companies that illustrate the use of these various strategies. Hardee's promotes charbroiled hamburgers (product and process). Krystal sells four of its Krystal burgers for one dollar (low cost). Wendy's competes by providing its offerings without waiting (short lead time). Domino's competes by guaranteeing delivery in 30 minutes or less or you get a discount

* Source: Tate, L., Cox, J., Scarpello, V., Stewart, W. Small Business Management and Entrepreneurship, pp. 288-301. PWS-Kent Publishing Company. Reprinted and translated with permission.

on your pizza (delivery as scheduled). Burger King emphasizes product flexibility with its advertising slogan, "Have it your way." Each company emphasizes a different competitive advantage in its business strategy.

This strategy affects more than marketing, however. The strategy also dictates the type of layout, the type of equipment, the worker skills required, the scheduling policy, and the proper location of inventory.

The Grill, a small independent restaurant in Athens, Georgia, illustrates how several competitive advantages can be used simultaneously: The Grill is noted for its large homemade-style hamburgers made from Grade A meat. This hamburger is slightly more expensive than a hamburger at a fast-food restaurant. During the lunch hour, the owner of the Grill stands in front of the restaurant taking patrons' orders and estimating the time until a table will be vacant. The restaurant is very competitive with fast-food restaurants in terms of time spent waiting. Patrons do not feel as if they are wasting time because they can place their orders before entering. Further, when they depart the restaurant, the owner is still standing outside the entrance, thanking them for their patronage. Based on the volume of business normally handled during lunch, the Grill starts cooking hamburgers ahead of the actual receipt of orders to decrease the lead time in preparing your lunch.

The Grill has formulated its operations strategy to capitalize on several competitive edges--product (homemade-style hamburgers), quality (Grade A meat), short lead time (by taking orders immediately and cooking hamburgers continually during lunch hour), delivery as scheduled (the owner's estimate of seating times), and flexibility (hamburgers prepared to order in no extra time). The Grill provides an excellent example of how a small business can compete effectively using several competitive edges.

You, as a small business owner, should examine your operations strategy to identify how you might be able to compete successfully by utilizing your resources more effectively. You can also take advantage of being a small business by getting to know your customers better and being more responsive to their needs.

Defining the facility layout is deciding on the physical arrangement of equipment, workers, and materials to make a product or service. Layout decisions are based on your competitive edges and the volume and characteristics of your products or services. The four basic types of layout are illustrated in HO 8-1A. The fixed position layout is a physical arrangement in which the object or service is stationary and the workers move to the site to perform their activities. It is used to manufacture large objects. Construction projects such as houses, malls, bridges, and dams are classic examples. A restaurant in which you are seated at a table where a waitress takes your order, serves your meal, delivers your bill, and takes your payment provides a service industry example of a fixed position layout.

The process or functional layout is an arrangement in which similar equipment is located in the same areas or department. Facilities where small quantities of a variety of products or services are produced usually have equipment arranged by function. Using a functional

arrangement, a small machine shop would locate lathes in one department, mill machines in another, and drill presses in still another. As shown in this portion of the figure, parts 1 and 2 flow through several departments and are assembled to make product A. The kitchen layout in a restaurant is usually a process layout--dishwashing in one area, cooking in another, salad preparation in another, and so on.

As the volume of a product or service increases, the business must reduce the distances that the product or service must travel and the amount of handling. A product layout is arranged to facilitate the fabrication and assembly of high-volume products by placing the equipment according to the sequence of operations required to create the product or service. An automobile assembly line provides the classic example of a product layout in a service environment.

A cellular layout is similar to a product layout. If you make a large number of parts that require the same sequence of operation, you can place equipment to perform these operations next to each other to reduce travel distances, handling, and lead time. This cluster of equipment, called a *cell*, consists of different machines required to process families of parts. Cells may exist with another type of layout to take advantage of grouping machines in a high-volume parts flow arrangement.

Several general relationships exist in designing a layout:

- Different layouts can be used within the same facility depending on the volume and size of parts and the sequence of operations.
- The larger the size of the product or more complex the service, the more desirable a fixed position layout.
- The more varied the sequence of activities, the more desirable a functional layout.
- The higher the volume of a product, the more desirable a product layout.
- The higher the volume of a group of similar parts or a given sequence of operations, the more desirable a cellular layout for these operations.

Several industrial engineering (IE) techniques are easy to learn and useful to a small business. Exhibit 2 provides a list of IE techniques with brief descriptions. The flow process chart, operation process chart, and flow diagram are quite useful in designing or revising a layout. We describe these techniques in detail to assist you in evaluating your layout to improve overall productivity. These charts provide you with a shorthand standardized method to record a brief but detailed description of a process. It is essential that you study the chart and learn to use these techniques to identify and eliminate problems.

The flow process chart is a graphic representation of all the operations, transportations, inspections, delays, and storages occurring during a process or procedure related to one part of a product or service. The symbols and definitions for each of these activities are provided below:

- *Operation*: a circle (three-eighths of an inch in size) indicates a task such as typing a letter, entering a sale on a cash register, tightening a bolt, or wrapping a package.
- *Transportation*: an arrow indicates movement, whether by conveyor, forklift, or worker.

- *Inspection:* a square (three-eighths of an inch in size) indicates an inspection, such as proofreading a letter, reading a gauge or dial, or examining a part for a defect.
- *Delay:* a large capital D indicates a delay, such as a letter waiting to be mailed or filed, a customer order awaiting pickup, or a part waiting to be processed.

Exhibit 2

USEFUL IE TOOLS FOR THE SMALL BUSINESS

- *Flow process chart:* lists the sequence of operations, movements, storages, delays, and inspections encountered by a part or item as it goes through the process; shows the details of one item or part.
- *Operation process chart:* lists the sequence of operations, time allowances, and materials used in a manufacturing or service process from delivery of raw materials to shipment of finished good; shows the flow of parts in making a product.
- *Flow diagram:* a pictorial representation of the building layout providing the location of all operations; useful in eliminating backtracking and identifying poor layouts.
- *Travel chart:* a table showing the volume of material flowing from one department to another, useful in examining materials handling and layout problems in process layouts.
- *Motion economy:* twenty-one guidelines to assist in improving the use of the human body, the layout of the workplace, and the design of equipment and tools in developing work methods.
- *Man and machine process chart:* lists the time relationship between the worker and machine, useful in analyzing one worker and one or more machines.
- *Gang process chart:* shows the time relationships (idle and operating) of a number of workers to the operation of one machine, useful in reducing the workers' and machine's idle times.
- *Line balancing:* an approach to determining the number of workers required to work an assembly line for a given volume of production.
- *Operator process chart:* (also called a *left-hand, right-hand process chart*): shows the relationship between the hands and performing work, movements, and delays, useful for analyzing and improving highly repetitive work activities.
- *Time study:* an approach to recording the elements of and times for performing an operation, useful in setting a production standard and improving an operation.

- *Storage:* an inverted triangle indicates an item in storage such as a letter in a document file, chemicals stored in a tank, or a product in finished goods inventory awaiting a customer order.

The flow process chart is useful to you in helping identify ways to reduce the time taken to make a part by analyzing the time and distance associated with each activity. Exhibit 3 shows such a chart for the movement of patients through a doctor's office. From examining the amount

of time the patient spends at the office, you probably agree that room for improvement exists. Of the 51 minutes spent in the office, 15 minutes are used in productive activities (signing in, filling out insurance forms, having blood pressure and temperature taken, being examined by the doctor, and paying the bill), 1 minute in inspection, and 35 minutes in waiting. After studying these activities, the doctor could reduce or eliminate the delays, reduce the distances traveled between operations, and combine or eliminate operations.

Exhibit 3

FLOW PROCESS CHART OF PATIENT PROCESSING IN DOCTOR'S OFFICE

FLOW PROCESS CHART

Present method: _____ ✓ _____ Date: 12/5/91

Proposed method: _____ Charted by: IEC

Subject: Patient processing from entering to leaving office

Symbol	Distance or Time	Brief Description
→	20'	Enter office and go to receptionist
O	1 m	Sign in
D	5 m	Wait
O	5 m	Fill out insurance forms
D	15 m	Wait
→	30'	Go to examining room
O	5 m	Blood pressure, temperature, etc.
D	15 m	Wait for doctor
O	3 m	Examination by doctor
→	20'	Go to pay bill
□	1 m	Inspect bill
O	1 m	Pay bill
→	45'	Leave office

m = Minutes

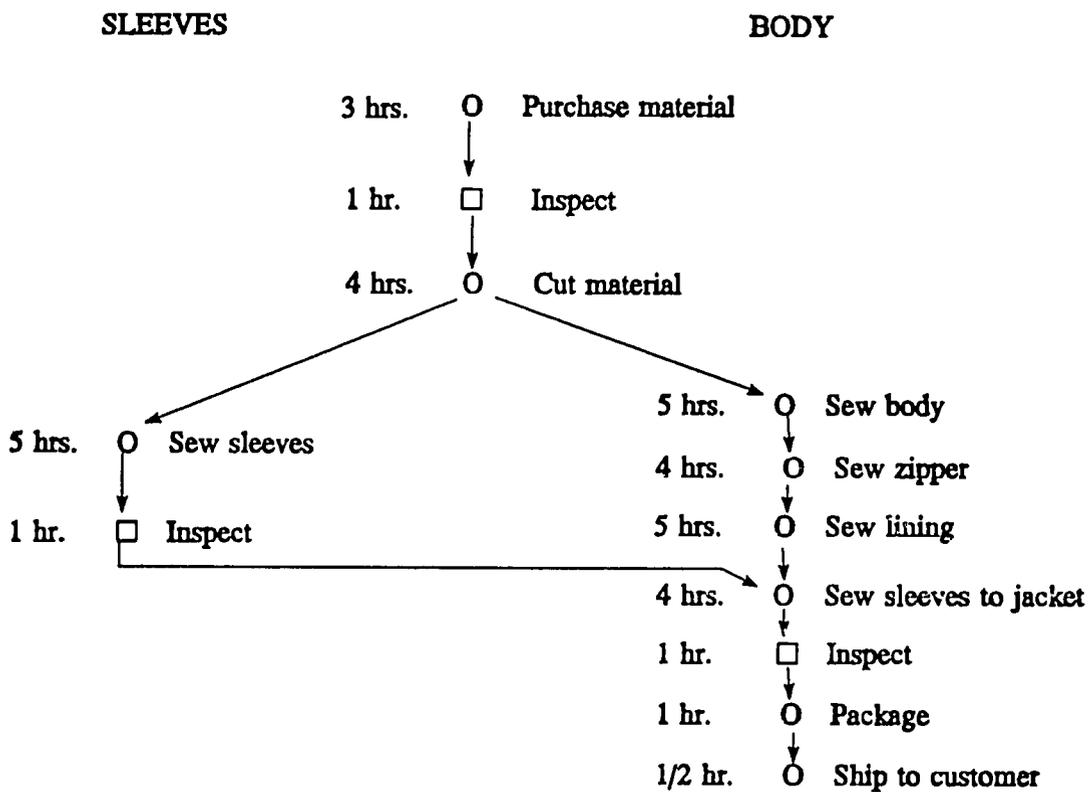
' = Feet

The operation process chart is a graphic technique that shows the chronological sequence of all operations, inspections, time allowances, and materials used in producing a good or service from the ordering of each raw materials to the delivery of the finished good or service to the customer. In constructing the operation process chart, a circle is used to denote an operation and

a square to denote an inspection. (The symbols are drawn at three-eighths of an inch in size.) An operation takes place when the part is intentionally transformed. An inspection takes place when the part is examined to determine its conformity entering into a product. Such charts of the primary products or services are invaluable in identifying the location of work centers for an ideal plan layout. An example of the use of this charting technique by a small manufacturer of jackets is provided in Exhibit 4.

Exhibit 4

OPERATION PROCESS CHART FOR THE MANUFACTURE OF A WINDBREAKER JACKET

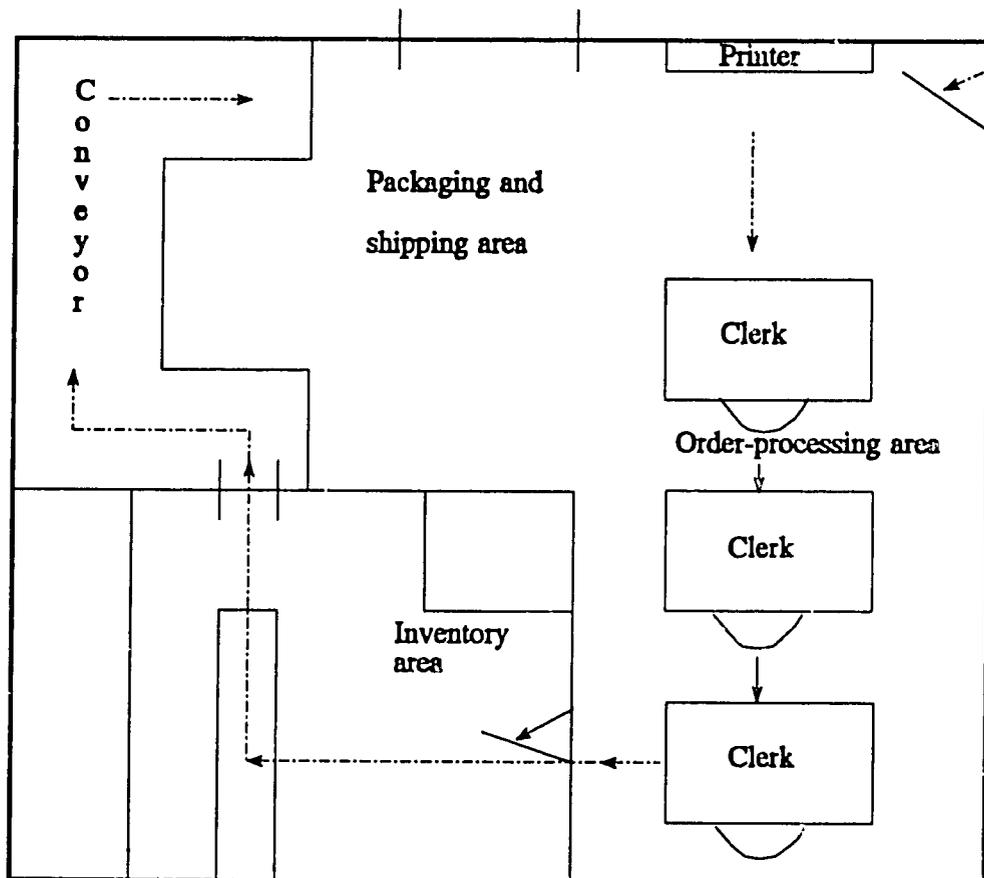


In studying the operation sequences of manufacturing the jackets, you might ascertain whether the volume of jackets produced would support dedicating four sewing machines to this produce

line for a period of time. You could then set a flow line for sewing the zipper, sewing the lining, sewing the sleeves, and sewing the sleeves to the jacket. In laying out your facility in this manner, you can complete an operation on the jacket and pass it to the next worker to perform the next task. By overlapping these sewing processes, you can reduce lead time (the time it takes to make the jacket), decrease work-in-process inventory, and improve quality.

The flow diagram is a pictorial representation of the current or proposed layout of a facility superimposed with the sequence of operations associated with producing a good or service. This tool can assist you in examining the distance that materials must travel between operations to improve the efficiency of a layout. The flow diagram of a mail-order distribution center is provided in Exhibit 5. This layout is quite efficient in that material paths do not cross and the distances between consecutive operations are small.

Exhibit 5
FLOW DIAGRAM OF PROPOSED LAYOUT OF A MAIL-ORDER DISTRIBUTION CENTER



These charting techniques are helpful in deciding how to organize your facilities to make your business more productive. In analyzing your completed charts, question the existence of each activity to ensure that it is essential to producing your good or service. Your objective is to make the total operation more productive. You should eliminate unnecessary operations, reduce others to the smallest amount of time necessary, and combine others to improve the overall production process; you can make these operational refinements whether you run a manufacturing or service firm. This objective will become more apparent when you become familiar with the JIT philosophy.

Just-in-time (JIT) is a comprehensive management philosophy based on the elimination of waste and the continuous improvement of quality, reliability, delivery, products and processes. Waste includes idle inventory. Many U.S. manufactures, both large and small, are implementing the JIT philosophy to become more competitive. This philosophy can also be implemented in many service operations. The benefits of implementing JIT are reduced lead time, higher quality, more responsiveness to customer needs, less floor space required, lower inventories, and increased worker involvement. Many of the components of the JIT philosophy were originally developed in the United States (in fact, some components were discussed in Henry Ford's book *Today and Tomorrow* in 1926), but the Japanese are credited with combining the components into a comprehensive management philosophy. As practiced today, JIT has thirteen components:

- | | |
|--------------------------|---------------------------------|
| 1. Layout | 8. Supplier involvement |
| 2. Management commitment | 9. Multiskilled workers |
| 3. Focused factory | 10. Quality circles |
| 4. Level schedule | 11. Workplace organization |
| 5. Kanban system | 12. Preventive maintenance |
| 6. Setup reduction | 13. Statistical process control |
| 7. Reduced lot sizes | |

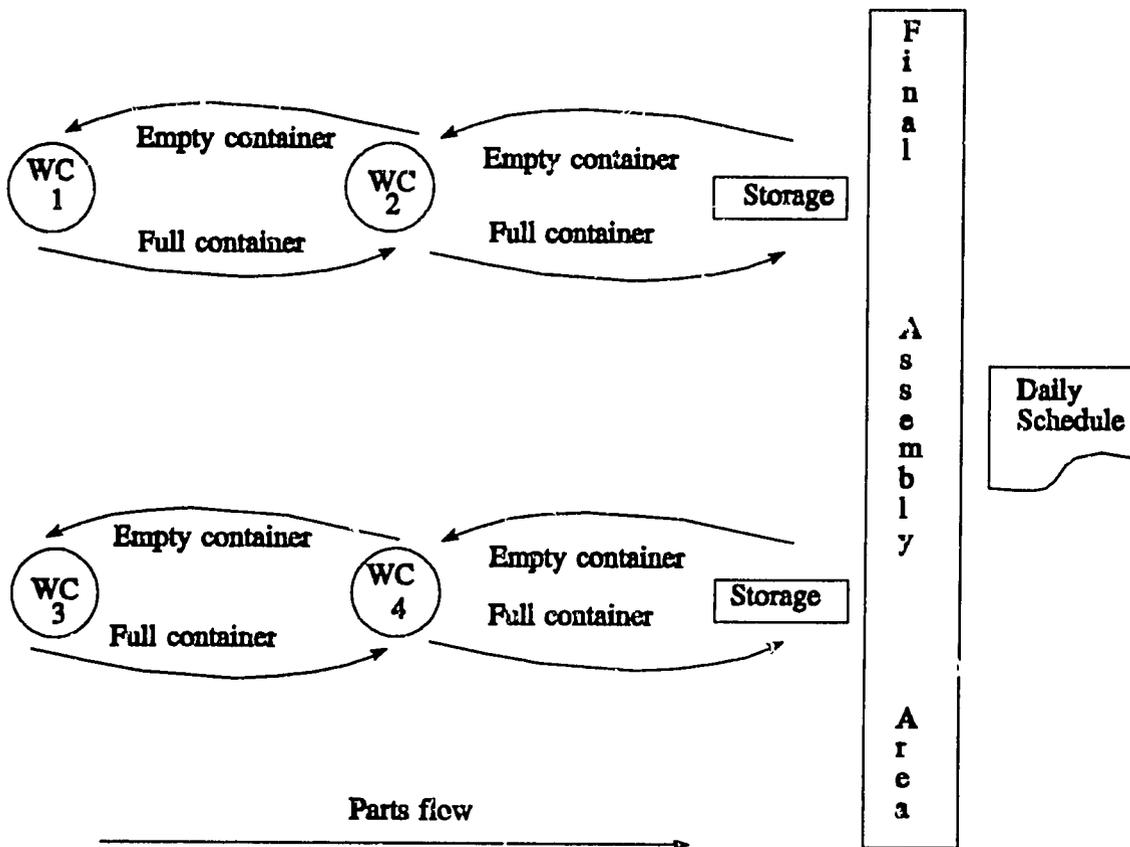
Developing an effective layout is essential to promoting product or service flow using the JIT philosophy. The objective of developing the layout is to evolve to using product and cellular formats. As material storage requirements and handling movements are reduced, plan layout revisions are required. The product and cellular layouts reduce the time required for materials handling.

Management commitment is essential for successful implementation of any management system. Commitment means that managers are educated in the nature of the system they want implemented, actively involved in bringing about the implementation, and interested and concerned about the impact the system will have on workers.

A focused factory is a facility that is dedicated to producing a limited product or service line. By definition, a focus on the production of a limited product or service line narrows the set of management goals, therefore promoting overall productivity by eliminating conflicting goals. Many small manufacturers--such as makers of boat cushions, car mats, and so on--are focused factories. Drycleaners and carburetor repair shops are examples of focused service firms.

Level scheduling refers to producing a day's worth of demand each day. Many restaurants, particularly cafeterias, operate in this manner. Both large and small manufacturers, however, make large batches of parts and products to utilize equipment and workers in what they think is an efficient way. Level scheduling is initially impossible in most manufacturing settings and can only be accomplished through reduction of equipment setup times, use of small lot sizes, and improvements to the process. Level scheduling allows the facility to be responsive to market and customer demand without storing large amounts of raw materials, work-in-process, and finished goods inventories. A level schedule generates uniform work loads on the work centers within the facility.

Exhibit 6
SINGLE CARD KANBAN SYSTEM



The Kanban system is a method of synchronizing the manufacturing steps and movement of parts through the work centers of a plant to ensure high quality, short lead times, and a minimum of inventory. It is a pull production system based on meeting each day's production schedule by pulling the exact amounts of parts through the various work centers to meet the product schedule. Cards, standardized containers, or even a square painted on the floor may be used to signal to a worker that it is time for him or her to produce one container of parts. This system ensures no excess work-in-process inventory and just enough of each part in the assembly areas to meet the day's schedule. Workers, when not authorized to produce parts, conduct preventive maintenance, practice setting up equipment, help other workers, or move to another work center.

Kanban systems are appropriate for repetitive operations environments. Some small manufacturers have a limited product line; for them, a Kanban system would be beneficial in reducing work-in-process inventory. The flow of materials and Kanbans is illustrated in Exhibit 6. Parts flow from WC1 (work center 1) to WC2 once WC2 provides the signal--an empty container and card. No work can be performed at WC1 until this authorization is provided. After a container of parts is completed at WC1, it remains there until the worker at WC2 brings an empty container and card and swaps them for the full container. WC2's output is based on the usage of parts in the final assembly area. When parts are consumed in making the day's production schedule, the empty container and appropriate card are carried to WC2 and swapped for a full container. In this manner, each work center's output is based on the succeeding work center's needs.

Setup time reduction is critical to the smooth flow of parts throughout a facility. Setup time is the time between finishing the last part of one order and starting the first part of the next. In other words, it is the time taken to prepare the equipment for the next order to be produced. Long setup times disrupt the smooth flow of parts through a facility and cause workers at other work centers to wait for an authorization to work (the Kanban signal).

The Japanese use four approaches to reducing setup times. These approaches are based on separating the internal time and the external time associated with equipment setup. Internal time is time devoted to setup while the machine has to be idle; external time is time devoted to setup while the machine could be busy. The first approach to setup reduction is to restructure steps performed during internal time to be performed during external times; this switch is achieved by performing the steps while the machine is operating. The second approach is to convert internal setup time to external time. The third approach is to reduce or completely eliminate the machine adjustment stage. The fourth approach is to standardize parts across and within products and product lines to decrease the number of setups.

The copier operations of a small local copy shop provide an excellent illustration of the four approaches to setup reduction. In operating the copier, a worker performs the following eight steps:

1. Removes the completed order from the copier.
2. Carries the order to the table and checks it.
3. Gets the next order and carries it to the copier.
4. Places the master on the copier and sets the paper size.
5. Runs a copy to test the placement of the master on the machine.
6. Sets the copier to the appropriate quantity.
7. Starts the copier.
8. Goes to the table and moves the previous order to the counter.

Steps 1 through 7 are currently internal since the copier is idle; step 8 is external since the copier is busy. Using the first approach, a document feeder can be attached to the machine; by allowing automatic feeding of the copier, step 4 is converted from internal to external time. Step 2 can be converted to external time as well by moving it to follow step 8; while the copier runs a second job, the worker can inspect the first. Using the third approach, lines can be drawn on the copier screen to virtually eliminate the adjustment and inspection setup steps (steps 5 and 6). Using the fourth approach, the operator can run only 8 1/2-by-11-inch paper on this copier to eliminate the down time associated with changing the copy size (a partial elimination of step 4).

Reduced lot sizes are critical to maintaining parts flow in a JIT environment. They are realistic only after setup reductions have been implemented, however. Small lot sizes encourage workers to identify and eliminate quality problems, are essential to reducing lead times, and provide synchronization of work centers.

Supplier involvement is essential to reducing raw materials inventory levels. Many firms work closely with suppliers to ensure that raw materials deliveries are synchronized with needs at the initial work centers. Suppliers are provided fairly stable manufacturing schedules in advance and are expected to supply parts in short lead times. This is only possible through close cooperation of both parties. In Japan, most companies use only a small number of suppliers and work closely on parts design, product design, and process and quality. Both parties see the relationship as a long-term commitment. A small business can reduce its number of suppliers and consolidate its orders to increase its purchasing power and influence with the remaining suppliers.

Multiskilled workers are a major component of the JIT philosophy. Under JIT, workers are encouraged to cross-train on other jobs throughout the facility so that they become capable of performing adequately at several different operations. Workers are given responsibility for inspecting their work and conducting preventive maintenance on their equipment. A multiskilled workforce provides complete flexibility in assigning workers to maintain parts flow through the

facility and prevents disruptions caused by worker absenteeism and turnover or equipment breakdown. Most small manufacturers expect workers to be able to operate several different types of equipment.

Quality circles, sometimes called productivity improvement groups, are groups of six to ten employees from the same work area that meet voluntarily to identify and solve problems related to productivity and quality. Workers, trained in productivity, quality, and problem-solving techniques, meet one hour a week to work on a specific problem area. These small group improvement activities allow the worker to contribute to the work environment and provide manufacturing and service, could benefit greatly by implementing quality circles to capture the knowledge, creativity, and experience that their workers possess. Another advantage of such practice is that participation in job-related decisions can help increase employee commitment to work.

Workplace organization means designing the individual worker methods and arranging tools and machinery to support the worker involvement in producing a good or service. Many of the IE tools listed in Exhibit 2 are quite useful in organizing the workplace. The emphasis in the JIT philosophy, however, is on the continuous flow of parts through the production system and not necessarily on the most efficient worker method.

Preventive maintenance is essential to the proper operation of equipment, whether a cash register, computer, typewriter, copy machine, or a drill press. In a JIT environment, machine breakdowns disrupt production because work-in-process inventories are low. When scheduling workers and equipment to manufacture parts or provide a service, you must, therefore, allow time to perform proper equipment maintenance. Workers should be actively involved in and responsible for conducting preventive maintenance on their own equipment. Equipment should be inspected and tested at the end and beginning of each shift. For example, a copier's toner container and paper tray should be refilled, its glass cleaned, and the paper path checked to ensure that there is no paper jam. Workers should be told to report equipment problems immediately to ensure the continuous flow of parts through the facility.

Quality parts and products are critical to operating effectively using the JIT philosophy. Statistical process control is used to ensure that manufacturing processes are producing quality parts. Your workers, not inspectors, are responsible for quality and should, therefore, be trained in elementary quality control and problem-solving techniques. Quality has to be built into a product; it cannot be achieved by inspection. Workers should understand their role in making a defect-free part.

Although you may not be able to implement all components of the JIT philosophy, several can easily be implemented in a small business. Each of these components offers considerable benefits.

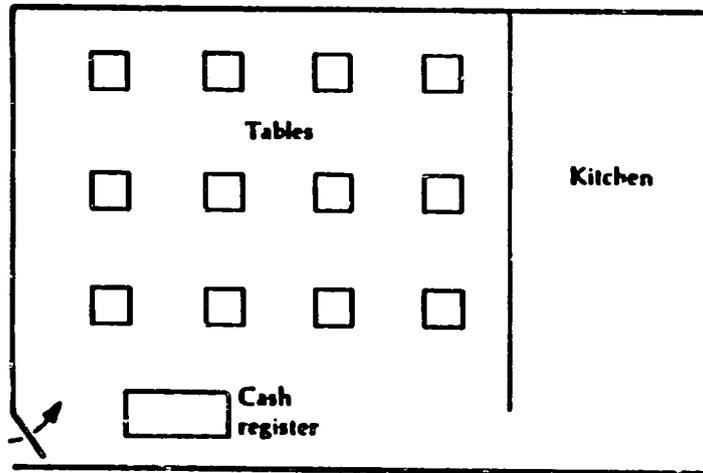
Operations management, the planning and control of the activities that a business requires to transform inputs into products or services, is a vital area of concern to small businesses of all types. The best operations managers aim to structure operations so as to support the business's competitive advantages, which can be defined as any combination of eight key factors.

A central feature of operations management is the facility layout, which takes one of four basic types: fixed position layout, process or functional layout, product layout, or cellular layout. Each type has advantages and disadvantages; all can be used for producers of either goods or services.

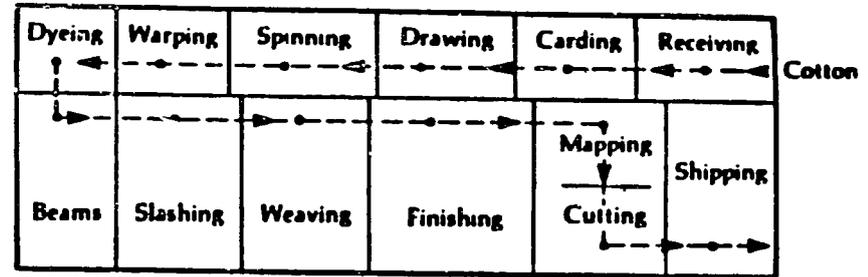
Industrial engineering (IE) techniques can be used to analyze operations and devise the most efficient methods. Among the key IE techniques are the flow process chart, the operation process chart, and the flow diagram. Each of these techniques can be used to represent an operational flow visually so as to facilitate finding the optimal way to organize production.

A new view of operations, the just-in-time (JIT) philosophy, is being adopted in the United States from Japan. The central focus of JIT is the elimination of waste through an emphasis on quality and reliability. Implementing the JIT system means addressing such issues as layout, the commitment of management to the new program, developing workers to possess many skills, and preventive maintenance. A major focus of the JIT philosophy is to reduce the amount of inventory.

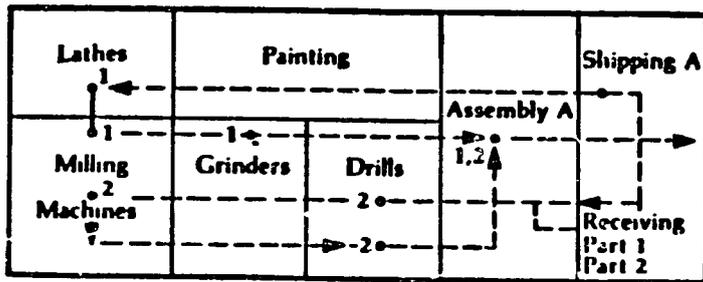
EXAMPLES OF FACILITY LAYOUTS



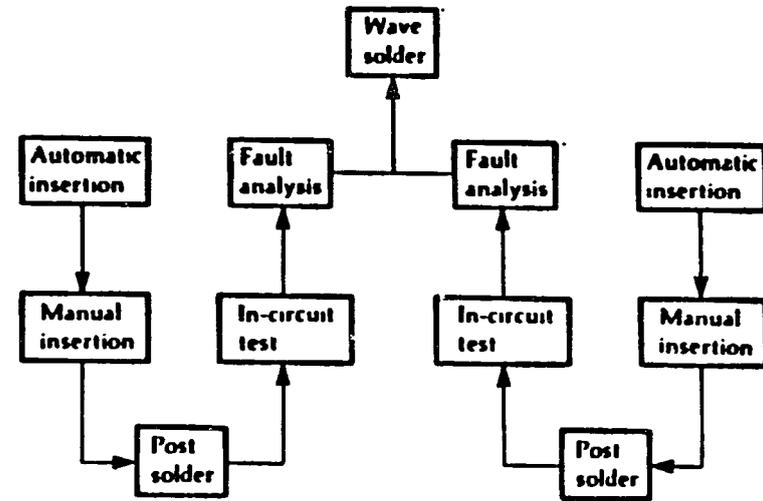
FIXED POSITION LAYOUT



PRODUCT LAYOUT



PROCESS OR FUNCTIONAL LAYOUT



WORK CELL LAYOUT

OPERATIONS MANAGEMENT EXERCISE

1. **IDENTIFY THE LAYOUT OF A BARBER SHOP, BEAUTY SALON, DENTIST OFFICE, FAST-FOOD RESTAURANT, DRY CLEANERS, AUTOMOBILE REPAIR SHOP, SUPERMARKET, AND HARDWARE STORE.**

2. **DISCUSS THE POSSIBLE OPERATIONS STRATEGIES AVAILABLE TO EACH OF THESE BUSINESSES.**

MANAGING OPERATIONS*

In the previous chapter, we discussed selecting the best methods of combining company resources (facilities, machinery, materials, workers, and managers) to produce goods and services. In this chapter, we describe how to manage your service and manufacturing operations effectively. Several concepts and techniques are useful to managing the operations of your small business.

Forecasting the demand for your goods and services is vital to managing your resources effectively. We identify the basic components of demand and present some simple forecasting methods. Most small businesses--and many large businesses--fail to recognize that managing their priority and capacity functions is vital to the success of their business. Priority and capacity planning and control are defined in this chapter, which also provides a framework to assist you in managing your business. A more complex framework, materials requirements planning (MRP), is also provided to assist small manufacturers in planning and controlling their operations. Proper management of these functions ensures return business; poor management, on the other hand, ensures lost customers. Finally, we introduce you to a new philosophy, optimized production technology (OPT) or synchronous manufacturing philosophy. OPT consists of nine scheduling principles that focus on streamlining the complete production system by maximizing the use of the bottleneck resource.

After reading this chapter, you will be able to:

- Recognize the basic components of demand for your product or service.
- Forecast the random demand component and tell how good your forecasting model is.
- Develop a framework to assist you in managing priorities and capacities in a simple service environment.
- Develop a framework to assist you in managing priorities and capacities in a manufacturing environment.
- Describe optimized production technology (OPT), a new approach to managing operations.

Forecasting is the process of estimating future demand. It can be accomplished using judgment mathematical techniques or both. If you use mathematical techniques, always review your forecasts for reasonableness, current knowledge, and accuracy.

One of the simplest approaches to forecasting is to examine the demand for your product or service with respect to time. Has the demand increased or decreased over the past week, month, quarter, or year? Models that use time as the independent variable to help predict demand are called time-series models. In time-series models, there are four components of demand:

1. The random or average component, a level or constant pattern.
2. The seasonal component, a repetitive pattern that could be hourly, daily, weekly, monthly, or annually.
3. The trend, or the general movement upward or downward over time.
4. The cyclical component, reflecting a long-term cycle (3 to 5 years).

Demand patterns illustrating each of the four basic components are shown in TP 8-9.

You do not have to be a mathematician to improve your forecasting ability; you simply need to follow the steps in TP 8-11. The first task is to plot your demand data over a period of time. In step 2, you compare this plot to the patterns in TP 8-9 to identify the components present in your data. In step 3, you select an appropriate model from TP 8-10 to test your data fit. TP 8-10 provides a list of forecasting models for each basic demand pattern and some combination patterns.)

While there are literally dozens of different forecasting models, this approach will quickly eliminate most of them from consideration. In step 4, construct a forecasting model using your data. You should add the new data for each period and then forecast demand for the next period. Mathematical complexity does not guarantee good forecasting models. No matter how complex your forecasting model, you should measure its ability to forecast accurately (step 5). Forecasting models should be monitored continuously to ensure their ability to predict future demand. The procedure provided here is simple; sophisticated approaches, of course, identify poor forecasting models more quickly but are beyond the scope of this book.

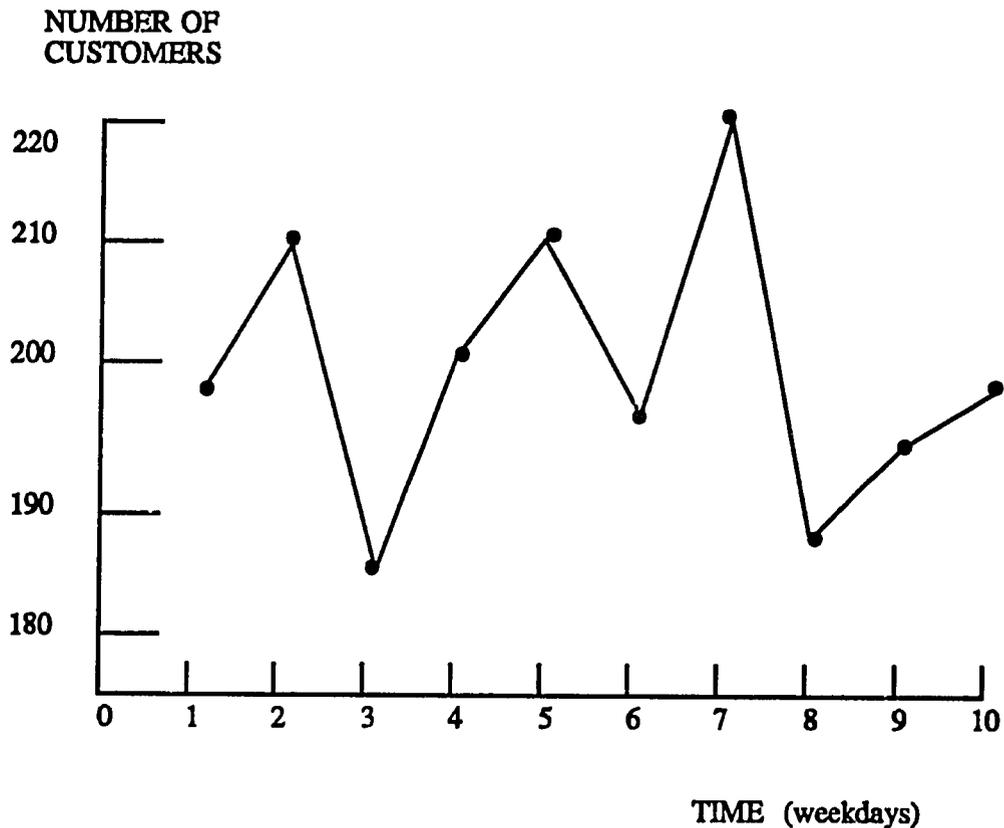
Let us see an example to illustrate how to identify the type of forecasting model to use on your product. Suppose that you own a small restaurant that emphasizes its luncheon menu. You are having trouble planning purchases and staffing. Following the steps in TP 8-11, you have collected your sales for the past ten week days and plotted them, with the result shown in Exhibit 4A. You compare your plot to the patterns in TP 8-9 and find that it clearly matches the average pattern. For such a model, your choices of a forecasting method are to use:

- A constant
- An average of several previous values
- A moving average (found by adding the newest value, deleting the oldest value, and recomputing the average)
- A single-order exponential model

You choose the last model because it is simple and requires little data. The equation for this model is:

$$\text{New forecast} = \text{Old forecast} + \alpha (\text{Actual demand} - \text{Old forecast})$$

Exhibit 4A
PLOT OF LUNCH DEMAND WITH RESPECT TO TIME



In exponential smoothing, you are adjusting the last period's forecast by a portion of the error of that period's forecast. The alpha value (α) or smoothing constant, ranges from zero to one. The smaller the alpha value, the smaller the adjustment caused by the last period's error. The larger the alpha value, the larger the adjustment. If there is little change in demand from one period to the next, a low value (0.05 to 0.1) for alpha is used. If demand changes dramatically from one period to the next, a large value (0.4 or so) should be used for alpha.

(More complex exponential smoothing models incorporate seasonal and trend components. See the works by Fogarty, Blackstone, and Hoffmann of by Vollmann, Berry, and Whybark at the end of this chapter for additional information.)

The calculations using exponential smoothing with a smoothing constant of 0.1 are illustrated in Exhibit 5. You begin by setting the forecast to the actual demand for period 1; for that period, the difference is 0 and the adjustment is 0. Because demand for period 1 is used as the initial forecast, it is computed at 200 for period 2. Since actual demand for this period was 210, the difference is 10 units. Because the alpha value is 0.1, the adjustment is 1 unit.

Exhibit 4A
**FORECASTING LUNCHES USING SINGLE-ORDER
 EXPONENTIAL SMOOTHING¹**

LUNCHES			
ACTUAL	FORECAST	DIFFERENCE	ADJUSTMENT
200	200	0	0
210	200	10	1
185	201	-16	-2
205	199	6	1
210	200	10	1
200	201	-1	0
220	201	19	2
190	203	-13	-1
195	202	-7	-1
205	201	4	0
¹ $\alpha = 0.1$			

The forecast for period 3 then becomes 201. The actual demand for period 3 was 185, and the difference (185 - 201) was -16. The adjustment is rounded to -2, which provides a forecast of 199 for period 4. Other forecasts are calculated in the same way.

To identify whether the forecasting model is still valid, each week you should check the difference between actual demand and forecast for the last several weeks. You should check the differences column to see that:

- There are about as many pluses as minuses.
- The sum is approximately zero.
- There are not seven or more pluses or minuses in a row.

If any of these conditions do not exist, you should consider constructing a new forecasting model by following the steps in TP 8-11. Prior to constructing a new forecasting model, however, ask yourself if there is any reason for changes in your demand pattern. Reasons might include a snowstorm for several days, street repair, special sales by competitors, or a new competitor.

Four basic functions are required in managing the operations of any business:

1. **Priority planning:** the process of determining the sequence of working on items.
2. **Capacity planning:** the process of determining the amount of work to be done and the amount of work that can be done given your resources.
3. **Priority control:** the process of comparing the planned sequence to the actual sequence of work and taking corrective action.
4. **Capacity control:** the process of comparing the planned amount of work to the actual amount of work accomplished and taking corrective action.

* Source: Tate, L., Cox, J., Scarpello, V., Stewart, W. Small Business Management and Entrepreneurship. PWS-Kent Publishing Company, Boston, 1992. Reprinted and translated with permission.

FORECASTING PROBLEM EXERCISE

Provided below is the demand history for videotape rentals for Froggy's Video Store for the past 13 days. Analyze the data based on your knowledge of forecasting. What forecasting model did you use? What is your forecast for demand in period 14?

Day	Demand	Day	Demand
1	500	8	590
2	450	9	580
3	650	10	620
4	600	11	610
5	590	12	550
6	620	13	710
7	600	14	?

MANAGING SIMPLE SERVICE OPERATIONS

FOUR BASIC FUNCTIONS ARE REQUIRED IN MANAGING THE OPERATIONS OF ANY BUSINESS:

1. **PRIORITY PLANNING:** THE PROCESS OF DETERMINING THE SEQUENCE OF WORKING ON ITEMS
2. **CAPACITY PLANNING:** THE PROCESS OF DETERMINING THE AMOUNT OF WORK TO BE DONE AND THE AMOUNT OF WORK THAT CAN BE DONE GIVEN YOUR RESOURCES
3. **PRIORITY CONTROL:** THE PROCESS OF COMPARING THE PLANNED SEQUENCE TO THE ACTUAL SEQUENCE OF WORK AND TAKING CORRECTIVE ACTION
4. **CAPACITY CONTROL:** THE PROCESS OF COMPARING THE PLANNED AMOUNT OF WORK TO THE ACTUAL AMOUNT OF WORK ACCOMPLISHED AND TAKING CORRECTIVE ACTION

MANAGING INVENTORY*

Thousands of articles have been written on various aspects of inventory management. This chapter provides an overview of a few of the more important concepts; hopefully it also provides you with an understanding of the importance of inventory in supporting your competitive strategy. Material costs represent the largest part of the product cost; in many companies, this cost comprises more than 60 percent of product cost.

Inventory management includes developing, implementing and administering inventory procedures, policies, and systems. In both service and manufacturing organizations, proper inventory management is critical to success. Inventory is an idle resource at best and a liability at worst. The Japanese view excess inventory as a waste. In this view, inventory is defined as having the right item in the right quantity in the right place at the right time. Excess inventory, or waste, is having the wrong item, having the wrong quantity, having the right item at the wrong location, or having the right item too soon or too late. These are stringent requirements. Nevertheless, it is essential to manage inventory as if it were your money--it is.

Inventory is both an asset and a liability. On the balance sheet, it is listed as a current asset and is used to generate revenue or income. This perspective has been the traditional way of looking at inventory. Remember, however, that inventory is an idle resource held for future use or resale, earning no interest or revenue. Too much inventory can tie up money with no financial return, but too little inventory can lose sales. In determining your inventory policies, you face two major conflicting objectives. On one hand, you want to maximize customer service by having what your customers want when they want it. On the other hand, you want to minimize your inventory investment by having as little capital as possible tied up in inventory that you will not sell. Manufacturing firms face a third conflicting objective: maximizing plant efficiency. Owners want to keep every worker and every machine busy at all times, or they feel that they are losing money. Each of these conflicting objectives attempts to improve one part of the business at the expense of the other parts. The proper objective to pursue, however, is to maximize the company's long-term profit. The goal then becomes choosing the inventory policy that meets that objective.

Materials management has undergone tremendous changes in the past few years with the development of new management philosophies and information systems. These philosophies and information systems are appropriate, available, and affordable to the small business owner, thus providing the means to make the business a world-class competitor.

This chapter presents some new ideas on inventory and a few of the more traditional approaches that are applicable in a small business. Our major emphasis is to instill a proactive approach to managing the inventory investment effectively. We discuss the relationship between

* Source: Tate, L., Cox, J., Scarpello, V., Stewart, W. Small Business Management and Entrepreneurship. PWS-Kent Publishing Company, Boston, 1992. Reprinted and translated with permission.

managing an effective operations function and strategic use of inventory, which can be a tremendous competitive edge. We discuss the traditional functions of inventory and methods of reducing the amount of inventory to support each function. We provide you a method of focusing your attention on planning and controlling the vital few items that contribute the most to your success. This method, called *ABC analysis*, is described in detail. Finally, we discuss methods of physical control and improving your inventory accuracy.

After reading this chapter, you will be able to:

- Identify the importance of inventory to implementing your company strategy.
- List the functions of inventory in both a service and manufacturing organization.
- Identify the types of cost associated with inventory.
- Analyze your inventory and determine planning and control techniques appropriate for each item in your inventory.
- Improve your inventory accuracy.
- Explain when and how to use four independent demand inventory systems.

Your business's inventory strategy (where, when, and how much of each type and item of inventory to stock) should be an integrated and complementary part of your operations strategy. The strategic placement and use of inventory can prove to be a powerful competitive advantage. Remember, however, that inventory is both an asset and a liability. Used correctly, it can increase sales tremendously; used incorrectly, it can be a primary cause of bankruptcy. As we discussed in HO 8-3, inventory can be the result of poor scheduling. If lead times for purchasing and manufacturing materials are long, the tendency is to carry large--many times excessive--quantities of inventory.

The first action of a business owner should be to examine the reasons for long lead times. Can these lead times be reduced? Can you order materials more frequently and in smaller quantities? Can you reduce inventory by streamlining operations? Can you reduce cost by eliminating waste, scrap, and rework?

If your lead time in responding to customers' demands for your products and services is long, you can take two actions. First, examine ways to shorten the lead time by streamlining operations. Second, examine your complete production and logistics system to identify the strategic placement of inventory within those systems so as to shorten lead time without carrying excessive inventory.

Inventory Types and Their Functions

There are four basic types of inventory in most retailing and manufacturing environments; these types are determined by the function of the inventory. They are lot size or cycle inventories, fluctuation inventories, basic pipeline inventories, and anticipation inventories. An understanding of the basic functions is essential to the proper application of inventory planning and control techniques.

- *Lot size or cycle inventories* are "inventories which are maintained whenever quantity price discounts, shipping costs, or set-up costs, etc., make it more economical to purchase or produce in larger lots than are needed for immediate purposes."¹
- *Fluctuation or buffer inventories* are inventories stocked to protect against unexpected surges in demand. Safety stock, one example of this type, is "a quantity of stock planned to be in inventory to protect against fluctuations in demand and/or supply."²
- *Basic pipeline stock* is "inventory to fill the many stocking points in the distribution system. The flow time through the pipeline has a major effect on the amount of inventory required in the pipeline: e.g., if the average time for its passage through all distribution levels to the end user is ninety days, then the basic pipeline inventory must be on the average ninety days supply. Time factors involved include order transmission, factory order processing, shipping, transportation, minimum-maximum inventory system, etc."³
- *Anticipation inventory* is "additional inventory above pipeline stock to cover projected trends of increased sales, planned sales promotion programs, seasonal fluctuations, plant shutdowns, and vacations."⁴

Each of these functions includes a tradeoff between the added inventory investment and the cost saved. Inventory-related costs can be grouped into four areas. First is the cost of ordering inventory, which includes clerical, process, and transportation costs. Second is the cost of carrying inventory, which includes handling, property taxes, insurance, obsolescence, warehousing, and interest costs. Third is the cost of carrying insufficient inventory, which includes poor customer relations, loss of quantity discounts, additional transportation, and expediting costs and lost sales. Fourth is the cost of carrying excessive inventory, which includes obsolescence at the finished goods level, and poor quality and long manufacturing lead times at the work-in process level.

Analyzing Inventory Costs

The four types of inventory primarily relate to decoupling or disconnecting activities and individual work centers within your business and separating your business activities from those of your vendors and your customers. You should know the costs associated with each type and the methods of reducing both your inventory investment and these costs. Any improvement in operations will effectively reduce the inventory investment and associated costs.

¹T.F. Wallace and J.R. Dougherty (eds.), *APICS Dictionary*, 6th edition (Falls Church, VA.: American Production and Inventory Control Society, 1987), p. 16

²*Ibid.*, p.28.

³*Ibid.*, p.2.

⁴*Ibid.*, p.1.

Lot Sizing Inventory. Two groups of costs are associated with lot sizing inventories--ordering and carrying costs. Based on minimizing these costs, the economic order quantity (EOQ) formula can assist you in deciding how much inventory to order of an item:

$$\text{EOQ} = \sqrt{\frac{2 \times \text{Annual demand} \times \text{Ordering cost}}{\text{Unit cost} \times \text{Carrying cost percentage}}}$$

The EOQ, developed in 1915 by F.W. Harris, is the most frequently used lot sizing method. One major flaw exists in using the EOQ--it provides the optimum amount of inventory for only one item. EOQ does not minimize the cost of ordering and holding all items in inventory or the total investment in inventory. Yet a company seldom makes only one item or buys only one item from a supplier. A well-known axiom of calculus applies to using the EOQ formula in a business today: "The sum of the local optima is not necessarily the global optima." In other words, while the EOQ provides the best answer for one item in inventory, it does not provide the best answer either to companies with inventories consisting of several items or to companies that have limited working capital, such as small businesses.

A more suitable approach to lot sizing is to lot size by vendor and to use time buffers. A time buffer is an amount of inventory equal to the demand for the item to cover a given time period. The objective is to examine all inventory items ordered from the same vendor and to order each item according to the appropriate time buffer to minimize transportation and associated costs.

A simple example of calculating time buffers is provided in Exhibit 8-1. The annual demand for each item is divided by 50 and rounded to provide an estimate of the amount of inventory used in one week. Annual demand is also divided by 12 and rounded to provide a monthly estimate of the needed inventory. Based on the characteristics of each item (cost, size, weight, and quantity), you identify how frequently you might order the items to economize on inventory investment, transportation costs, and associated costs. For example, items 2, 5, 7, and 10 can be ordered every week and fill approximately three-fourths of a trailer. The remaining items can be ordered once a month: item 1 in the first week, item 4 in the second, items 3 and 6 in the third, and items 8 and 9 in the fourth. These order quantities economize on transportation cost since each order is almost a full trailer load. In this manner, you can order sizes from the same vendor to consolidate orders, reduce transportation costs, and reduce inventories. You could also negotiate with the supplier for discounts based on the total annual volume of purchases instead of attempting to purchase large volumes of the same item to receive quantity discounts.

Exhibit 8-1
AN EXAMPLE OF THE USE OF TIME BUFFERS

ITEM	ANNUAL DEMAND	WEEKLY	MONTHLY
1	300	6	25
2	2,500	50	2,001
3	20	0	2
4	700	12	50
5	1,000	20	100
6	6	0	1
7	5,000	100	400
8	80	2	7
9	80	2	7
10	60,000	1,200	5,000

Fluctuation Inventories. Fluctuation inventories increase inventory investment and carrying costs. Let us see how this occurs with the example of safety stock. The amount of safety stock is based on the size of your forecast error and your customer service goals. The larger the forecast error, the larger the safety stock needed to support those goals. Conversely, the smaller the forecast error, the smaller the safety stock. The shorter the lead time associated with replenishing the inventory, the smaller the forecast error and therefore the smaller the safety stock needed. Costs related to lost sales should be weighed against increases in inventory investment and carrying costs. Safety stock is also used to protect against inventory record errors. Many business owners believe that it is easier to carry excess inventory than to keep accurate inventory records.

Pipeline Inventories. Pipeline inventories increase inventory investment and carrying costs; these inventories exist because of the time required to move items from one location to another. Pipeline inventories can be reduced by decreasing lead time, by using faster methods of transportation, by improving order processing and transmission of orders, and by implementing more efficient management policies and procedures.

Anticipation Inventories. Anticipation inventories increase inventory investment and carrying and obsolescence costs. Using this type of inventory in manufacturing essentially means storing work- and machine-hours in inventory to meet future needs. Costs avoided by the use of anticipation inventories are those associated with changing production rates, which includes the hiring and laying off workers. The costs incurred include the increased investment in

inventory and related carrying costs. You can reduce both types of costs by cross-training workers to make the flow of materials more level and to provide some capability of increasing output by moving workers to critical areas when the need arises.

Tying Inventory to Strategy

Your decisions on the placement and amount of inventory investment should be made to support the competitive edges in your business strategy. You should classify your inventory items by the function that each performs. Prior to calculating the amount of inventory investment to support each function, ask yourself these questions:

- Can I eliminate the need for this inventory?
- Can I decrease the amount of inventory needed?
- Can I consolidate vendors? Can I order more items from each vendor? Can I order less of each item and order each item more frequently?
- What impact does this inventory investment have on overall inventory investment and long-run return?
- Can I reduce the uncertainty associated with buying and holding this inventory?
- Am I holding this inventory in the right stage of completion and at the right location?

FOUR BASIC TYPES OF INVENTORY

1. ***Lot size or cycle inventories*** are "inventories which are maintained whenever quantity price discounts, shipping costs, or set-up costs, etc., make it more economical to purchase or produce in larger lots than are needed for immediate purposes."
2. ***Fluctuation or buffer inventories*** are inventories stocked to protect against unexpected surges in demand. Safety stock, one example of this type, is "a quantity of stock planned to be in inventory to protect against fluctuations in demand and/or supply."
3. ***Basic pipeline stock*** is "inventory to fill the many stocking points in the distribution system. The flow time through the pipeline has a major effect on the amount of inventory required in the pipeline: e.g., if the average time for its passage through all distribution levels to the end user is ninety days, then the basic pipeline inventory must be on the average ninety days supply. Time factors involved include order transmission, factory order processing, shipping, transportation, minimum-maximum inventory system, etc."
4. ***Anticipation inventory*** is "additional inventory above pipeline stock to cover projected trends of increased sales, planned sales promotion programs, seasonal fluctuations, plant shutdowns, and vacations."

EXAMPLES OF INVENTORY STANDARDS

DUTY AND RESPONSIBILITY	STANDARDS OF PERFORMANCE
Maintaining adequate inventory.	Number of times an item is out of stock (as compared with previous years).
Ordering the best (optimum) quantities on fabricated items.	Evidence of evaluation of Economic Order Quantities.
Maintaining inventory turnover.	Number of times the inventory is used (as compared with previous years) and evidence of careful evaluation of reorder points.
Maintaining lowest possible cost of operating the inventory control department.	Budgets for all departmental costs and comparisons with previous years.
Maintaining good relations with other departments in the company.	Absence of complaints about the way personnel in the inventory control department meet the needs of other departments and their people.
Developing new opportunities (new or improved procedures).	Number and economic value of new programs, new ideas, and improvements in procedures.
Maintaining good departmental personnel policies, including the selection of employees and the development of their capabilities.	Competence of personnel and adequacy of training programs; departmental morale; number of inventory control people promoted to higher positions.
Reporting.	Accuracy, organization, and completeness of reports submitted to management and to other affected departments.

ABC ANALYSIS OF INVENTORY*

A couple of centuries ago, the Italian economist Vilfredo Pareto found that a small percentage (10 percent) of the population of a nation controlled its wealth (70 percent) and that the masses of population (70-80 percent) own little or none of the nation's wealth (10 percent). This relationship, known as Pareto's principle, is applicable to several other fields. Inventory investment is one such area; the existence of this relationship provides an excellent opportunity focus planning and control efforts on a vital few items and thereby control most of the dollar cost. Most companies cannot afford to apply the same degree of inventory planning and control to all items. ABC inventory analysis is a method of separating items into groupings based on the projected annual dollar usage. The larger the amount of money earned by an inventory item, the more important it is to control the investment in that item. Different levels of control are, therefore, applied to different groupings of inventory items.

ABC inventory analysis is generally based on annual dollar demand, which minimizes seasonal variations. The unit cost of an item is multiplied by its forecast of annual demand to arrive at the projected annual dollar usage. Once all inventory item values have been computed, they are ranked in descending order from the highest dollar value to the lowest. Usually, 10 to 20 percent of the items represent 60 to 70 percent of the projected dollar usage. These items are classified as A items. A second grouping of items can usually be identified. These items, which typically account for approximately 20 percent of the number of items and 20 percent of the annual dollar value, are classified as B items. Lastly, a third group of items is identified. These low-volume items represent 60 to 70 percent of the number of inventory items and only 10 to 20 percent of total annual dollar value. These items are called C items. You may have more or fewer than three groupings; however, the principle is the same: segregate inventory items by class and apply different levels of planning and control to each class. Note that the unit cost is not critical; it is annual dollar usage that is the determining factory. The steps involved in conducting an ABC analysis are summarized in Exhibit 21.2.

Following these steps, you first list your inventory items by part number, unit cost, and forecasted annual usage. An example of such a list is provided in Exhibit 21.3. Next, you should compute the projected annual dollar value for each item and sum these individual values. The sum for the ten items in Exhibit 21.3 is \$102,117. Next, rank the items by annual dollar value from largest to smallest (see Exhibit 21.4). Next, compute the cumulative percentage for each item. Item 101 represents 10 percent of the items (it is one of ten items) and 44 percent of the annual usage ($\$45,000/\$102,117$). Taken together, items 101 and 106 represent 20 percent of the items (two of ten) and 73 percent of the annual usage. These two items should be classified as A items. You can control 73 percent of your inventory expenditure by closely controlling these two items rather than trying to control all ten to the same degree. The other classes are calculated in a similar fashion, as noted at the bottom of the exhibit.

Exhibit 21.2

STEPS IN CONDUCTING AN ABC ANALYSIS

1. List all inventory items by part number, unit cost, and total projected annual usage.
2. Compute the annual total projected dollar value for each item by multiplying the unit cost by the total projected annual usage.
3. Rank the inventory items from the largest total projected annual dollar value to the smallest.
4. Recopy the list using the ranking and listing the rank, part number, unit cost, projected usage, and projected dollar value.
5. Compute the cumulative usage and cumulative percentage for each item.
6. Select the divisions for the A, B, and C classes:

Class A 0-70 percent annual dollar value
 Class B 70-90 percent annual dollar value
 Class C 90-100 percent annual dollar value

Exhibit 21.3

EXAMPLE OF CONDUCTING AN ABC ANALYSIS

Part Number	Unit Cost	Projected Annual Usage	Annual Dollar Value	Rank
101	\$1.50	30,000	\$45,000	1
102	0.06	9,000	540	7
103	0.11	25,000	2,750	6
104	0.05	85,000	4,250	5
105	0.08	125,000	10,000	3
106	0.15	200,000	30,000	2
107	0.03	9,000	270	9
108	0.12	3,000	360	8
109	0.20	44,000	8,800	4
110	0.07	2,100	147	10
			<u>\$102,117</u>	

ABC analysis can assist you in deciding whether to use a perpetual or a periodic review inventory system. An A item could be controlled through a perpetual inventory system that includes physical checks and cycle counts scheduled more frequently than for B or C items.

Exhibit 21.4

RESULTS OF ABC ANALYSIS

Rank	Part Number	Cost	Annual Projected Usage	Annual Dollar Value	Cumulative Dollar Value	Cumulative Percentage
1	101	\$1.50	30,000	\$45,000	\$45,000	44.0
2	106	0.15	200,000	30,000	75,000	73.0
3	105	0.08	125,000	10,000	85,000	83.0
4	109	0.20	44,000	8,800	93,800	92.0
5	104	0.05	85,000	4,250	98,050	96.0
6	103	0.11	25,000	2,750	100,800	98.7
7	102	0.06	9,000	540	101,340	99.2
8	108	0.12	3,000	360	101,700	99.6
9	107	0.03	9,000	270	101,970	99.9
10	110	0.07	2,100	147	102,117	100.0

Results: Class A is parts 101 and 106
 Class B is parts 105 and 109
 Class C is parts 104, 103, 102, 108, 107, and 110

If you can focus your attention on reducing your inventory investment in the A items by using better planning and control techniques, you can reduce your inventory investment and associated carrying costs significantly. These techniques include cycle counting more frequently, maintaining perpetual inventory records, having more security, using better forecasting methods, reducing lead times through better scheduling of transportation and production activities, establishing better vendor relations, and streamlining receiving and inspection of A items. You might decide to order a week's to a month's supply for A items. B items might be controlled by using a fixed-period review system, with new orders placed on a joint order. A one- to two-month supply of B items might be ordered. C items, the majority items are only a small amount of your total dollar investment. C items might be controlled in a periodic order system or a two-bin system (a simple visual inventory system) and purchased in a three- to six-month supply. Several Planning and control techniques for each class of inventory are provided in Exhibit 21.5.

Exhibit 21.5

**SUGGESTED INVENTORY PLANNING AND CONTROL TECHNIQUES
BASED ON ABC ANALYSIS**

TECHNIQUE	INVENTORY CLASS		
	A	B	C
Forecasting	Detailed	Routine	Rough
Cycle counts	Frequently	Routinely	Occasionally
Record	Perpetual	Perpetual	Periodic
Frequency of order review	Continuous	Month	Annual
Safety stock	Small	Medium	Large
Lead time monitored	Continuous	Periodic	Seldom
Issuing method	Issue	Issue	Lot
Quantity ordered	Small	Medium	Large
Order frequency	High	Medium	Low

* Source: Tate, L., Cox, J., Scarpello, V. & Stewart, W. *Small Business Management and Entrepreneurship*, pp. 328-330. PWS-Kent Publishing Company. Boston, 1992. Translated and reproduced with permission.

STEPS IN CONDUCTING AN ABC ANALYSIS

1. LIST ALL INVENTORY ITEMS BY PART NUMBER, UNIT COST, AND TOTAL PROJECTED ANNUAL USAGE
2. COMPUTE THE ANNUAL TOTAL PROJECTED DOLLAR VALUE FOR EACH ITEM BY MULTIPLYING THE UNIT COST BY THE TOTAL PROJECTED ANNUAL USAGE
3. RANK THE INVENTORY ITEMS FROM THE LARGEST TOTAL PROJECTED ANNUAL DOLLAR VALUE TO THE SMALLEST
4. RECOPY THE LIST USING THE RANKING AND LISTING THE RANK, PART NUMBER, UNIT COST, PROJECTED USAGE, AND PROJECTED DOLLAR VALUE
5. COMPUTE THE CUMULATIVE USAGE AND CUMULATIVE PERCENTAGE FOR EACH ITEM
6. SELECT THE DIVISIONS FOR THE A, B, AND C CLASSES:

CLASS A: 0-70% ANNUAL DOLLAR VALUE

CLASS B: 70-90% ANNUAL DOLLAR VALUE

CLASS C: 90-100% ANNUAL DOLLAR VALUE

EXAMPLE OF CONDUCTING AN ABC ANALYSIS

PART NUMBER	UNIT COST	PROJECTED ANNUAL USAGE	ANNUAL DOLLAR VALUE	RANK
101	\$1.50	30,000	\$45,000	1
102	0.06	9,000	540	7
103	0.11	25,000	2,750	6
104	0.05	85,000	4,250	5
105	0.08	125,000	10,000	3
106	0.15	200,000	30,000	2
107	0.03	9,000	270	9
108	0.12	3,000	360	8
109	0.20	44,000	8,800	4
110	0.07	2,100	147	10
			<u>\$102,117</u>	

RESULTS OF ABC ANALYSIS

Rank	Part Number	Cost	Annual Projected Usage	Annual Dollar Value	Cumulative Dollar Value	Cumulative Percentage
1	101	\$1.50	30,000	\$45,000	\$45,000	44.0
2	106	0.15	200,000	30,000	75,000	73.0
3	105	0.08	125,000	10,000	85,000	83.0
4	109	0.20	44,000	8,800	93,800	92.0
5	104	0.05	85,000	4,250	98,050	96.0
6	103	0.11	25,000	2,750	100,800	98.7
7	102	0.06	9,900	540	101,340	99.2
8	108	0.12	3,000	360	101,700	99.6
9	107	0.03	9,000	270	101,970	99.9
10	110	0.07	2,100	147	102,117	100.0

Results: Class A is parts 101 and 106
 Class B is parts 105 and 109
 Class C is parts 104, 103, 102, 108, 107, and 110

ABC ANALYSIS PROBLEMS EXERCISE

1. Identify which inventory items in the following list are A, B, and C items and describe the types of planning and control procedures you might use for each class.

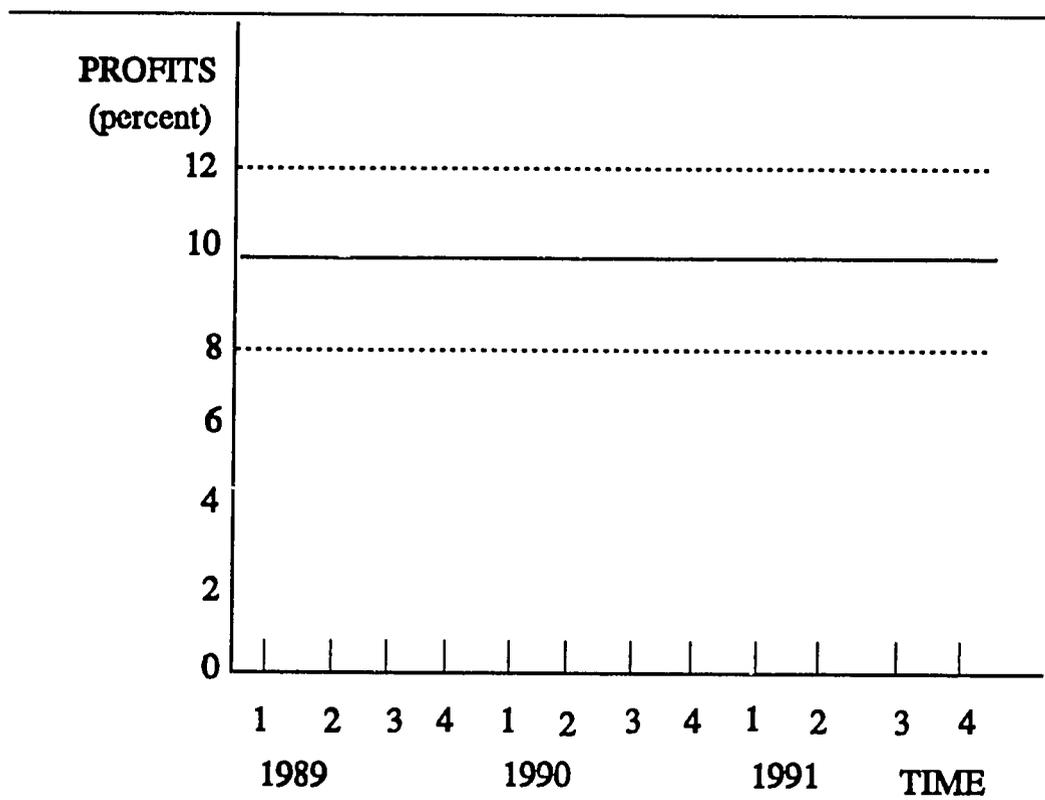
Part Number	Demand	Price
1	1,000	\$ 1
2	500	100
3	20,000	10
4	6,000	5
5	40	200
6	5	1,000
7	800	25
8	3,000	100
9	100	400
10	600	200

2. You have decided to use ABC analysis to assist you in focusing your attention on your biggest customers. Describe the approach to analyzing your customer data. How would you better focus your attention to each group?

**SUGGESTED INVENTORY PLANNING AND CONTROL
TECHNIQUES BASED ON ABC ANALYSIS**

TECHNIQUE	INVENTORY CLASS		
	A	B	C
Forecasting	Detailed	Routine	Rough
Cycle counts	Frequently	Routinely	Occasionally
Records	Perpetual	Perpetual	Periodic
Frequency of order review	Continuous	Month	Annual
Safety stock	Small	Medium	Large
Lead time monitored	Continuous	Periodic	Seldom
Issuing method	Issue	Issue	Lot
Quantity ordered	Small	Medium	Large
Order frequency	High	Medium	Low

CONTROL CHART EXAMPLE: QUARTERLY PROFITS



STEPS IN PRODUCING \bar{X} AND R CONTROL CHARTS

1. DETERMINE THE AVERAGE (\bar{X}) AND RANGE (R) FOR EACH OF TEN SUBGROUPS OF FOUR OBSERVATIONS EACH.
2. CALCULATE THE GRAND AVERAGE ($\bar{\bar{X}}$) AND AVERAGE RANGE (\bar{R}):

$$\bar{\bar{X}} = \frac{\sum \bar{X}}{n}$$

$$\bar{R} = \frac{\sum R}{n}$$

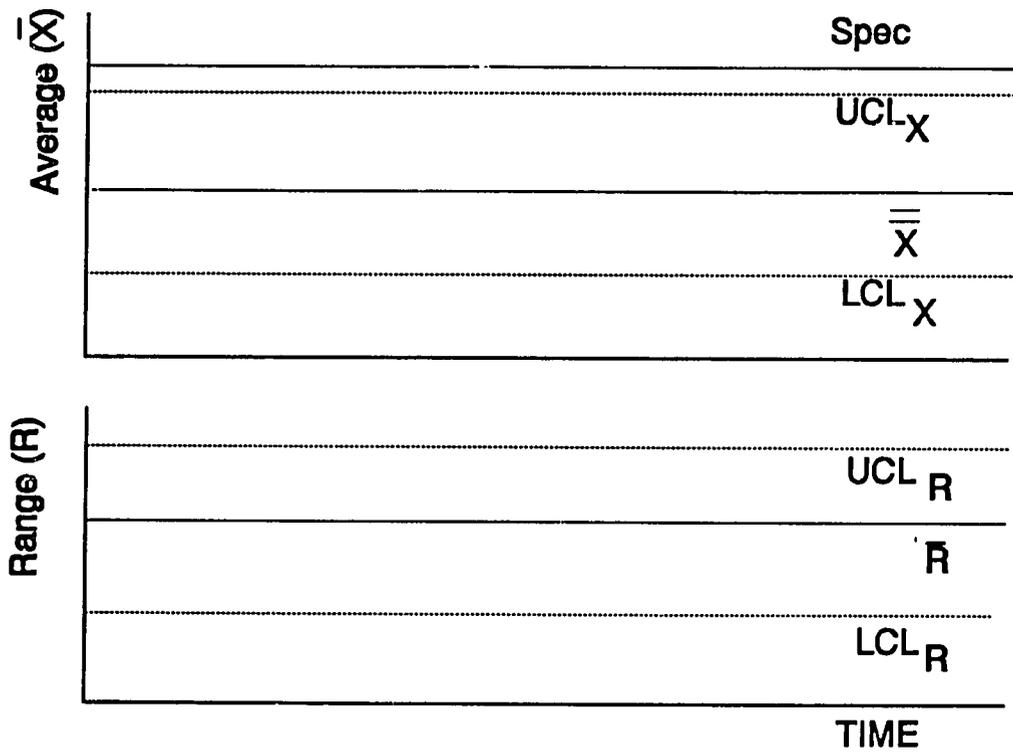
3. CALCULATE THE UPPER AND LOWER CONTROL LIMITS FOR \bar{X} . (USE THE APPROPRIATE A VALUE FROM EXHIBIT 23.3.)
4. CALCULATE THE CONTROL LIMITS FOR R. (USE THE APPROPRIATE D VALUE FROM EXHIBIT 23.3.)

$$UCL_{\bar{X}} = \bar{\bar{X}} + A\bar{R}$$

$$LCL_{\bar{X}} = \bar{\bar{X}} - A\bar{R}$$

5. CONSTRUCT AND PLOT THE CONTROL CHARTS FOR THE APPROPRIATE SAMPLE SIZE. ENTER YOUR CONTROL LIMITS AND PROCESS SPECIFICATIONS (SPECS).

STEPS IN PRODUCING \bar{X} AND R CONTROL CHARTS



FACTORS FOR COMPUTING \bar{X} AND R CONTROL CHARTS			
SAMPLE SIZE (n)	A	D ₃	D ₄
4	.73	0	2.28
5	.58	0	2.11
6	.48	0	2.00
7	.42	0.08	1.92

APPLICATION OF \bar{X} AND R CONTROL CHARTS TO SEATING IN A RESTAURANT

1. DETERMINE THE AVERAGE (\bar{X}) AND RANGE (R) FOR EACH OF TEN SUBGROUPS OF FOUR OBSERVATIONS.

Time	Time Until Seating (Seconds)				\bar{X}	R
8-9:00	30	25	35	40	32.50	15
9-10:00	35	30	40	45	37.50	15
10-11:00	25	15	40	40	30.00	25
11-12:00	20	25	25	30	25.00	10
12-1:00	25	35	50	55	41.25	30
1-2:00	30	40	25	30	31.25	15
2-3:00	30	40	30	40	35.00	10
3-4:00	40	40	30	35	36.25	10
4-5:00	45	40	35	40	40.00	10
5-6:00	20	25	25	30	25.00	10

2. CALCULATE THE GRAND AVERAGE (\bar{X}) AND AVERAGE RANGE (\bar{R}).

$$\bar{X} = \frac{\sum \bar{X}}{n} = \frac{32.5+37.5+30+25+41.25+31.25+35+36.25+40+25}{10} = 33.4$$

$$\bar{R} = \frac{\sum \bar{R}}{n} = \frac{15+15+25+10+30+15+10+10+10+10}{10}$$

3. CALCULATE THE UPPER AND LOWER CONTROL LIMITS FOR \bar{X} .

$$UCL_{\bar{X}} = \bar{X} + A\bar{R} = 33.4 + (.73)(15) = 44.35$$

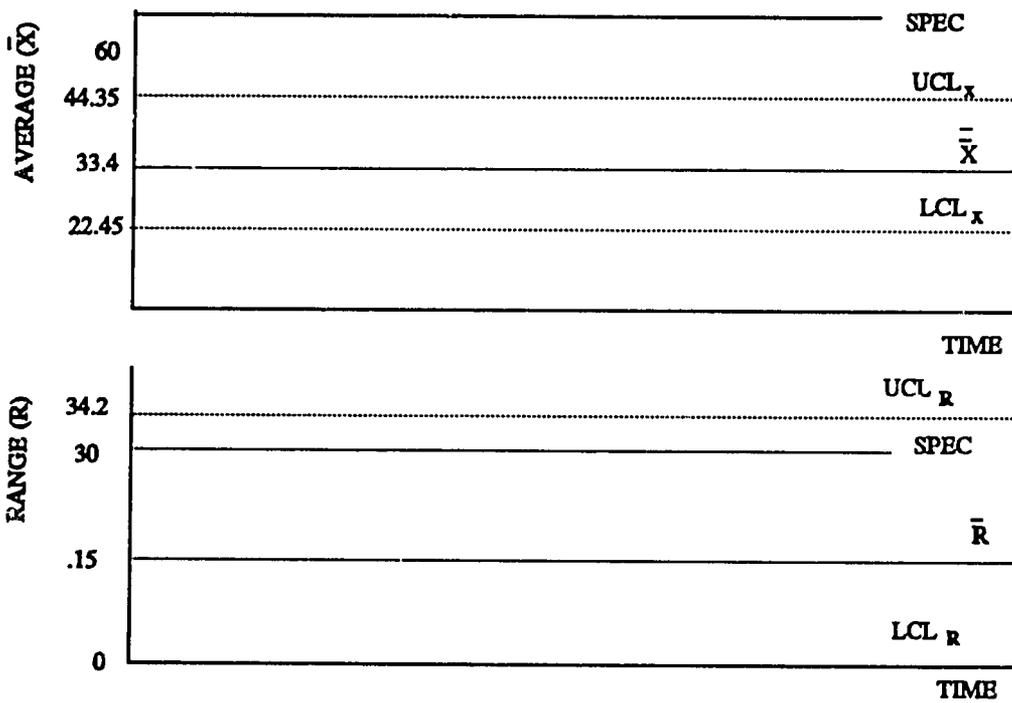
$$LCL_{\bar{X}} = \bar{X} - A\bar{R} = 33.4 - (.73)(15) = 22.45$$

4. CALCULATE THE UPPER AND LOWER CONTROL LIMITS FOR R.

$$UCL_R = D_4\bar{R} = 2.28 (15) = 34.2$$

$$LCL_R = D_3\bar{R} = 0 (15) = 0$$

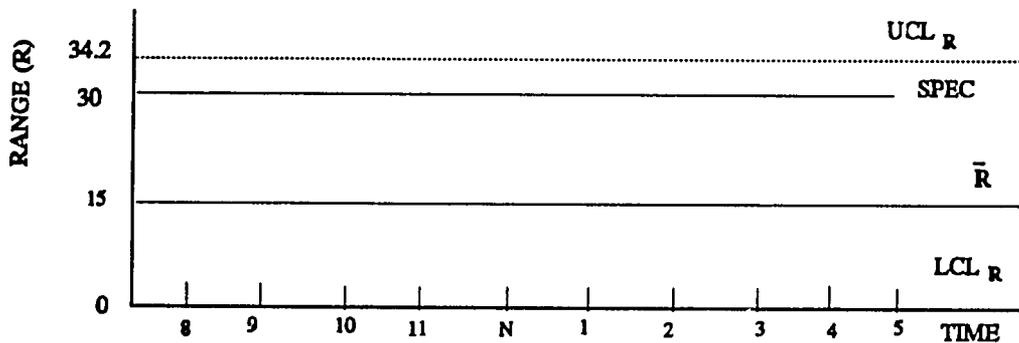
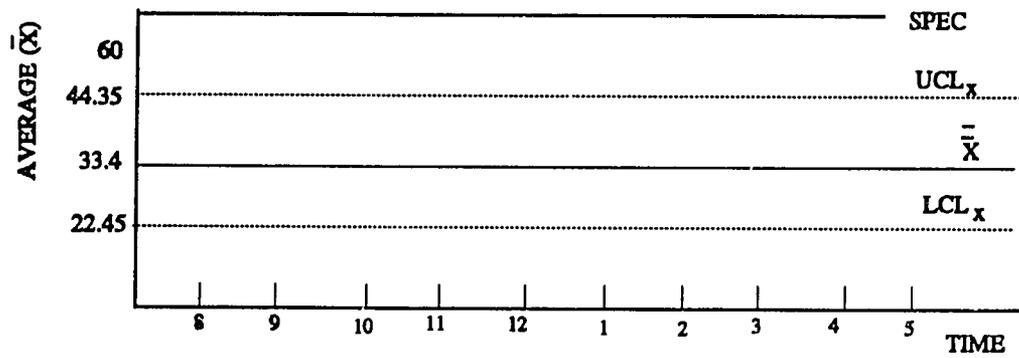
5. CONSTRUCT AND PLOT THE CONTROL CHARTS.



6. MAKE FOUR OBSERVATIONS DURING HOUR AND COMPUTE THE \bar{X} AND R FOR THE SAMPLE. ENTER THE VALUES ON THE CHARTS. (SEE EXHIBIT 23.5).

USE OF \bar{X} AND R CHART

Time	Time Until Seating (Seconds)				\bar{X}	R
8-9:00	35	20	30	35	30	15
9-10:00	40	20	25	35	30	20
10-11:00	50	30	35	45	40	20
11-12:00	45	35	45	50	43.75	15
12-1:00	70	65	45	70	62.50	25
1-2:00	40	45	25	30	35	20
2-3:00	20	30	30	20	25	10
3-4:00	30	35	40	35	35	10
4-5:00	25	35	25	20	26.25	15
5-6:00	30	40	50	30	37.50	20



INVENTORY STANDARDS EXERCISE

Standards of performance are important to achievement, and operational improvements can be encouraged by meaningful standards.

Assume that your small business is planning to start an "Inventory Standards of Performance" program. This requires that you specify an acceptable "standard" performance for various areas of inventory control. These standards become the yardstick by which performance can be judged.

List in the space provided on the attached form the five duties you consider most important in inventory control, and give some idea how performance could be measured for each of these five duties.

Inventory Duty and Responsibility	Inventory Standard of Performance

QUALITY CONTROL AND INSPECTION*

Quality is now considered to be the most important competitive advantage by many manufacturers and service managers. They feel that if quality is viewed as the primary manufacturing requirement product costs and lead times will decrease. What is quality and how is it measured? Is quality different for products and services? While product quality has improved tremendously in Japan and in some companies in the United States, service quality seems to have deteriorated. Examples of poor quality in the service sector abound:

- Going through the drive-in window at a fast-food restaurant and later finding that one item was left off the order.
- Getting to your appointment on time only to wait two hours for the doctor.
- Returning your car to the repair shop two or three times to fix the same problem.
- Waiting 20 minutes at the express line at the grocery store.
- Trying to buy a sale item at a retail store only to be told it is sold out.
- Waiting at home for the plumber, who promised to arrive at a given time but never does.
- Ordering a medium steak but being served a well-done steak.

These examples of poor service quality are among the reasons that businesses lose customers. How frequently do situations like these occur in your business, and what do you do when they do occur? The major problem is that most customers do not complain--they simply do not return. Remember that it is much easier to retain a current customer than to find a new one.

You must be aggressive in providing a quality service. Define what quality service means in your operation. M.B. Brown (1988) provides a comprehensive examination of service quality. Criteria that apply to most businesses include timelines, speed, courtesy, cleanliness, accuracy, thoroughness, appropriateness, consideration, and friendliness. Each criteria that you select should be tailored to your business. Suppose that you are a restaurant owner and select all of the criteria listed. You may define quality for your restaurant as follows:

- *Timeliness*: the amount of time before a customer is greeted and seated and his or her order is requested.
- *Speed*: the amount of time between the order being taken and delivered.
- *Courtesy*: the manner and politeness in which employees treat customers.
- *Cleanliness*: the appearance of the glassware, silverware, dishes, linens, tables, windows, pictures, floors, and cashier area.
- *Accuracy*: the description of the items by employees, the correctness of the bill, and performance to expectations.

* Source: Tate, L., Cox, J., Scarpello, V. & Stewart, W. Small Business Management and Entrepreneurship. PWS-Kent Publishing Company. Boston, 1992. Translated and reproduced with permission.

- *Thoroughness*: the manner in which employees explained the menu items, specials, and procedures.
- *Appropriateness*: the correctness of employees' manner, dress, conversation, and actions for various situations and customers.
- *Consideration*: the regard, attention, and respect employees show to each other and to customers.
- *Friendliness*: the hospitality and warmth displayed by employees.

Next, you should decide how you will measure each criteria. For example, the amount of time that passes can be used as the measure of timeliness and speed. A standard of a maximum of one minute might be established for the time between the greeting and the seating of the customer unless all available tables are full.

Limits or boundaries should also be set for each standard. An additional 30 second deviation might be allowed for each of the one minute standards. In other words, a customer should be greeted no more than one minute and 30 seconds after entering the restaurant and seated no later than one minute and 30 seconds later.

The person responsible for performing each task should be identified, instructed in the correct performance, instructed in how to handle exceptions, and tested in the performance of the task. Additionally, the person should be observed in the performance of the task to ensure conformity to your standards. This evaluation should occur at irregular intervals on a continuous basis to ensure against the employee taking short-cuts during busy periods.

This monitoring of performance, while common in manufacturing, is uncommon in services. As defined earlier, process control is a matter of monitoring the product or service characteristics *during* the manufacturing or the providing of the service. You are performing the process control function when you measure a steak's doneness by making a slit to examine its color or when you taste chili for seasoning.

Two kinds of control charts can be devised to aid process control. Control is the key word. The \bar{X} control chart determines whether the average or mean value of the process has changed. The R control chart establishes whether the dispersion or spread has increased or decreased. Answering both of these questions is important to improving your process. The steps in constructing \bar{X} and R process control charts are given in Exhibit 23.2.

The logic of the control charts is simple. First, the average (\bar{X}) and range (R) or spread of the process is computed for several random samples, from which a grand average ($\bar{\bar{X}}$) and grand range (\bar{R}) is computed. Control limits are then computed for both the average and range using standard formulas. Fourth, graphs for both the average and range and their control limits are constructed. Control limits and process specifications are different. Control limits show the natural variation that exists in the process. The process specification provides your quality standard. You should also enter your process specifications on the samples and plot the mean and range by time period to continually monitor your operations.

A list of numerical factors useful in constructing \bar{X} and R charts is provided in Exhibit 23.3. The use of these factors eliminates the use of sophisticated mathematical formula. An example of the construction of an \bar{X} and R chart for the time until seating in a restaurant is provided in Exhibit 23.4. The restaurant manager measured the amount of time from the customer entering the restaurant until he or she was seated. Four random observations were made during each hour for ten hours and the average time for each set of four observations was computed. For example, the four times collected between 8:00 and 9:00 in the morning were 30, 25, 35 and 40 seconds. Their average is 32.5 seconds, and the range was 15 seconds.

STEPS IN CONSTRUCTING \bar{X} AND R CONTROL CHARTS

1. Determine the average (\bar{X}) and range (R) for each of ten subgroups of four observations each.
2. Calculate the grand average ($\bar{\bar{X}}$) and average range (\bar{R}):

$$\bar{\bar{X}} = \frac{\sum \bar{X}}{n}$$

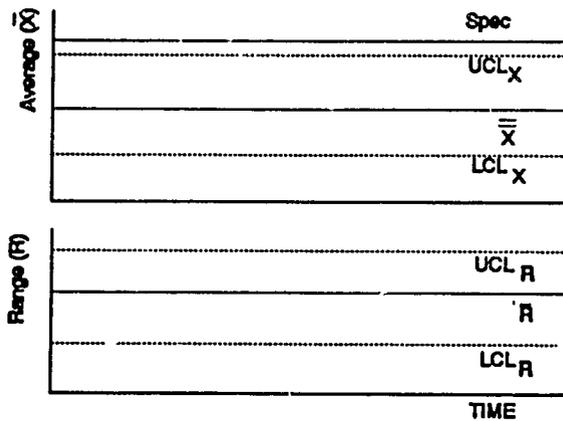
$$\bar{R} = \frac{\sum R}{n}$$

3. Calculate the upper and lower control limits for \bar{X} . (use the appropriate a value from Exhibit 23.3.)
4. Calculate the control limits for R. (use the appropriate d value from Exhibit 23.3.)

$$UCL_{\bar{X}} = \bar{\bar{X}} + A\bar{R}$$

$$LCL_{\bar{X}} = \bar{\bar{X}} - A\bar{R}$$

5. Construct and plot the control charts for the appropriate sample size. Enter your control limits and process specifications (specs).



FACTORS FOR COMPUTING \bar{X} AND R CONTROL CHARTS

Sample Size (n)	A	D ₃	D ₄
4	.73	0	2.28
5	.58	0	2.11
6	.48	0	2.00
7	.42	0.08	1.92

In step 2, the average of ten hourly averages and the average of the ten hourly range calculations were computed. For the sample data, the grand average is 33.4 seconds and the average range is 15 seconds. These values are used to construct \bar{X} and R control charts. Next, the appropriate factors were chosen for constructing the control limits. With a sample size of four observations, the A factor used to compute the limits for the \bar{X} chart is 0.73 and the factors used to construct the upper and lower control limits and the range chart are 0 and 2.28. For the restaurant example, the process limits are 22.45 and 44.35 seconds for the \bar{X} chart and 0 and 34.2 seconds for the R chart. Enter the specific limit or maximum value allowable on the chart. The standard of 60 seconds for seating with a deviation of 30 seconds was desired. These charts and values are used to monitor hourly and daily activities.

Exhibit 23.4

APPLICATION OF \bar{X} AND R CONTROL CHARTS TO SEATING IN A RESTAURANT

1. Determine the average (\bar{X}) and range (R) for each of ten subgroups of four observations.

Time	Time Until Seating (Seconds)				\bar{X}	R
8-9:00	30	25	35	40	32.50	15
9-10:00	35	30	40	45	37.50	15
10-11:00	25	15	40	40	30.00	25
11-12:00	20	25	25	30	25.00	10
12-1:00	25	35	50	55	41.25	30
1-2:00	30	40	25	30	31.25	15
2-3:00	30	40	30	40	35.00	10
3-4:00	40	40	30	35	36.25	10
4-5:00	45	40	35	40	40.00	10
5-6:00	20	25	25	30	25.00	10

2. Calculate the grand average ($\bar{\bar{X}}$) and average range (\bar{R}).

$$\bar{\bar{X}} = \frac{\sum \bar{X}}{n} = \frac{32.5+37.5+30+25+41.25+31.25+35+36.25+40+25}{10} = 33.4$$

$$\bar{R} = \frac{\sum R}{n} = \frac{15+15+25+10+30+15+10+10+10+10}{10}$$

3. Calculate the upper and lower control limits for \bar{X} .

$$UCL_{\bar{X}} = \bar{\bar{X}} + A\bar{R} = 33.4 + (.73)(15) = 44.35$$

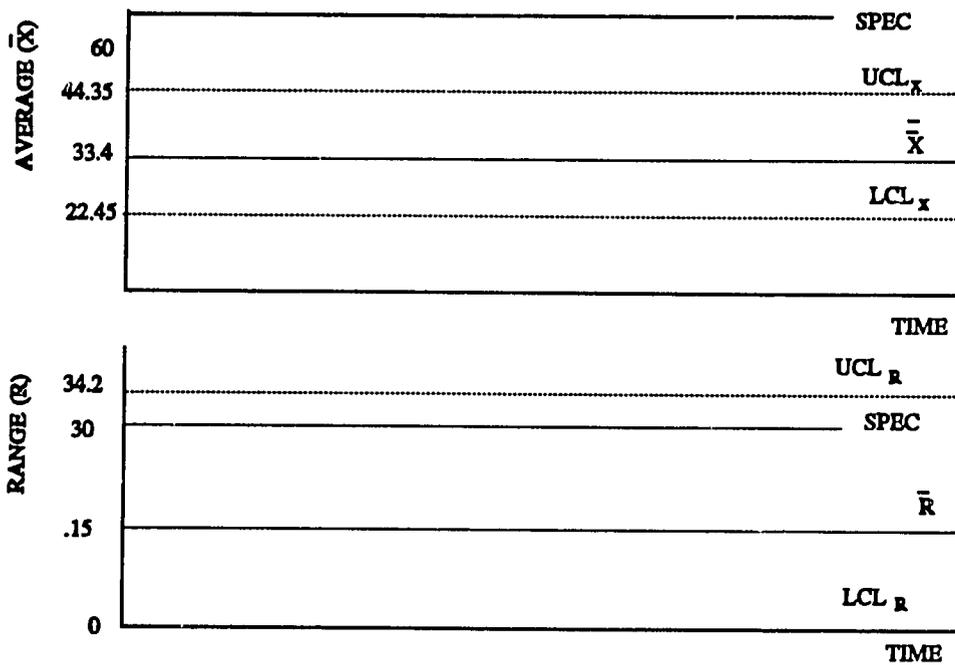
$$LCL_{\bar{X}} = \bar{\bar{X}} - A\bar{R} = 33.4 - (.73)(15) = 22.45$$

4. Calculate the upper and lower control limits for R.

$$UCL_R = D_4\bar{R} = 2.28(15) = 34.2$$

$$LCL_R = D_3\bar{R} = 0(15) = 0$$

5. Construct and plot the control charts.



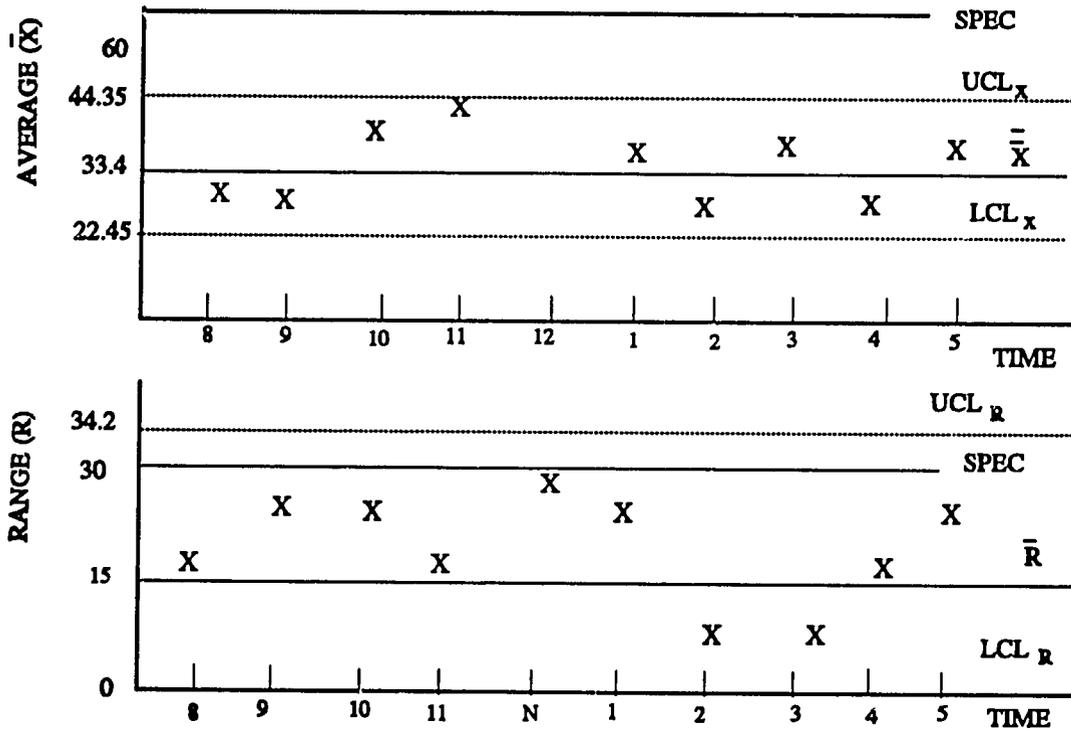
6. Make four observations during each hour and compute the \bar{X} and R for the sample. Enter the values on the charts. (See Exhibit 23.5.)

Once you have established your process control and specification limits, you are ready to monitor your operation, as Exhibit 23.5 illustrates. Each hour, a sample of four seating times is taken. The average and range for each hour are then computed and plotted on the charts. As long as the sample readings are within the lower and upper control limits, the process is in control. Other data characteristics can be used to detect problems. If several (seven or more) consecutive sample readings are above (or below) the average values, this suggests that the process is out of control. Additionally, the manager may feel that the process average and range have changed based upon changing methods, materials, and equipment. For example, the standard for seating may have been changed to 45 seconds based on several changes in methods and layout. In such a case, it would be necessary to construct another set of control charts to monitor the new process.

As seen in Exhibit 23.5, the data point for noon (62.5) is outside the upper control limit (44.35) and the specification limit (60). The manager's next step is to investigate the causes for this deviation. The cause might be that customers arrive faster than can be seated by one host or hostess. It may be that the restaurant does not have the seating capacity to satisfy the lunch hour crowd. It may be that tables have not been cleared from previous customers to allow new customers to be seated. The process is out of control, and its cause should be identified and eliminated.

Exhibit 23.5
USE OF AN \bar{X} AND R CHART

Time	Time Until Seating (Seconds)				\bar{X}	R
8-9:00	35	20	30	35	30	15
9-10:00	40	20	25	35	30	20
10-11:00	50	30	45	45	40	20
11-12:00	45	35	45	50	43.75	15
12-1:00	70	65	45	70	62.50	25
1-2:00	40	45	25	30	35	20
2-3:00	20	30	30	20	25	10
3-4:00	30	35	40	35	35	10
4-5:00	25	35	25	20	26.75	15
5-6:00	30	40	50	30	37.50	20



CONTROLLING OPERATIONS EXERCISE

1. Describe a performance measurement system for a(n)
 - a. Barber shop
 - b. Automotive parts store
 - c. Plumber
 - d. Automobile repair shop
 - e. Motel

2. With regards to your own small business, or another small business that you know, identify:
 - a. The functional performance measures for marketing, operations, personnel and so on.
 - b. The company performance measure
 - c. The frequency with which each measure is reviewed.
 - d. Who is responsible for each measure, each functional area, and collecting the data on each measure.
 - e. Whether performance results are shared with managers and employees.

UNIT 9

REVIEW OF MAJOR CONCEPTS

UNIT 9

Title: REVIEW OF MAJOR CONCEPTS

Purpose: To highlight and summarize course concepts.

Objectives: Upon completion of this unit, the participant will:

- clarify use of course concepts,
- have applied course concepts to the participant's own small business company.

Materials:

Transparency 9-1:	Profits
Transparency 9-2:	Commitments of a Small Business
Transparency 9-3:	Attributes of Tradeskills
Handout 9-1:	Class Review Exercise
Handout 9-2:	Brithinee Electric, Inc. Case
Handout 9-3:	Major Issues of the case Brithinee Electric, Inc.

Product: An analysis and integration of course concepts as they relate to the participant's own small business.

Assignment: Use the course concepts to aid in the growth and development of your small business.

Notes to

Instructor: Conduct course debriefing and evaluation. A teaching note to the case Brithinee Electric, Inc., is provided at the end of this unit.

**Estimated
Time:**

One hour.

UNIT 9

REVIEW OF MAJOR CONCEPTS TEACHING OUTLINE

CONTENT	PROCESS
A. Topics	<p>Review the following concepts: Show TP 9-1: Profits Show TP 9-2: Commitments Show TP 9-3: Attributes of Small Business Tradeskills</p>
B. Integrating Exercise	<p>Distribute Handout 9-1 and run the exercise: Class Review Exercise</p> <p>This exercise reviews the goal-setting process, and integrates concepts across the Management course. Discuss the outcomes of this exercise with the students.</p> <p>The instructor should review any additional concepts which he or she thinks that the class needs on which to be refreshed.</p>
C. Integrating Cases	<p>Fully analyze and discuss the concepts of managing a small business as shown by the following case in handout: Handout 9-2: Brithinee Electric, Inc. Have the students write a complete report which applies the concepts and topics of this course, and provide solutions to the problems which the case presents. (HO 9-3)</p> <p>Teaching Note provides discussion points for the Brithinee Electric case.</p>
D. Summary	<p>Review the Management Competencies, as shown on TP 1-1.</p>

CONTENT	PROCESS
	<p>Review the Problem Analysis Work Guide, TP 1-2.</p> <p>Present a summary lecture on TP 1-12, how management is an inexact science.</p> <p>Discuss with the students their perceptions of how the course has prepared them to solve the management problems of their own small businesses; and what further help, information, or resources that they think they may need.</p>

PROFITS

PROFITS = SALES MINUS COSTS

COMMITMENTS OF A SMALL BUSINESS

- **DESIRE**
- **INITIATIVE/AGGRESSIVENESS**
- **ENERGY**
- **LOW SUPPORT NEEDS**
- **THRIVING ON UNCLEAR SITUATIONS**
- **COMMITTED TO WORK**
- **RESPONSIBILITY**
- **PROBLEM SOLVING**
- **PERSUASIVE**
- **SELF-DISCIPLINE**
- **SELF-CONFIDENCE**
- **PRIDE**
- **AWARENESS**
- **WINNING**

ATTRIBUTES OF SMALL BUSINESS TRADESKILLS

- **PERSISTENCE**
- **ABILITY TO FACE FACTS**
- **MINIMIZE RISKS**
- **HANDS-ON LEARNER**
- **WORK WITH NUMBERS**

BRITHINEE ELECTRIC, INC. *
Case

Wallace, Jr., and Don Brithinee are identical twin brothers in their early forties. Wallace, Jr. (also known as Wally) holds the title of president, while Don is the company's vice president and controller. As teenagers, they began Brithinee Electric, Inc. with their parents. The senior Wallace Brithinee was the firm's first president and major stockholder. The Brithinee twins worked for the company while they entered University of California—Riverside at the age of sixteen. They graduated with highest honors at nineteen, and by the tender age of twenty-three, both had also earned Ph.D.'s in mathematics from U.C. Riverside. By 1988, Brithinee Electric had twenty-three employees and was involved in laying out details to commemorate twenty-five years in business. Its plan called for an elaborate dinner celebration to be held upon a chartered boat with important Brithinee Electric customers and friends.

The company appeared to be financially successful both from the appearance of its physical facilities and from remarks made by employees. The firm is housed in a 16,750-square-foot, Mediterranean-style structure, which was constructed primarily during the years of 1971 and 1972, and later expanded in 1979. The Brithinee facility is located in an industrial area of Colton, California, a region of southern California expected to have high population growth. Outside on the lawn rests an industrial motor on a small pedestal surrounded by a bed of petunias. Inside, the facility is attractive with original oil paintings hung in the office sections of the building. Some pictures depict European settings. On the walls are displayed various awards given to the firm for outstanding service or distribution. One is from Toshiba, another from Baldor Electric.

The company has been changing, especially in the eighties. The core business of Brithinee is directed fundamentally toward large industrial electrical

This case was prepared by Sue Greenfield, D.B.A., Department of Management, California State University, San Bernardino, California. Reprinted by permission of the author.

* Source: Smith, Garry D., Arnold, Danny R., Rizzell, Bobby G. Business Strategy and Policy: Cases. Houghton Mifflin. Boston. 1991, 3rd edition, pp. 180-200.

BRITHINEE ELECTRIC, INC.

motors, both as a distributor and as a firm that undertakes the rewinding of the motors. When insulation breaks down in a motor and the bearings need service or replacement, this company offers its service to rewind and rebuild the motor. Part of the service includes free pickup and delivery of motors for customers.

The company's primary industry (large-scale motors) declined significantly through 1984. Wally felt this decline could not solely be attributed to the imports of competitive products, but rather to the fact that fewer large motors were being used throughout the United States. The increased usage of smaller motors was an important trend in this industry. This trend impacted on Brithinee, as the firm watched its competitors go out of business. However, even though the overall industry has "shrunk," Brithinee Electric still grew in sales and revenues throughout the eighties.

The most pressing issue facing the company at the time of writing is one of employee development and job rotation. With the desire to have the company flexible for opportunities, Wally expressed the need to have employees with a broad range of talents and skills. Even though Wally and Don own the firm, this need for job rotation was not universal at their company. Wally wondered about the employees of Brithinee: What are their personal goals? Is there room for them to be fulfilled at Brithinee Electric? Don wondered: How can we get our employees to be more independent so that the firm is not totally dependent upon the 100 percent involvement of the Brithinee "boys"?

COMPANY HISTORY

Zora and Wallace Brithinee, Sr., came to the southern California area from Detroit shortly after World War II. Wallace Brithinee was primarily a "motor-man," an individual who specializes in the repair and maintenance of electrical motors. He received his training primarily through vocational programs while in high school and by fixing motors during his service in the U.S Navy prior to his relocation to California.

The Brithinees' first business began in 1946 but only lasted about nine years and was never considered very successful. Wally described these lean days as "a form of starvation." Wallace Brithinee, Sr., abandoned his business, took the equipment home, and began working for someone else. However, this early experience would prove helpful in the later development of the current business. In the interim, the senior Brithinee helped set up another shop for a man in Ontario, California.

Then, in about 1961 or 1962, Wallace Brithinee, Sr., formed another organization, called Brithinee and Coleman, with a local contractor named Bill Coleman. At that time, the Brithinee twins started working in the business.

However, after a year, there was a falling-out of the partners. In October of 1963, Brithinee, Sr., initiated the current business with his family. The twins were fifteen at the time.

In the early days, everything was done "the hard way." The work was backbreaking. Electric motors are heavy, and the business had no cranes to facilitate the moving of equipment. Customers have critical needs and frequently need to have their motors fixed immediately. Wally described the situation as "working around the clock." Back in the sixties, the entire business consisted of repair work. Don elaborated that one major element contributing to the survival of Brithinee Electric in those days was the "sweat and muscle" of himself and his brother to get the emergency repair work out. This he viewed as a contribution to capital because most of their work was performed without financial compensation.

Then in 1970, Lincoln Electric came out with an appealing low-priced motor. This made Brithinee consider that, rather than get involved in one of their "midnight rushes" to repair an old motor, they might be able to sell their customers a new motor instead. They then instigated the stocking of new motors, which represented the first major change in direction for the company.

Next came the construction of 10,000 square feet of the current facility, which took about one and one-half years to build. This was the primary responsibility of Wallace Brithinee, Sr., but after completion of the building, Wallace, Sr. became less involved with the business as his two sons increasingly took over. At this time, the company began hiring more people. The mid-seventies witnessed a growth spurt, with the number of employees going up from seven or eight in the early seventies to twenty-three by 1980. Wally described the building of the current facility as a very bold step in the history of Brithinee Electric, but in 1972 they were very optimistic about the future of the company.

However, in the late seventies, problems arose on the home front. In 1978, Zora Brithinee was diagnosed as having cancer, which had started as hip pain. This meant that Wallace Brithinee's time and attention was devoted to her care, and he was quite distraught over her death soon afterwards. A short time later he suffered a heart attack, but luckily recovered quite well. This created transition problems. There was no real place for the senior Brithinee after he returned to the business in 1980, and he eventually "retired" from the business.

In the eighties, the firm started to get into "big ticket" items where an order might call for a single piece of equipment selling for \$40,000 or \$100,000. This strategy was a way to get away from repairs and the sale of smaller items. By 1987, the shop was doing approximately \$1 million in repairs, a figure that had been relatively flat since 1980. Sales, on the other hand, showed constant upward growth and were approximately \$4 million in 1987. The latter also included development of custom-made equipment, one of Brithinee's newer areas.

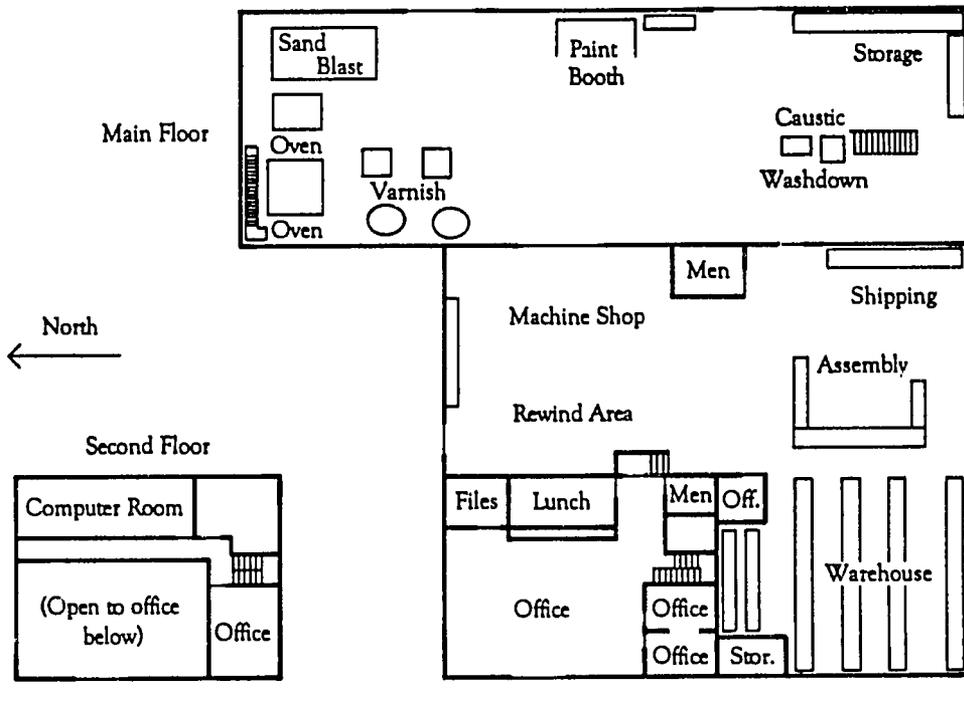
COMPANY FACILITY

The front part of the facility is devoted to offices, where proposal development and engineering design are conducted. One project included a graphic display of a water system that the company was developing for the Eisenhower Medical Center. The firm also does its own in-house brochures. The office staff wear many different hats, answering the telephone, taking orders, making purchases, or doing research and design. (Exhibit 1 is a floor plan of the firm.)

The coffee room is small but serves multiple purposes as a combination conference and lunch center. A white board lists the day's assignments for the shop workers.

The back of the facility is large. Here, motors are repaired and rewound. In 1979 the back of the facility was expanded by 6,750 square feet. At the entry door is a test panel for testing equipment as a motor enters or leaves. On the north end of the facility, there are two industrial ovens: one for bonding the wiring in the motor, another for "cleaning" the motor. In the latter case, the

EXHIBIT 1 • Floor Plan of Brithinee Electric



700°F temperature burns off the bonding material to allow the motor to be rebuilt and rewound. Other areas in the shop are used to create the wiring, "impregnate" the wiring, perform vibration analyses, and rebuild old motors or build new customized equipment for customers. The entire shop area appears clean and orderly.

Throughout the ceiling is an elaborate set of cranes and steel frames. This allows for ease in moving large equipment and motors. Brithinee Electric has the ability to move a piece of equipment from one corner to another without expending a tremendous amount of energy or time. "Swamp coolers" also have been installed in the ceiling. These draw hot air out of the shop area and keep this part of the facility relatively comfortable in the hot summers of southern California, when temperatures often reach 100°F during the day. The office areas are air-conditioned.

A foreman's office is located near the entrance to the shop floor as one enters from the coffee room. A time clock is attached to the outside of the foreman's office. Inside, on the foreman's desk, sits a Macintosh computer. This permits the foreman, Rod Samples, to keep a record on each customer's job.

Due to a security problem and a desire not to construct high-density fencing around the perimeter of the property, Brithinee parks ten vehicles inside the building at night. They have been doing this since the mid-seventies. Their rationale for not building a fence is their desire to keep the outside of the firm looking aesthetically pleasing.

CHANGING INDUSTRY CHARACTERISTICS

The motor repair industry is one of shrinkage. In the sixties, many larger firms, such as Siemens A. G., of Germany, and General Electric, bought up repair and service shops. Exxon, for one, wanted to diversify strategically out of oil when it purchased Reliance Electric. Yet, realized profits throughout the industry were lower than expected, and many organizations floundered during that time period. Exxon also left this industry by selling off Reliance Electric.

This industry shrinkage was one of the reasons Brithinee Electric made the decision to enter the market of state-of-the-art electronic motor controls. It also made the decision to investigate artificial turf systems, an area in which it had already done some work. The company appears to want to stay flexible in case opportunities develop where it has some expertise. It considers its primary customers to be the food industry, water pump facilities, the sand-and-gravel industry, and grass turf businesses. Customers are located throughout California but are primarily focused in the high desert (up through the middle of California), low desert (the Coachella and Imperial Valleys), San Diego, San Bernardino, Riverside, and Ontario.

In terms of forecasting sales or repairs, its industry is unpredictable. The summer months tend to be a little slower than other times, but not always. The weather is a big factor. Rain causes high levels of demand as motors fail or need to be serviced. Many sales and repairs are "one of a kind." A repair job can take anywhere from 6 to 120 hours. Inside their casing, motors differed significantly from manufacturer to manufacturer.

Dick Marino, the outside salesman, indicated that in the area of repairing motors, Brithinee has approximately seventy-five competitors, many of them "mom and pop" operations. Another employee noted that some customers are becoming more price-conscious, in the recent economy. Brithinee's prices are considered above the industry norm, but, according to Don, Brithinee Electric works to distinguish itself by providing high-quality service, and most of Brithinee's customers are not that price-sensitive.

COMPUTERIZATION

The early 1980s was the time that Brithinee's major supplier of electrical hardware (Toshiba International Corporation of Houston, Texas) first introduced a line of microprocessor-based motor control hardware and later a line of small-scale programmable controllers. Although Brithinee Electric had occasionally sold electric-drive hardware from other manufacturers, there was a reluctance on the part of Wally and Don to sell this more complex hardware until they felt it could be offered with the "great reliability and support they were accustomed to give" their customers.

Yet, these new systems could be a promising sales opportunity if the firm could master the complexities of the new "smart" machinery. According to Wally, the underlying philosophy of "smart" machinery implies more complete control of a piece of machinery such that the machine only uses as much energy as is needed to produce the desired outcome. A further implication is that, since the machine only uses as much power as is absolutely necessary, the machine's components can be reduced in size, helping to conserve materials as well as energy.

While the concept of "smart machinery" is relatively new for the applications of industrial motors in the United States, the Brithinees discovered this philosophy to have been in place for some time with their European suppliers. In particular, their German gear-motor suppliers long have produced what are, in appearance, "undersized" gear motors for their power ratings, and yet these same products are among the most reliable products the Brithinee offer.

In order to be successful at providing the combination of hardware, application engineering, and software needed, Wally indicated that an overall systematic application is required. This means being familiar with how the customer

uses motors in a total systems approach. In some cases for Brithinee, this includes working with the customer's engineering staff to find solutions.

This also suggests how essential a knowledge of programming and electrical controls is to Brithinee Electric. Wally mentioned the main issue is one of providing both system reliability and the complete service back-up necessary to maintain the software and the systems that customers have come to expect from Brithinee Electric. Customers have told Don and Wally a great many horror stories of equipment that never worked correctly, and for which the service was sadly lacking. Wally affirmed that Brithinee Electric is "determined not to enter a market where [it] could not properly support [its] product."

Wally and Don very much want to be in the business of "smart machinery," but finding talented help continues to be a problem. One employee, George Rainey, had been very instrumental in building the control-panel assembly operation at Brithinee, but he recently retired. In his place, Brithinee Electric hired a young electronics technician familiar with Toshiba electronic-drive products. Like everyone else, this person wears many hats: he makes presentations to customers; he develops prices on systems hardware, and he services equipment built by Brithinee Electric and by some of its competitors.

Still, Wally expressed concern that the firm is too thinly staffed in the area of high-technology products. Furthermore, Wally felt that he has been unable to motivate his programmer/technician, or to make him feel the team spirit that Wally feels most of the others have. Consequently, Wally feels the need to develop a back-up for the programmer/technician, should he decide to leave.

INVENTORY AND THE OFFICE STAFF

Brithinee Electric has an inventory philosophy of "completeness" whereby it attempts to maintain at least one of every type of part it might need to help a customer out of a "midnight jam." It also has a contract with a friendly customer in Coachella Valley, California, to carry certain items of Brithinee's inventory. Coachella Valley is in the low desert, approximately 75 miles away from Brithinee's main facility. A separate record is maintained for that stock. Thus, Brithinee carries one of the largest inventories of motor equipment in southern California.

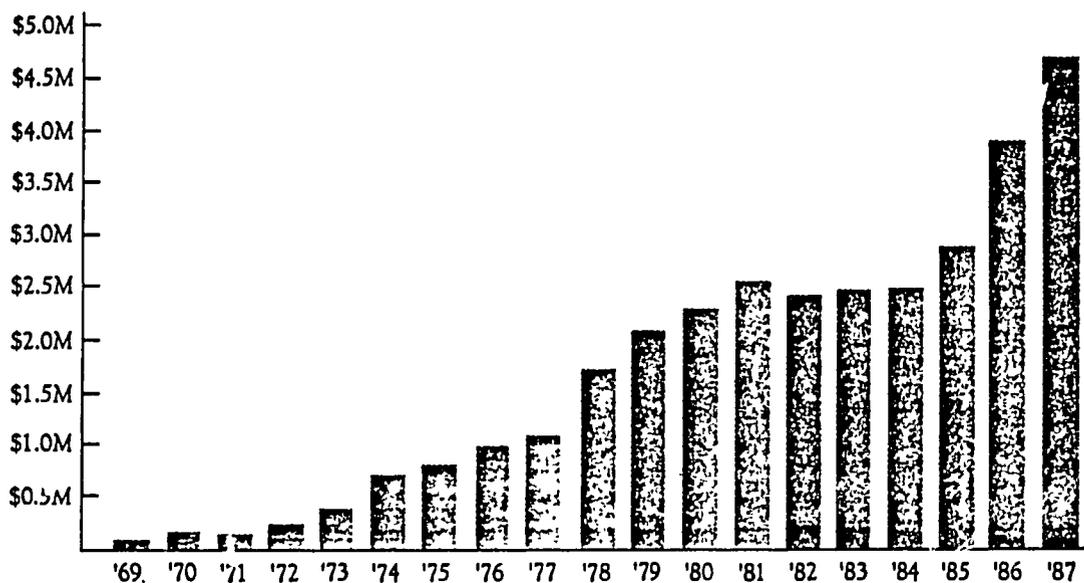
The firm also has a philosophy for the office staff whereby all ten people, including Wally and Don, sell to customers and buy parts to service their customers. This means there is no separate sales or purchasing department. For example, if one of their customers needs a certain type of part and Brithinee Electric does not have it in stock, a staff person will then call the manufacturer directly and order the part. The part will then be invoiced and shipped to the

customer. One employee wondered whether eventually this system would have to be changed, but for the time being, she seemed to think it was working. Don disagreed. He wants to develop a better system. He feels there is a definite lack of control, and this is bothersome. It causes a duplication of paperwork, with so many people capable of producing forms on their own desk computers. According to Don, the main culprit of this process is Wally. Don said, "I haven't been able to reach him on that point yet." Purchasing worries Don because the "process is too disseminated" among different individuals. The only office person not selling to customers is Kathy. She buys bearings, windings, and parts for the shop.

FINANCES AT BRITHINEE

Finances are tightly watched by Don. Before any invoices can be paid, Don's red stamp of approval has to appear. All checks bear his signature, but Don laughingly stated that signing all the checks "doesn't mean you know the numbers." Don said Brithinee Electric is on sound financial footing (see Exhibit 2). Recently the company has been able to line up a \$200,000 unsecured credit line. This will relieve pressure on cash flow if for some reason one of Brithinee's major

EXHIBIT 2 • Brithinee Electric, Inc., Revenues—1969–1987



customers is unreasonably slow in paying its account to Brithinee or if the company needs additional working capital for expansion or equipment. To illustrate, one major customer in North Hollywood purchases approximately \$80,000 of product per month from Brithinee, and thus Brithinee is highly dependent upon that customer to pay its bills on time. Prior to 1984, there were times when Brithinee had cash-flow problems, but this was an area which Don felt he worked very hard to correct. Brithinee keeps three sets of records: one for repairs, one for sales, and one consolidated for both repairs and sales (see Exhibits 3A and 3B).

According to Don, the firm has a good credit rating. Each year they replace two or three of their vehicles. The company pays cash for such purchases. Don feels this is cheaper than borrowing. Brithinee Electric's philosophy regarding long-term debt is to have none. Don realizes that some in business school might advocate that the company should be leveraged, but for them, he feels more

EXHIBIT 3A • Brithinee Electric, Inc., Statement of Income—Repairs

	<u>1986</u>	<u>1987</u>
<i>INCOME</i>		
Rewinds.....	\$ 210,340.21	\$ 224,095.95
Rewind labor.....	210,340.10	223,095.91
Parts.....	221,033.78	247,770.66
Labor.....	267,436.34	297,213.64
Machine repair.....	80,307.50	105,603.83
Balancing.....	43,255.39	50,481.24
Restack.....	4,274.00	1,944.00
Repair Disc. stator.....	(1,539.98)	(2,277.02)
Repair Disc. resale.....	(430.79)	(549.90)
Miscellaneous income—repairs.....	5,479.86	5,059.54
Mfg. investment—repairs.....	384.95	120.42
Interest income—repairs.....	2,882.19	4,057.57
Total income.....	<u>\$1,043,763.55</u>	<u>\$1,156,615.84</u>
<i>COSTS OF REPAIRS</i>		
Repair materials.....	\$ 95,646.98	\$ 103,306.38
Parts.....	109,458.20	99,955.25
Outside services.....	14,370.43	22,168.25
Office vacation.....	3,052.88	0.00
Shop salaries.....	408,845.43	463,869.98
Total cost of repairs.....	<u>\$ 631,373.92</u>	<u>\$ 689,299.86</u>
Gross profit.....	<u>\$ 412,389.63</u>	<u>\$ 467,315.98</u>

EXHIBIT 3A (continued)

	1986	1987
OPERATING EXPENSES		
Accounting and legal	\$ 737.50	\$ 1,169.13
Advertising	1,599.74	2,318.77
Auto—gas and parking	4,805.56	6,509.71
Auto lease and truck rental	303.71	488.01
Auto repair and maintenance—parts	19,520.61	16,205.34
Bank charges	4.97	250.00
Business promotion	6,103.08	5,452.30
Over/shorts	0.08	21.89
Coffee room supplies	1,636.60	1,776.35
Computer supplies	5,398.75	15,467.34
Depreciation—repairs	27,502.13	32,866.72
Donations	880.48	1,261.97
Dues and subscriptions	1,848.41	1,138.74
Employee welfare—repairs	1,500.87	1,812.36
Equipment rental—repairs	589.50	1,148.75
Meetings and conventions	3,473.37	4,052.74
Insurance	43,906.86	51,729.39
Interest	353.58	0.22
Maintenance supplies	2,033.17	2,755.60
Office supplies	5,809.04	7,475.03
Postage	1,698.16	1,769.09
Outside services	6,541.82	7,379.56
Profit sharing	43,139.49	48,343.37
Rent	31,020.00	43,458.00
Repair and maintenance shop	11,084.61	23,178.69
Salaries, clerical	41,981.74	44,619.52
Officers' salaries	83,060.00	74,914.00
Salaries, sales	28,366.95	29,325.77
Shop expenses—repairs	13,709.10	2,052.65
Uniforms	3,162.54	3,310.75
Taxes—licenses	10,406.70	7,016.96
Taxes—payroll	48,034.37	53,919.57
Accrued payroll taxes	—	1,364.06
Telephone	15,461.60	17,044.21
Travel	2,337.79	1,504.02
Utilities	35,296.98	43,228.50
Total operating expenses	\$ 503,309.86	\$ 556,329.08
Net income (loss)	\$ (90,919.93)	\$ (89,013.10)

EXHIBIT 3B • Brithinee Electric, Inc., Statement of Income—Sales

	1986	1987
INCOME		
3 Phase 1 Phase motors	\$1,063,876.95	\$1,186,831.37
Gear motors	212,124.79	177,569.48
DC motors.....	39,938.09	24,892.96
Controls.....	427,822.49	366,251.16
Inverters	970,344.74	1,654,893.67
Programmable controllers.....	14,605.47	14,265.15
Parts.....	80,874.30	62,180.63
Labor, sales	5,671.01	3,165.00
Labor, inverter service.....	16,162.08	16,106.66
Restock	407.85	50.00
Freight.....	13,748.99	14,050.44
Customer purchases (other).....	2,127.44	840.75
Interest income—sales.....	3,204.92	4,057.63
Miscellaneous income.....	7,554.61	5,059.58
Mfg. investment	384.94	120.44
Total income	<u>\$2,858,848.67</u>	<u>\$3,530,344.92</u>
COST OF SALES		
Purchases	\$ 350.45	\$ 33.60
Accounts payable—discount.....	(25,053.35)	(25,192.42)
3 Phase motors	778,354.25	827,859.34
DC and Gear motors	182,018.16	139,098.20
Controls.....	271,061.28	299,136.39
Inverters	823,397.63	1,336,496.44
Programmable controllers.....	15,151.22	25,553.84
Parts.....	66,201.84	47,004.86
Sales—commissions	1,602.65	1,048.66
Inventory variance	(90,073.32)	(88,766.10)
Total cost of sales	<u>\$2,023,010.81</u>	<u>\$2,562,272.81</u>
Gross profit.....	<u>\$ 835,837.86</u>	<u>\$ 968,062.11</u>
OPERATING EXPENSES		
Accounting and legal	\$ 737.50	\$ 1,530.11
Advertising	1,599.74	2,318.78
Auto—gas and parking	4,805.51	6,511.00
Auto lease and truck rental.....	303.72	487.99
Auto repair and maintenance—parts	19,522.18	16,207.00
Bank charges.....	9.28	250.00
Business promotion.....	6,142.50	5,469.59

EXHIBIT 3B (continued)

Cash discounts	26,711.32	27,477.85
Over/shorts	0.49	20.64
Coffee room supplies	1,636.63	1,776.47
Depreciation—sales	27,502.13	32,866.73
Computer supplies	6,043.74	15,467.42
Donations	880.47	1,261.98
Dues and subscriptions	1,880.19	1,138.75
Employee welfare—sales	1,500.88	1,812.38
Equipment rental—sales	589.50	714.14
Meeting and conventions	3,473.38	4,052.78
Freight	41,977.78	40,832.78
Insurance	40,788.75	49,351.73
Interest	353.60	0.23
Maintenance supplies	2,033.20	2,884.22
Office supplies	5,807.03	7,349.74
Postage	1,682.49	1,757.41
Outside services	6,479.29	8,167.57
Profit sharing	43,139.50	48,343.38
Rent	31,020.00	43,458.00
Repair and maintenance shop	2,320.93	135.79
Salaries, clerical	59,217.33	85,582.40
Officers' salaries	114,140.00	139,126.00
Salaries, sales	29,942.19	40,291.35
Shop expenses—sales	6,573.31	528.94
Taxes—licenses	9,673.71	7,092.62
Taxes—payroll	318.82	1,303.23
Accrued payroll taxes	0.00	1,364.06
Telephone	15,455.75	17,044.29
Travel	2,337.80	1,428.42
Total operating expenses	\$ 516,600.64	\$ 615,405.10
Net income (loss)	\$ 319,237.22	\$ 352,657.01

"comfortable" having zero debt. Don called the company financially conservative.

In this industry, average terms are net 30 days, meaning that customers have 30 days to pay. Don thinks most competitors have an average collection period of 60 days. Brithinee Electric's ranges from 31 to 33 days. Don stated, "That is no accident. That has been planned." Some accounts earn cash discounts such as 1/10, n/30. If an account seriously abuses the credit extended to it, then Brithinee just changes the terms.

According to Madeleine, who is in charge of accounts receivable, Brithinee Electric gives credit very cautiously. A new customer might get only 10 days before the bill is due. For new customers or those who changed their paying habits (e.g., one who stopped taking cash discounts), Madeleine might have them checked through Dunn & Bradstreet's credit service. For very large accounts receivable, she might call a customer's accounts payable personnel to find out when Brithinee Electric was scheduled to be paid and/or to verify that the invoice had been received.

EXHIBIT 4 • Brithinee Electric, Inc., Balance Sheet

	Years Ended December 31	
	1986	1987
ASSETS		
Current assets		
Petty cash fund	\$ 645.28	\$ 1,654.19
Cash in bank	23,146.60	14,290.72
Intercapital liquid fund	1.36	1.36
U.S. securities trust	22,348.19	23,156.57
Money market account	110,966.26	121,372.03
Accounts receivable	391,910.94	414,851.06
Inventory	479,193.19	567,959.29
Prepaid income taxes	42,000.00	94,186.00
Total current assets	<u>\$1,070,211.82</u>	<u>\$1,237,471.22</u>
Fixed assets		
Shop equipment	268,921.58	299,423.08
Auto and trucks	214,148.14	229,492.76
Office equipment	76,140.39	100,986.04
Leasehold improvement	32,221.74	32,221.74
Total fixed assets at cost	\$ 591,431.85	\$ 662,123.62
Accumulated depreciation	(477,014.10)	(542,747.55)
Net depreciable fixed assets	\$ 114,417.75	\$ 119,376.07
Other assets		
Sales tax deposit	2,150.00	2,150.00
Deposits—Schedule 2	7,820.00	7,820.00
Oil and tax investment	4,746.10	4,746.10
Organizational cost	920.90	920.90
Amortization	(920.90)	(920.90)
Total other assets	\$ 14,716.10	\$ 14,716.10
Total assets	<u>\$1,199,345.67</u>	<u>\$1,371,563.39</u>

EXHIBIT 4 (continued)**LIABILITIES AND SHAREHOLDERS' EQUITY**

Current liabilities		
Accounts payable	\$ 360,403.12	\$ 385,913.07
State unemployment insurance payable	(4.20)	10.23
Federal unemployment insurance payable.....	38.69	11.29
Sales tax payable.....	8,320.12	11,253.90
Accrued payroll liability.....	0.00	27,281.15
Accrued payroll taxes.....	0.00	2,728.12
Total current liabilities	\$ 368,757.73	\$ 427,197.76
Long-term liabilities		
Total long-term liabilities	—	—
Shareholders' equity		
Capital stock	13,000.00	13,000.00
Treasury stock	(80,072.30)	(123,748.10)
Retained earnings.....	669,342.95	791,469.82
Net income (loss).....	228,317.29	263,643.91
Total shareholders' equity.....	\$ 830,587.94	\$ 944,365.63
Total liabilities and shareholders' equity.....	<u>\$1,199,345.67</u>	<u>\$1,371,563.39</u>

Each month a certain amount of excess cash accumulates. Don stated that he likes to keep a cash cushion in the bank, but wondered if the company could turn some of that cash into a more productive asset. (Company assets are listed in Exhibit 4.)

SAFETY ISSUES

One challenge mentioned was to keep the facility clean. Another was to avoid physical injuries, especially those to one's back. For this reason, Brithinec Electric emphasizes keeping the work areas clutter-free and the correct use of cranes. Proper lifting and proper handling are top priorities. One person, Linda Butek, was assigned as an assistant to top management to oversee safety related issues. Her position was created in 1986. If someone on the shop floor saw anything needing safety attention, he or she would fill out a form, which would be submitted to Linda. The company has also been spending time on earthquake preparedness. This includes securing and bracing shelving. In an earthquake, shelving could shake and fall over. Earthquake preparedness is a recurring issue for California. Scientists have been predicting a 50-50 chance that a major quake will occur in California within the next 50 years. In 1988 many Californians

panicked when they were reminded that Nostradamus, a sixteenth-century astrologer, predicted that a city in the New World would rupture and fall into the sea. Some believed that he was referring to either San Francisco or Los Angeles.

In terms of other safety questions, there appears to be one unresolved matter that deals with the issue of the occupational health of Brithinee's employees. One motor rewinder acquired carpal tunnel syndrome. This is a numbness or pain of the thumb and first two fingers that occurs from their overuse. This is a common problem for people who use their hands for extended periods of time, such as workers in textile manufacturing, upholstery, and assembly-line work. In the case of the motor rewinder's hands, the pain and numbness lasted nearly five months and during that time the person could not work for the company. Brithinee Electric held the position open for the individual. The firm does not appear to be taking an active role in educating employees about this type of occupational illness.

However, the company is taking very positive steps in the area of waste disposal. Virtually anything that comes into the shop might possibly be considered a hazardous material. Customers' motors coming into the shop are dirty. They have to be washed off in order to be clean for repair. That water needs treatment and/or disposal. Brithinee Electric, then, is considered to be a "hazardous waste generator." Linda Butek attends seminars all the time to help reduce the company's waste. Keeping up is constantly a challenge. New legislation in hazardous waste disposal recently passed but as of this writing had not yet really been enforced. At the time of writing, new legislation was in the making in the state of California that had greater restrictions concerning hazardous waste than did the federal government. For example, one bill called for counties to come up with a hazardous waste management plan and reduce or minimize hazardous waste in their area. Another bill mandated each company in an area to come up with a hazardous waste reduction plan as well. Neither one of these bills had passed by 1988, but there existed an expectation that they might be voted into law in the near future.

Brithinee is very interested in reducing the amount of water it needs for its operation. The problem is that this means it would become a "hazardous waste treatment" facility, and this raises an entirely new set of regulations that need attention. Linda presented this question: Is it better for Brithinee to have more waste that has a lower hazard content, or is it better to have a smaller, but more concentrated hazardous waste situation? Brithinee Electric has already taken a position on this question, but it is still concerned whether its decision was the right one. As of 1988, Linda felt guidance from San Bernardino County and other government agencies had been inadequate in this regard. This is an area of major future expense.

In addition, Brithinee Electric has other hazardous products on the premises: propane to run the fork lifts, greases for motors, plus paints and varnishes. The paint area and the ovens generate fumes. There is also a sandblast area to clean off certain types of motors. Therefore, Brithinee is also considered to be a "hazardous material handler." All the various areas have to have permits, and this means Brithinee has annual site visitations at different times from different government agencies: the city of Colton, the county of San Bernardino, the state of California, and the Air Quality Management District (AQMD).

To illustrate, both the paint booth and the ovens are required to have permits from the AQMD. This agency wants to see the type of equipment used and how the area is being ventilated, and make sure that not too much smoke or pollutants are being released into the air. The fire department has increasing responsibility as related to hazard materials and frequently checks. The fire department wants to know the exact location of hazardous products in order to protect its fire personnel and to use the appropriate fire-extinguishing techniques when necessary. The Department of Health Services of San Bernardino County has the responsibility for overseeing the hazardous waste generators. The Environmental Protection Agency from the state of California is also interested in looking over the permits of Brithinee Electric. In none of the site visitation cases will Brithinee be notified prior to the agency's visit. Inspection agencies have the right to turn up on any day in order to see the operation.

QUALITY CIRCLES AT BRITHINEE AND JOB ROTATION

In the late 1970s and 1980s, many U.S. firms experimented with quality circles, whereby ten to twelve people meet once a week to discuss how they can do the job better and attain more quality in the product or service. Westinghouse and Lockheed both used quality circles extensively during that time period for certain major projects. Brithinee Electric also attempted to institute quality circles in the early eighties, but the experiment lasted only two or three months. One employee thought the idea was good and questioned why the circles were abandoned, but two other employees complained that the circles degenerated into gripe sessions.

Contrary to the expressed hopes of Wally, many of the shop personnel did not feel job rotation or job enrichment exists at Brithinee. Only the office staff expressed a sense that enough job variety prevails. On the other hand, almost universally the shop personnel said they wanted more variety in their jobs. They often feel "bored" at times, but then this was followed by statements that maybe there is too much work to allow for job rotation.

Many shop personnel attribute the lack of job rotation to the shop foreman, Rod Samples, who makes all the work assignments for the shop and posts them on the coffeeroom board. Rod is characterized as "a bright guy," "sharp," "knows his stuff," "intuitive," but also as "moody," "abrasive," "aloof," and "does not communicate" with everyone as he should. At the encouragement of Wally and Don, Rod has participated in various supervisory training programs, but no employee interviewed referenced any improvement in Rod's interpersonal skills. Wally expressed both his appreciation of and frustration in Rod's behavior. One problem is the lack of a suitable alternative. Rod is methodical; he does the paperwork correctly and gets the work done, but he at times seems to demean the contributions of the shop workers. For example, when Wally would ask a shop worker a question, Rod would sometimes intercede and answer for the worker. Wally wanted the worker to answer for himself or herself. Wally identified Rod as a "bottleneck" to the implementation of his and his brother's philosophy concerning job rotation. Wally wondered, how should the company handle Rod? Although many shop personnel indicated that they were very happy to be working at Brithinee, a constant threat seemed to emerge throughout the interviews. Many felt that they somehow wanted more recognition and/or feedback for the job they do. They need to hear they are doing a good job. Some feel positive feedback through the handsome bonuses they receive in their paycheck, but even so they want the verbal praise as well.

ORGANIZATIONAL CULTURE

There appears to be a high degree of family sentiment within the organization. Yet, this opinion was more frequently vocalized by Wally, Don, and members of the office staff than by individuals from the shop. Employees in the shop tend to have less overall, formal education and to be less self-motivated in attending seminars and learning than the office personnel. Although not apparent in the first round of interviews, this pattern began to emerge as more individuals were questioned. Members of the office staff were more likely to mention the company in terms of "we" than were the thirteen members of the shop. They were also more likely to express the notion that Brithinee is very good about allowing employees to grow into different jobs (i.e., permitting the person's job to change as the person gains new or different skills).

However, this is not a universal sentiment even in the office. A few mentioned that a slight friction exists between the personalities of the office versus those in the shop. One individual said the office personnel think they are "la-dee-da" (or better than the shop employees). Another employee revealed that he was surprised to see so many "cliques" in such a small organization. He indicated

that five cliques exist at Brithinee. Don responded that Brithinee has some groups of people who are more comfortable with each other than with others outside the group, but he did not consider this abnormal. No one in the organization felt that these groupings harm the productivity of the organization, but overall the morale of the shop personnel does appear to be lower than the morale of the office staff.

PERSONNEL PRACTICES

According to Don and Wally, people hired after 1972 tended not to have backgrounds in building motors. Rather people were hired who exhibited a "good work" attitude. Rod Samples, the production manager, stated that people were trained for their job at Brithinee Electric. Turnover is low. Few employees ever left Brithinee. Reasons cited included good benefits, nice atmosphere, and clean organization. One employee who had worked in another shop prior to Brithinee Electric described the experience as "going from the dungeon to Disneyland." Yet, a fair number of employees in the shop were disgruntled. One major issue here is job rotation or rather the lack of it for some.

In addition, Don and Wally are known for not firing anyone. Only one employee was ever mentioned as "being fired," and this individual had been caught stealing copper wire and reselling it. However, a couple of employees did point out that there were instances where some employees had been "encouraged" to leave. Don indicated that only three individuals had ever been "fired" from Brithinee and that he had been responsible for firing two of them. In the latter cases, a lack of personality agreement was cited as the cause. With turnover so low, this means that in the past three years, only five new people had been hired. Of these five individuals, jobs had been essentially created for three of them.

The following comments by Wally highlight the personnel policies at Brithinee:

We are not anxious to hire and fire people. We aren't one to say we have a job so let's go out and hire five more people. We just don't believe in it. We add people slowly. We try to bring them into the culture (not so easy to do sometimes), and [we] try to make them feel that they are part of the family, so to speak. People don't accept new people very easily. Depends. Very hard to fit people in without creating friction, without creating hard feelings from the older folk who are already there. It's tough to find people who are nonthreatening to others. It's a tough situation, and that's a problem. We haven't figured out how to solve all of that just yet. . . . We don't want prima donnas here. . . . Our customers view us as having high-quality people throughout.

All employees except Wally and Don Brithinee are paid on an hourly basis. This even includes the outside salesman, Dick Merino, who stated he prefers it that way. Almost all the employees like being paid hourly because they frequently can earn more money by working overtime. To illustrate, the production manager, Rod Samples, often works from 7:00 a.m. to 5:00 p.m., six days a week. He does this by choice, but he appreciates the fact that he is well compensated for his time. Overtime is frequent but, according to Don, not enough to justify hiring more people.

Most of the employees feel they are well paid. However, there are exceptions. Two employees indicated that individuals are not paid fairly. (The lowest-paid makes approximately four times the minimum wage, or approximately the average starting salary of a college graduate in accounting. The highest-paid shop person makes about twice that.) Although the casewriter pursued the issue of pay equity, the individuals who complained could not actually explain their rationale for why they perceived this pay inequity. It just exists in their eyes. In a different instance, one employee thought most people (for what they do) are overpaid at Brithinee. Others thought pay at Brithinee is a mystery. Don said individuals are rewarded on the basis of "effort" to the extent that pay increases are based 85 percent to 90 percent on effort in meeting the needs of the customer, and 10 to 15 percent on skill.

Ideally Don and Wally would like to stagger the evaluations such that two employees would be evaluated every month, but in actuality, half the employees are evaluated at a time. Don asserted, "Trying to put a dollar sign on a human being . . . that's the toughest job an employer has — to put a value on another person's time and effort."

Many of the employees complimented Don and Wally Brithinee for being "first-class" guys. If an employee wants a new piece of equipment because (1) the old piece of equipment is old or dangerous or (2) a new piece of equipment would allow the person to do his or her job better, Don and Wally buy the equipment regardless of the price. The only question asked: Would this help to do the job better with higher quality?

PROFIT SHARING

Profits are pooled from all areas and shared by the employees, regardless of how the profits are generated, either by repairs or sales. To encourage a philosophy of meeting the customer needs, the company does not pay more to repair people if they fit more motors, nor does it pay salespeople on commission. The Brithinee profit-sharing program was described by many employees as "generous." Employees of the company were unaware, however, that new changes in the tax reform

package might have an impact on how Brithinee handles profit sharing in the future.

BENEFITS

New employees receive one week of vacation after one year, two weeks after two years, three weeks after five years, and four weeks plus one day after ten years. There is no allotment for sick leave. Don felt strongly that the system eliminates sick leave abuse, which has been problematic for some other companies. Brithinee's industry typically does not have a widespread use of sick leave. Don stated, "The goal is to reward people for being here." He also added that employees could accumulate vacation allotment and then use it for other occasions, such as illness or personal leave.

FUTURE CHALLENGES FOR BRITHINEE

Almost universally, Brithinee employees responded favorably about Brithinee's future, but there were concerns. One person asked, How can Brithinee compete in a very price-conscious environment? There was also an acknowledgment that the industry is very competitive and has become even more competitive in the past few years. Customer loyalty to Brithinee is not as strong as it once was because so many people are very price-conscious. One of the persons involved in inside sales plainly stated: "[It] is just harder to make a sale than it was before."

Employees appear to have a strong sense of what the company stands for (i.e., quality service), but no one remembered the company's having a formal, written mission statement. Don said the following:

We never crystallized our mission . . . but I guess it would be to provide first-class or highest-quality service for industrial clients to their rotating electrical apparatus and to provide very dependable service in the distribution of electrical motor controls and electronic control devices.

Don added that Brithinee Electric wants to be known for its good service. They would not just take any job. They would turn down jobs which they felt un-equipped to handle. Don stated that the company wants to give the highest value to its customers.

By the year 1993, Don wants to see a Brithinee Electric expansion beyond the current location. Plus, he wants to see a more independent work force (one less dependent on his brother and himself). He feels this would make the business more valuable and "more tolerable." This would be a "great accomplish-

ment." He also hopes to see a better developed sales effort, with a broadening of the sales products, in order to achieve more sophisticated systems than Brithinee now sells. Don admitted that they do not have a formal planning system at the current time to help achieve these objectives, but he seemed to feel confident that taking these items slowly, one step at a time, would be the way to accomplish them.

Don expressed the sentiment that he works day in and day out to create an independent work force. He attempts to push decisions onto other people, force them to be less dependent on himself and his brother, and train people so they have the tools to make decisions. Then, day in and day out, he stresses the philosophy of Brithinee Electric, which is "service to the customer first over quick profits or any other short-term goals." He stated, "Devotion to the customers adds to the permanence of our business." Later, he commented:

Our motor business was built up on [the philosophy that] if it was in our grasp to do the job, we said, "yes, we will do it" and we made ourselves available even if that meant canceling our plans to do something else. . . . But we did it, and that's how we built up this business. . . . We have always been willing to put ourselves out. Even at three in the morning.

In terms of broadening beyond the local location, Don and Wally have been in discussion with other businesses. In the past couple of months, another business in Oxnard, California had been offered to them as a possible purchase, but no steps have been taken in this area. They were still evaluating it. The most likely type of purchase would be another business similar to their own, but possibly in the San Diego area, where they already have a few customers. They want to be able to clone most of their business but cover another area. Don wondered: Is it more cost-effective to set up a location in San Diego, which is 100 miles south, or is it better to attempt to handle those customers from the current location using their own trucks and delivery service? Could they handle all their work from Colton and still be properly represented in San Diego?

PLAN FOR SUCCESSION

Don and Wally have no plan for eventual succession of the company. Wally is single and has no children. Don has one child, a daughter five months old. In 1980, they already experienced one crisis over transition, which occurred when the twins' father returned to the business after his wife's death. After the senior Brithinee recovered from his heart attack, he positioned himself out of the company. Wally reflected that Brithinee Electric has no plans to sell out. Personally he is having "too much fun."

MAJOR ISSUES OF THE CASE BRITHINEE ELECTRIC, INC.

Brithinee Electric is facing numerous problems that need to be dealt with immediately. A lot of the problems stem from the two principal owners, Don and Wally Brithinee, the founder's sons, and their lack of good financial, operational, and personnel management skills. A general synopsis of the problems encountered in reading the case appears below.

1. Brithinee Electric is facing a shrinking electric motor repair industry. The company had focused primarily on the repair and remanufacturing of large electrical engines; the users, however, have turned to smaller engines. This shift presents a problem to Brithinee Electric because of the eventual loss of customers. The firm has seen many of its competitors go out of business for this very reason.
2. One of Brithinee Electric employees has developed carpal tunnel syndrome, nerve damage in the hands and wrists due to stress and overuse.
3. The organizational culture of Brithinee Electric suffers from growing resentment between the office and shop personnel.
4. When interviewed, most of the shop employees expressed a need for job rotation in the shop. This is the main reason for their growing discontent.
5. The management of Brithinee Electric has no planned succession for itself at this time. This situation, along with the lack of a mission statement, means that the company may be weak at contingency planning and should formulate a contingency plan.
6. The firm needs to improve its financial management. It lacks good cash management and policy.
7. The office structure is so decentralized that everybody in the office is doing everything, which leads to duplication. Office personnel take care of selling, purchasing, and customer service, but they do not seem to be doing a very effective job.
8. Brithinee Electric carries one of the largest inventories of motor equipment in Southern California. It also carries inventory for friendly customers on contract. This form of inventory control is costly. It does guarantee help to the customer in the "midnight jam" but also ties up money and incurs large carrying costs.
9. The company fails to hire qualified people to fill vacancies arising from termination or growth. It chooses to train on the job rather than hiring people previously qualified for the open position.

10. Quality circle discussions were discontinued because the sessions always seemed to end up as gripe sessions. Most employees, however, considered these discussions beneficial.
11. Brithinee's management of hazardous waste has been good in the past. The company is interested in reducing the amount of water needed for its operation. This would mean that it would become a "hazardous waste treatment" facility and consequently would have to comply with an entirely new set of regulations and reviews.

ANALYSIS

1. *Problem:* Shrinking industry
Cause: Movement of customers away from large generators to "smart" computer-controlled engines.
2. *Problem:* Employee health--carpal tunnel syndrome
Cause: Lack of employee education about the causes of carpal tunnel syndrome, along with a lack of job rotation, magnifies this problem. The illness is caused by stress and overuse of the hands and wrists. If the employees had been rotated throughout the shop area, one person would not have had to continually perform the same tasks over and over again, and the problem could have been avoided.
3. *Problem:* Organizational culture--poor morale
Cause: Lack of communications between the shop and office employees has created a rift between the two groups. The shop personnel feel that the office group look upon them as being inferior. The office help has a much better attitude toward the company and its fellow employees and sees itself as more a part of the organization. It seems to be more informed about the company, its customers, and its policies.
4. *Problem:* Lack of job rotation--shop personnel
Cause: The shop assignment officer, Rod Samples, enjoys being in charge of all job shop assignments of employees. He does his job well but does not allow the shop workers any freedom to interpret creative ideas or to offer advice on improving operation. Management has let things to too far with Rod. It needs to half his run of the shop area and stress the importance of job rotation. Management does not agree with his practices yet has not stopped them.

5. **Problem:** Decentralized office management
- Cause:** Too many people are doing too many different jobs. Without separate sales and purchasing departments, effort can be duplicated, putting Brithinee Electric in a bind with customers by committing the same parts to different customers. There is no separation of duties, and an unscrupulous person could abuse the system. Management is spending too much of its time dealing with sales and purchasing. There should be a separation of duties: one person would be in charge of placing orders and one person in charge of the sales effort.
6. **Problem:** Inventory control
- Cause:** Brithinee Electric is carrying an inventory load that is too diversified. Too many people have access to the inventory system. There should be a delineated sales force to allow specialization and thus reduce the threat of double commitment to a product or part of a salesperson or stockout. If Brithinee Electric reduced its large diversified inventory, it would also reduce the large carrying cost associated with it.
7. **Problem:** Qualified personnel
- Cause:** Brithinee Electric needs to implement a program through which it could hire competent people who would contribute or add growth to the company rather than merely "fit in."
8. **Problem:** Cancellation of quality circle meetings
- Cause:** Quality circle meetings were canceled because they, too, turned into gripe sessions. Part of the cause for this was Rod Samples, the shop manager. Employees viewed the meetings as beneficial but disliked the griping.

ALTERNATIVES

1. Implementing a job-training program on-site and instituting job rotation in the shop area
- By training each of the shop employees in the various skills necessary for the production of engines, Brithinee Electric would utilize its work force better and lessen the chance of on-site injury. It would also enhance workers' skills and responsibility, thus increasing job enrichment and improving morale. The shop employees would like to see such a program implemented, for it would give them a strong sense of continually contributing

to the organization's output. Then they might look upon the company like the office help does--as a family, all working together to better serve their customers.

Obviously, a lower risk of on-site injuries would make the employees happier. Brithinee currently has one injured employee whose injury is due exclusively to the lack of job rotation. Had the employee spent less time using his hands in such a repetitive motion, the injury might have been avoided.

For management, job rotation in the shop would lessen the dependence on any one employee. If all the employees were cross-trained, each could fill the void resulting from a dismissal or from absenteeism. Job rotation would also reduce the risk of lawsuits related to injury.

The disadvantages of such a program are time and cost. At the beginning manufacturing might be slowed. Furthermore, when no employee is an expert in any field, mistakes are likely. It would take a considerable amount of time to train each employee to be task proficient in all areas.

However, the advantages outweigh the disadvantages. Job training, with a view to job rotation, is a necessary expenditure and vital to the continued success of Brithinee Electric.

2. Changing the inventory system to a just-in-time system

Brithinee Electric's customers would be better served by such a system because Brithinee would be bound by contract to supply the agreed-upon parts. On the other hand, customers would be bound to buy a predetermined volume at a predetermined price. This would add predictability to both purchasing and the collection of accounts receivable.

Such an arrangement would not only eliminate costly, obsolete inventories, but also allow bulk-rate purchasing for some items, if Brithinee Electric could obtain an agreement of this sort from its vendors.

This system would also allow for practical elimination of the re-invoice/reshipment practice currently being used when parts are not available for customers. It would bypass such use by the customers in most cases and force them to deal with Brithinee instead of the manufacturer. Consequently the customer would be better served and Brithinee would increase its sales.

The drawbacks include the increased burden of inventory control. It may require expansion of the current system to facilitate carrying additional parts. It will also increase staff requirements by needing a specialist in the area of inventory control and the legal

environmental knowledge to predict changes in needs for certain parts. It will require more communication between planning, sales, and production. This system requires extensive revamping of Brithinee's current sales and purchasing practice.

Management would be forced to evaluate the company's place in the industry and the direction in which it should move. Should it be proactive or reactive? Such a program would allow management to set guidelines for its customers on how long it chooses to carry a particular item and force it to either keep up with the changes or remain in an archaic stance with regard to technological advances.

3. Hiring qualified people to fill vacancies in the company

The practice of hiring unskilled personnel and training them on site will usually work for a manufacturing type of job. However, the training takes time. Thus, hiring skilled workers can be to management's advantage for it can prove less costly. Brithinee's management must consider whether it wants to enhance the company by bringing in skilled workers with new ideas or foster conformity and complacency.

4. Getting into "smart" machinery/integrated circuitry and control specialists

This alternative supports management's current conceptual mission to "provide first-class service in the distribution of electrical motor controls and electronic control devices." Since the industry is leaning toward heavier usage of computer controls, Brithinee must hire technical specialists to keep it up-to-date with the changing market conditions and to provide its clients with the latest technology and superior service.

The costs of such actions will be high, but Brithinee cannot afford to be left behind when the market for such "smart" machines is rapidly growing and the machines Brithinee now provides are quickly becoming obsolete.

The time and organizational resources are of intermediate measure. Though quite involved, the planning and organizing would not be long term. Time would be needed to decide an act, to take out the old machinery and install the new, and to solicit and select technical specialists.

Considering the dynamics of the industry, the probability of success is higher if Brithinee acts than if it does not act.

5. Crystallizing the mission statement and initiating contingency planning

Although Brithinee never stated its mission in concrete terms and never evaluated or adopted it, Don Brithinee's statement of it in the case is a good foundation to build on.

He mentioned both highest-quality service to industrial clients and quality materials for motors and associated apparatus. The Brithinee brothers first need to write the statement on paper so that they can see what they are striving for. Then they would consider broadening the statement to include the dynamics of their industry's macro- and task environments and take their neighbors into consideration. Finally, they need to state their goals and objectives, both long and short term.

These tasks could be accomplished in a relatively short period of time--except contingency planning, which would require a lot of investigating, observing, researching, and environmental scanning. The organizational resources needed would be those associated with the planning effort, plus management decision-making skills.

The costs would be almost nothing in terms of marginal costs, but costs could arise from enacting, or not enacting, some of the contingency plans.

Management should view such planning as equitable and responsible behavior toward clients and beneficial to the company.

The probability of Brithinee's success is greater if it implements these actions than if it does not.

6. Future actions involving environmental hazards and worker safety

Brithinee's main action in regard to safety and hazardous waste should be contingency planning. With the active environment influencing behavior in California and Brithinee's decision to become a waste treatment facility, the company must develop an adequate waste disposal system and a schedule for reducing and minimizing the waste. It must also continue its earthquake preparedness procedures. In addition, it needs to educate its workers to guard against carpal tunnel syndrome and continue monitoring safety on the shop floor.

This alternative meets management's objectives, especially those necessary for long-term survival. Management needs to rewrite short- and long-term goals to specify the number of waste treatment projects that the company will initiate and to establish a time frame for them.

Management will need to take the time to determine to what extent each of these options is to be carried out. It will also need to devote personnel to investigate methods of waste treatment and the other concerns mentioned and allot time for evaluating and deciding.

Although implementation could be quite costly, it is essential. Brithinee could not survive being caught in a tidal wave of environmental legislation. If the company acts now, it can spread the costs over a period of time.

These prospective actions conform to the firm's views of equitable and responsible behavior; they would also make it a "good neighbor." The probability of success for these actions is almost guaranteed. If Brithinee undertakes the effort now (an aggressive reactive decision), they would possibly be barricaded against future changes in the environmental laws.

7. Changing the pay structure

Brithinee should re-evaluate its payroll structure. All employees in jobs above manual production should be on salary instead of on an hourly wage. This option meets management's objectives for pay equity to all employees. Pay will now match the type of work done by Brithinee employees. Production workers concentrate on specialized jobs without much day-to-day routine work. This type of work is most efficiently costed on an hourly basis, which is easily broken down to payment per hour per employee according to each employee's skills and tenure. All other positions at Brithinee maintain fairly day-to-day routines. Therefore, salaries matching the productivity of these routines should be implemented. This will also create "budgets" for office personnel, sales, and production manager. More efficiency will be achieved through capital budgeting, thus allowing a more accurate forecast, since the system would be more structured.

The cost of implementing a change in salary structure might be dissatisfaction among employees. To counteract this dissatisfaction, an employee stock option plan (ESOP) could be created to provide the incentive to do a good job.

This alternative would give Brithinee more control over financing, future budgets, and lasting well-being, while staying within management's objective of pay equity.

8. Improving financial management techniques

Brithinee management has stated that the company is conservative when it comes to finance. However, although Don Brithinee keeps a close watch on the finances, he does not understand some portions of everyday operations. The company can improve this aspect of operation by instituting a few minor changes. At present, it replaces two or three vehicles each year and pays cash for them. But instead of purchasing the trucks outright, it could use a leasing plan. This would free up some working capital, which could be used more efficiently somewhere else in the organization. Another change might be to invest the firm's idle cash, which always seems to collect in its non-interest-bearing checking account. The company needs to manage its cash better which means that it

should compute a cash budget on a daily and monthly basis. If the cash budget is done correctly, Brithinee could invest the idle funds in a money market mutual fund or make a similar low-risk liquid investment and still be able to meet its cash needs.

CHOICES AND IMPLEMENTATION

1. Replace Rod Samples by hiring a qualified production/inventory control manager

The production/inventory control manager who would replace Rod Samples must focus on improving management of the operations. He or she will be involved in the study and eventual decision on implementing a just-in-time inventory system. Consequently, this new manager must be an expert in a just-in-time inventory system and be able to lead a project to investigate the capabilities and restrictions associated with such a system.

2. Implement a just-in-time inventory system

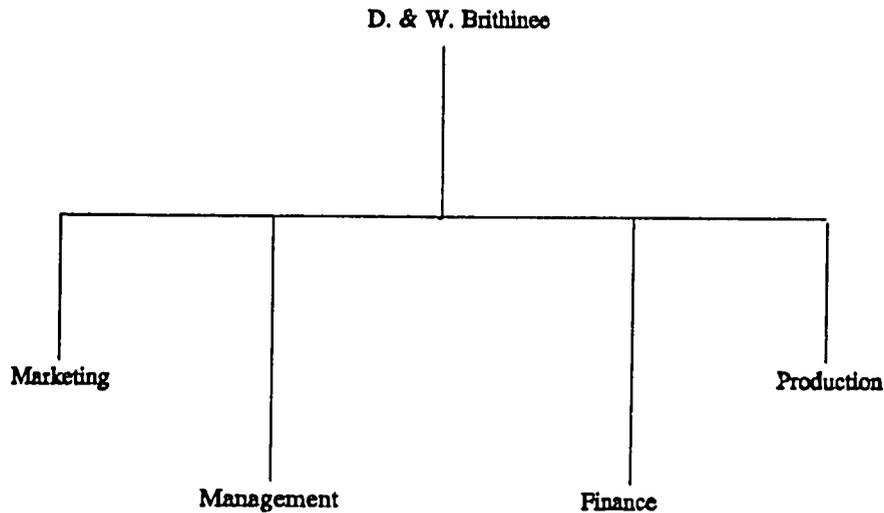
The manager would undertake this task with the owners and proceed along the following lines:

- Perform a market study.
 - Determine the customer base, the frequency of orders, volumes, and the unit price.
 - Interpret results to determine if a just-in-time system should be established.
- Establish lead time guides.
- Specify contract requirements.
 - Customer's part of contract agreement: frequency of orders, volume, price, and location.
 - Brithinee's part of contract agreement: location, price, volume, and frequency of orders (that is the same list as for the customer, but in reverse order); and
- Contract with Brithinee and its suppliers to guarantee profits.
- Accountability or control for inventory.

The new manager will need to enact the job rotation goal, which should then improve morale. The manager will also assume all production responsibilities and introduce methods to improve worker efficiency.

3. Outline job descriptions for each employee

Top management will separate job duties by area of operations: management, marketing, finance, and production. This is important for continued expansion and growth and is essential in order to avoid duplication of effort. A suggested hierarchy could be set up according to this model.



- Marketing: sales and advertising; promotion
- Management: purchasing; employee benefits
- Finance: accounts receivable; cash management/investments; and payroll
- Production: inventory control; service department

4. Restructure methods of compensation

Management should consult a respected firm that is well-versed in employee compensation programs in order to find out if the proposed alternative is a feasible and legal means of compensation. Then the pay structure described in the alternatives should be instituted using the following:

- Pay all laborers in operations on an hourly basis, with pay incentives for meeting certain preset objectives, such as production quotas, spoilage, and so on.
- Place salespersons in a commission/salary structure.
- Put all office personnel on a base salary, plus bonus.

5. Improve financial management

Management should consult a financial professional with strategy for better cash management in this area to help map out a strategy for better cash management techniques. Don or Wally Brithinee should make sure that they understand the concepts and principles involved in making financial cash budgets. They might have to hire a financial officer to improve the company's finances.

The consultant should conduct a lease/buy analysis for the purchase of new vehicles and set up an investment fund for excess cash. This fund should have low risk and high liquidity.

Management should then implement the changes and keep monitoring their effects.

6. Upgrade contingency planning

At present, there is no contingency plan if something were to happen to Don and Wally Brithinee. Consequently, a plan for eventual succession needs to be formulated. A plan is also needed to address the problem of hazardous wastes and the safety of the firm's employees.

7. Implement job rotation

The current employee responsibility for each individual task would be responsible for training the other employees in that task. This employee would outline the responsibilities and teach the others on either an individual or group basis. To implement this may require overtime on off days.

Each employee would be required to spend time working at each stage of production. For instance, each could spend thirty days at a station before rotating to the next. This process would continue and eventually each employee would become proficient in the different areas.

Management would need to evaluate the plan and set a minimum time for it. After that time, it should evaluate the results to see if continuation of the program is justified--that is, if worker productivity has increased to decreased. Then management must make a decision, whether to institute rotation permanently.

Brithinee Electric, Inc.

PURPOSE AND USE OF THE CASE

The case is designed to be used in a business course. The case allows students to examine issues confronting a firm that is both growing in sales and gaining competitors.

SUMMARY

The case follows the growth of Brithinee Electric and its two senior managers, Wallace, Jr. and Don Brithinee. The company was founded by the father of these two men in the mid 1940s. It has reached a position of being a significant marketer of electric motors in its trade area.

In the 1980s, changes became commonplace in the market. The case examines how the firm is trying to position itself for the future, as well as handle day-to-day problems it currently faces.

QUESTIONS FOR CLASS DISCUSSION

1. Do you consider Brithinee Electric to be a well-managed company? What evidence would you use to support your claim?

Besides quotes from the case, the instructor can enhance the discussion by using these additional observations of the case writer, who assessed Brithinee Electric as a well-managed company for these reasons:

- There was a high emphasis on quality and a great deal of pride in the finished work. This was expressed throughout the organization. Brithinee has chosen a strategy whereby it does not compete on price. When a firm selects such a strategy, it must distinguish itself in some other attribute. Brithinee has elected to do so by providing extraordinary service, even if it means "working at 3:00 am." To this end, it has placed certain individuals on call. Although Brithinee recognized that such emergency service probably represents only 10 percent of its business, providing the service has gained the company a fairly strong and extensive customer base.

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- There appears to be a high level of ethical behavior. One employee described Wally and Don Brithinee as very honest individuals who would do their utmost for any customer. If a job needed reworking because of a Brithinee error, it was done without question. According to one individual, rework amounted to 1 percent of all jobs.
 - A customer-first attitude existed throughout the organization. Almost all employees recognized the importance of satisfying the customer. By incorporating such a philosophy into the organizational climate, Brithinee is helping ensure that its customers will not be disappointed and that it will have repeat business. Wally was very concerned about making only those promises to the customers that the company was capable of keeping.
 - There was tight control of credit. Brithinee had a better than industry average when it came to collectibles. Analysis of the financials shows Brithinee in a strong position. Since 1984, Brithinee has been running a cash surplus and one of the questions for the company is, what to do about it?
2. Why would a company such as Brithinee need to be aware of safety issues? Should Brithinee adopt a philosophy whereby it would dispose of less waste overall, but its waste would be more hazardous due to its concentrated form?

All businesses, large and small, have to be aware of occupational safety and health issues. Despite a perception that the federal government may be less concerned about such issues that it was in the 1970s, facts show a different story. A significant number of agencies are more concerned about the safety and occupational health of workers than they were in the past.

To illustrate, the National Institute of Occupational Safety and Health (NIOSH) is extensively involved in such research projects, and in 1987 NIOSH established the Project Minerva Institute at Xavier University in Ohio for the express purpose of introducing safety- and health-oriented discussion in business school curricula throughout the United States. In NIOSH's view, a majority of business students are grossly unfamiliar with safety and occupational health issues.

Although Brithinee Electric had been handling safety issues before 1986, it too became increasingly aware of the need to take steps in these areas. This came about because Brithinee Electric is a member of Electrical Apparatus Services Association (EASA), an organization primarily composed of motors shops. The organization has meetings on various topics all the time. In 1986, one of the meetings dealt with safety and insurance. At that time, Brithinee did not have a formal safety person or safety committee, and so

this responsibility was turned over to Linda Butek to pursue. Don Brithinee had been handling the documentation of hazardous waste products and this was also turned over to Linda. It was her responsibility to coordinate the safety-related meetings, organize the company's earthquake preparedness, and so forth, but she recognized that all employees are involved in safety. The case writer noted the safety signs and the fact that the shop plant was well spaced out. Workers had room to move. They did not worry about working in cramped quarters with dangerous equipment. They felt comfortable and safe at Brithinee.

In terms of the disposal issue, Linda identified Brithinee Electric as a "small hazardous waste generator" and compared Brithinee's hazardous waste as similar to that of a car wash. This was because a large percentage of Brithinee's hazardous disposal was "soapy water." Yet the waste was hazardous due to its content of paint, greases, and other products that might come off a dirty motor.

Linda indicated that the firm had decided to pursue a policy whereby Brithinee would produce less waste, but it would be a more highly concentrated hazardous waste, which would be contracted for disposal. She had visited other companies, both inside and outside the state to see how they filtered and handled dirty soapy water. Brithinee Electric was in the middle of pursuing this new filtration program at the time of the writing of the case. If the new legislation passed, this was a philosophy the company would have to adopt. In this sense, Brithinee was quite proactive. It monitored and watched legislation that would affect it. The company took steps to be prepared if the legislation passed.

3. What should Brithinee Electric do about lower morale noticeable among the shop personnel? Is job enrichment a possible solution or are there other factors to be considered?

Job enrichment is part of the solution for those individuals in the shop who want to learn new skills. This is Wally's desire as well. Ideally, Brithinee Electric would like to have its employees cross-trained. One model of job characteristics proposes that individuals with high growth needs prefer to have jobs in which they experience task identity, task significance, autonomy, skill variety and feedback. Task identity means that an employee sees more than just a tiny piece of the puzzle. He or she can see the finished project basically from beginning to end. Task significance means recognizing the importance of the job, and autonomy provides the freedom to have the control to decide how to do the task. In many ways, employees in the shop have these three ingredients. Missing, according to the case writer's observation, are skill variety and feedback.

Impeding skill variety is Rod Samples. Both Wally and most of the shop workers who are seeking job rotation recognized this. Wally asked what to do about Rod. Replacing him is one solution that students might suggest, saying, hire an outsider. But finding the right individual might be more difficult than students think. Wally seemed uncertain that anyone else in the shop could handle the job. Rod has been with the organization for eight years. He has left twice but has returned. Although frustrated, Wally would like to work to change Rod's behavior.

What can be done? The students might suggest some type of behavior modification program for Rod. Every time Rod delegates or cross-trains the employees, he should be rewarded with words of praise. Every time he does something right, he should be told. Research shows that behavior modification programs do work. Their only problem has been the length of time needed. The programs are slow and demand patience if they are to succeed.

Another suggestion the students might make is to bring in a third-party facilitator to work with Rod and the shop. The purpose would be to open the lines of communication and get people talking honestly with each other. The case writer noted a fear in a number of shop personnel to speak their own minds. One man said he was a different person off work than he was in the shop. However, a third-party facilitation is only successful when all parties want and recognize a need to change. It was not clear from the case writer's interview with Rod Samples that he would be willing to change.

Another related issue for the shop is feedback. When asked the question, how "would you run Brithinee Electric if you were in charge," most employees did not talk about pay. Most indicated that they would give more recognition and feedback. The case writer sensed a need for giving more praise to employees in the shop. When he gave feedback at all, Rod gave mostly negative feedback, and he would need to be educated in the techniques of giving positive feedback. Research shows that a good ratio is 3:1. That is, make three positive comments first for each negative point that needs to be told. Some individuals may need a higher ratio than that. Maybe Rod himself is not receiving his share of positive feedback.

Students might suggest recognition awards for the employees and this might be very helpful. The case writer, for example, noted a number of pictures of the building of Brithinee on the walls, but no group pictures of the employees. Studies show that most people respond very favorably to attention. Napoleon was a great master of recognition, giving every soldier a ribbon for every campaign conducted.

Thus, job enrichment is part of the solution, but there are definitely other issues to be considered in the shop area.

4. How should Brithinee handle individuals who feel that a pay inequity exists?

Like a lot of companies, Brithinee Electric practices pay secrecy. Studies tend to show that pay secrecy usually works best when individuals trust that they are being paid fairly. One strategy employees can use is to compare what they make to similar jobs they see advertised in the newspaper. Apparently, most employees at Brithinee trust that they are being paid fairly because of twenty-three people, only two felt underpaid. Perhaps these two individuals' perception is correct and they are underpaid. If so, this could be a subtle message to the employees to "seek greener pastures." What is surprising to the case writer is the extent to which the criterion of pay is "effort" as defined by a person's willingness to work overtime. It may be difficult, but Wally and Don should make the criteria for pay increases clearer to the employees and, after giving a pay increase, state the reason for it. They have done this for some of the office workers but need to do likewise for the shop workers.

5. How can Brithinee Electric continue to prosper in an industry where competition is becoming stiffer all the time?

Don disclosed that the firm may actually have 150 competitors in motors repair. In the case, Dick Marino mentioned 75 motor shops. However, Brithinee Electric has strategically positioned itself in other areas. The repair of motors once yielded 100 percent of its revenues but in 1988 represents only 20 percent of the revenues. The company is becoming more involved in sophisticated control systems using computers. As it has branched into these more sophisticated areas, it has fewer and fewer competitors. If Brithinee can continue to develop depth in this area, it will hold a competitive advantage. The need is depth of talent. Right now the applications area has only two people assigned to it, and there is a capital investment associated with it.

The plan to expand geographically in the future is an excellent one. San Diego has increasingly attracted industrial firms whose needs Brithinee might serve, but the case writer shares Don Brithinee's concern that first the work force would have to become more independent of Don and Wally's direct involvement. Yet besides Don and Wally, the case writer identified no one individual who commanded unanimous respect throughout the organization. Don and Wally should be looking toward the future and grooming their own successors. If they fail to do so, then Brithinee Electric will eventually have to be sold.

6. What has Brithinee Electric prepared separate income statements for the sales and repair departments?

Departmental allocation is useful for purposes of performance evaluation, but this process does not usually lead to a net income amount since only top management can be held responsible for the whole income statement. Aside from Wally and Don Brithinee, the only person with management authority appears to be the production manager/shop foreman, Rod Samples (and students might question how much actual authority he has). Performance evaluation must be based on financial results that are within the control of the manager being evaluated. Although the repair department income statement contains some items that may be within Rod's control, (for example, cost of overtime pay, quality and cost of materials and parts), he certainly cannot be held responsible for such items as his bosses' salaries. Allocation of costs for the purpose of performance evaluation would be different from allocation for economic decision making. The income statements as presented in this case would not be appropriate for performance evaluation.

Another use for departmental allocation is to aid economic decision making. The case refers to the fact that revenue from repairs has been constant while revenue from sales has increased from year to year. The reported loss in the repair department might indicate that management should consider eliminating that department. In order to decide whether to discontinue the repair department, management needs to know what costs would be avoided as a result of that action and what costs would have to be absorbed by the sales department. The income statements as presented give no indication of which costs are avoidable and which are unavoidable.

However, the repair operation is apparently maintained as a feeder for the sales operations; satisfied repair customers return to buy new motors. The loss in the repair department may be acceptable if that department creates increased revenue in the sales department. Management needs to accurately determine the cost of maintaining the repair department and estimate the department's effect on sales revenue.

An assessment of the value of the repair department to the sales department requires a fair allocation of costs between the two departments. Brithinee has allocated most of its operation expenses by dividing them evenly between the two departments. Equal allocation is appropriate only when the expense involved is immaterial or when the two departments are similar in some significant respect.

Departmental income statements can be helpful in making decisions about the pricing of products and services. The repair department income statement suggests that repair services are not priced high enough to cover the costs of that department.

7. How could Brithinee change its allocation to provide better information for management to use?

Regardless of the intended purpose of the departmental income statements, costs should be allocated between the departments on some rational basis related to the benefits received by the departments.

There seems to be a major allocation problem in the area of payroll. Cost of the repair department labor is appropriately found in the "Cost of Repairs" section. But students should ask what basis is used for the allocation of the sales, officer, and clerical salaries. This provides an opportunity to discuss reasonable bases for allocation. The salary allocations are not based on revenue, gross profit, or net profit. A possible basis for allocation is percentage of time devoted to each department. The case does not provide enough information to determine if this method has been used. Whatever conclusion the students reach with regard to proper allocation of salaries, they should recognize that the payroll taxes should be allocated similarly, as should profit sharing.

Students should question the equal allocation of depreciation (most of which is probably related to the repair department, and readily attributable, based on the nature of the equipment being depreciated), rent (the financial statements reveal that the building is rented, and since the floor plan indicated that most space is used by the shop, an equal division is probably not appropriate), and insurance (it is likely that most of it applies to the repair department).

The shop very likely consumes a disproportionate amount of utilities, and a cost/benefit argument could be made for allocating the whole cost of utilities to the repair department, as Brithinee has done, because the increased accuracy afforded by allocation might not justify the cost of determining the amounts to be attributed to each department.

The materiality of the cost and benefit to be derived from accurate allocation should determine the extent to which costs should be allocated equally or on some other reasonable basis. It is not necessary to allocate all costs in an income statement. Often departmental income statements show allocation of the costs that can be readily divided, whereas unallocated costs are subtracted only in a separate "total" column.

MAJOR ISSUES OF THE CASE

Brithinee Electric is facing numerous problems that need to be dealt with immediately. A lot of the problems stem from the two principal owners, Don and Wally Brithinee, the founder's sons, and their lack of good financial, operational, and personnel management skills. A general synopsis of the problems encountered in reading the case appears below.

1. Brithinee Electric is facing a shrinking electric motor repair industry. The company had focused primarily on the repair and remanufacturing of large electrical engines; the users, however, have turned to smaller engines. This shift presents a problem to Brithinee Electric because of the eventual loss of customers. The firm has seen many of its competitors go out of business for this very reason.
2. One of Brithinee Electric employees has developed carpal tunnel syndrome, nerve damage in the hands and wrists due to stress and overuse.
3. The organizational culture of Brithinee Electric suffers from growing resentment between the office and shop personnel.
4. When interviewed, most of the shop employees expressed a need for job rotation in the shop. This is the main reason for their growing discontent.
5. The management of Brithinee Electric has no planned succession for itself at this time. This situation, along with the lack of a mission statement, means that the company may be weak at contingency planning and should formulate a contingency plan.
6. The firm needs to improve its financial management. It lacks good cash management and policy.
7. The office structure is so decentralized that everybody in the office is doing everything, which leads to duplication. Office personnel take care of selling, purchasing, and customer service, but they do not seem to be doing a very effective job.
8. Brithinee Electric carries one of the largest inventories of motor equipment in Southern California. It also carries inventory for friendly customers on contract. This form of inventory control is costly. It does guarantee help to the customer in the "midnight jam" but also ties up money and incurs large carrying costs.

9. The company fails to hire qualified people to fill vacancies arising from termination or growth. It chooses to train on the job rather than hiring people previously qualified for the open position.
10. Quality circle discussions were discontinued because the sessions always seemed to end up as gripe sessions. Most employees, however, considered these discussions beneficial.
11. Brithinee's management of hazardous waste has been good in the past. The company is interested in reducing the amount of water needed for its operation. This would mean that it would become a "hazardous waste treatment" facility and consequently would have to comply with an entirely new set of regulations and reviews.

ANALYSIS

1. *Problem:* Shrinking industry
Cause: Movement of customers away from large generators to "smart" computer-controlled engines.
2. *Problem:* Employee health--carpal tunnel syndrome
Cause: Lack of employee education about the causes of carpal tunnel syndrome, along with a lack of job rotation, magnifies this problem. The illness is caused by stress and overuse of the hands and wrists. If the employees had been rotated throughout the shop area, one person would not have had to continually perform the same tasks over and over again, and the problem could have been avoided.
3. *Problem:* Organizational culture--poor morale
Cause: Lack of communications between the shop and office employees has created a rift between the two groups. The shop personnel feel that the office group look upon them as being inferior. The office help has a much better attitude toward the company and its fellow employees and sees itself as more a part of the organization. It seems to be more informed about the company, its customers, and its policies.
4. *Problem:* Lack of job rotation--shop personnel
Cause: The shop assignment officer, Rod Samples, enjoys being in charge of all job shop assignments of employees. He does his job well but does not

allow the shop workers any freedom to interpret creative ideas or to offer advice on improving operation. Management has let things go too far with Rod. It needs to half his run of the shop area and stress the importance of job rotation. Management does not agree with his practices yet has not stopped them.

5. **Problem:** Decentralized office management
Cause: Too many people are doing too many different jobs. Without separate sales and purchasing departments, effort can be duplicated, putting Brithinee Electric in a bind with customers by committing the same parts to different customers. There is no separation of duties, and an unscrupulous person could abuse the system. Management is spending too much of its time dealing with sales and purchasing. There should be a separation of duties: one person would be in charge of placing orders and one person in charge of the sales effort.
6. **Problem:** Inventory control
Cause: Brithinee Electric is carrying an inventory load that is too diversified. Too many people have access to the inventory system. There should be a delineated sales force to allow specialization and thus reduce the threat of double commitment to a product or part of a salesperson or stockout. If Brithinee Electric reduced its large diversified inventory, it would also reduce the large carrying cost associated with it.
7. **Problem:** Qualified personnel
Cause: Brithinee Electric needs to implement a program through which it could hire competent people who would contribute or add growth to the company rather than merely "fit in"
8. **Problem:** Cancellation of quality circle meetings
Cause: Quality circle meetings were canceled because they, too, turned into gripe sessions. Part of the cause for this was Rod Samples, the shop manager. Employees viewed the meetings as beneficial but disliked the griping.

ALTERNATIVES

1. Implementing a job-training program on-site and instituting job rotation in the shop area

By training each of the shop employees in the various skills necessary for the production of engines, Brithinee Electric would utilize its work force better and lessen the change of on-site injury. It would also enhance workers' skills and responsibility, thus increasing job enrichment and improving morale. The shop employees would like to see such a program implemented, for it would give them a strong sense of continually contributing to the organization's output. Then they might look upon the company like the office help does--as a family, all working together to better serve their customers.

Obviously, a lower risk of on-site injuries would make the employees happier. Brithinee currently has one injured employee whose injury is due exclusively to the lack of job rotation. Had the employee spent less time using his hands in such a repetitive motion, the injury might have been avoided.

For management, job rotation in the shop would lessen the dependence on any one employee. If all the employees were cross-trained, each could fill the void resulting from a dismissal or from absenteeism. Job rotation would also reduce the risk of lawsuits related to injury.

The disadvantages of such a program are time and cost. At the beginning manufacturing might be slowed. Furthermore, when no employee is an expert in any field, mistakes are likely. It would take a considerable amount of time to train each employee to be task proficient in all areas.

However, the advantages outweigh the disadvantages. Job training, with a view to job rotation, is a necessary expenditure and vital to the continued success of Brithinee Electric.

2. Changing the inventory system to a just-in-time system

Brithinee Electric's customers would be better served by such a system because Brithinee would be bound by contract to supply the agreed-upon parts. On the other hand, customers would be bound to buy a predetermined volume at a predetermined price. This would add predictability to both purchasing and the collection of accounts receivable.

Such an arrangement would not only eliminate costly, obsolete inventories, but also allow bulk-rate purchasing for some items, if Brithinee Electric could obtain an agreement of this sort from its vendors.

This system would also allow for practical elimination of the re-invoice/reshipment practice currently being used when parts are not available for customers. It would bypass such use by the customers in most cases and force them to deal with Brithinee instead of the manufacturer. Consequently the customer would be better served and Brithinee would increase its sales.

The drawbacks include the increased burden of inventory control. It may require expansion of the current system to facilitate carrying additional parts. It will also increase staff requirements by needing a specialist in the area of inventory control and the legal environmental knowledge to predict changes in needs for certain parts. It will require more communication between planning, sales, and production. This system requires extensive revamping of Brithinee's current sales and purchasing practice.

Management would be forced to evaluate the company's place in the industry and the direction in which it should move. Should it be proactive or reactive? Such a program would allow management to set guidelines for its customers on how long it chooses to carry a particular item and force it to either keep up with the changes or remain in an archaic stance with regard to technological advances.

3. Hiring qualified people to fill vacancies in the company

The practice of hiring unskilled personnel and training them on site will usually work for a manufacturing type of job. However, the training takes time. Thus, hiring skilled workers can be to management's advantage for it can prove less costly. Brithinee's management must consider whether it wants to enhance the company by bringing in skilled workers with new ideas or foster conformity and complacency.

4. Getting into "smart" machinery/integrated circuitry and control specialists

This alternative supports management's current conceptual mission to "provide first-class service in the distribution of electrical motor controls and electronic control devices." Since the industry is leaning toward heavier usage of computer controls, Brithinee must hire technical specialists to keep it up-to-date with the changing market conditions and to provide its clients with the latest technology and superior service.

The costs of such actions will be high, but Brithinee cannot afford to be left behind when the market for such "smart" machines is rapidly growing and the machines Brithinee now provides are quickly becoming obsolete.

The time and organizational resources are of intermediate measure. Though quite involved, the planning and organizing would not be long term. Time would be needed

to decide an act, to take out the old machinery and install the new, and to solicit and select technical specialists.

Considering the dynamics of the industry, the probability of success is higher if Brithinee acts than if it does not act.

5. Crystallizing the mission statement and initiating contingency planning

Although Brithinee never stated its mission in concrete terms and never evaluated or adopted it, Don Brithinee's statement of it in the case is a good foundation to build on. He mentioned both highest-quality service to industrial clients and quality materials for motors and associated apparatus. The Brithinee brothers first need to write the statement on paper so that they can see what they are striving for. Then they would consider broadening the statement to include the dynamics of their industry's macro- and task environments and take their neighbors into consideration. Finally, they need to state their goals and objectives, both long and short term.

These tasks could be accomplished in a relatively short period of time--except contingency planning, which would require a lot of investigating, observing, researching, and environmental scanning. The organizational resources needed would be those associated with the planning effort, plus management decision-making skills.

The costs would be almost nothing in terms of marginal costs, but costs could arise from enacting, or not enacting, some of the contingency plans.

Management should view such planning as equitable and responsible behavior toward clients and beneficial to the company.

The probability of Brithinee's success is greater if it implements these actions than if it does not.

6. Future actions involving environmental hazards and worker safety

Brithinee's main action in regard to safety and hazardous waste should be contingency planning. With the active environment influencing behavior in California and Brithinee's decision to become a waste treatment facility, the company must develop an adequate waste disposal system and a schedule for reducing and minimizing the waste. It must also continue its earthquake preparedness procedures. In addition, it needs to educate its workers to guard against carpal tunnel syndrome and continue monitoring safety on the shop floor.

This alternative meets management's objectives, especially those necessary for long-term survival. Management needs to rewrite short- and long-term goals to specify the number of waste treatment projects that the company will initiate and to establish a time frame for them.

Management will need to take the time to determine to what extent each of these options is to be carried out. It will also need to devote personnel to investigate methods of waste treatment and the other concerns mentioned and allot time for evaluating and deciding.

Although implementation could be quite costly, it is essential. Brithinee could not survive being caught in a tidal wave of environmental legislation. If the company acts now, it can spread the costs over a period of time.

These prospective actions conform to the firm's views of equitable and responsible behavior; they would also make it a "good neighbor." The probability of success for these actions is almost guaranteed. If Brithinee undertakes the effort now (an aggressive reactive decision), they would possibly be barricaded against future changes in the environmental laws.

7. Changing the pay structure

Brithinee should re-evaluate its payroll structure. All employees in jobs above manual production should be on salary instead of on an hourly wage. This option meets management's objectives for pay equity to all employees. Pay will now match the type of work done by Brithinee employees. Production workers concentrate on specialized jobs without much day-to-day routine work. This type of work is most efficiently costed on an hourly basis, which is easily broken down to payment per hour per employee according to each employee's skills and tenure. All other positions at Brithinee maintain fairly day-to-day routines. Therefore, salaries matching the productivity of these routines should be implemented. This will also create "budgets" for office personnel, sales, and production manager. More efficiency will be achieved through capital budgeting, thus allowing a more accurate forecast, since the system would be more structured.

The cost of implementing a change in salary structure might be dissatisfaction among employees. To counteract this dissatisfaction, an employee stock option plan (ESOP) could be created to provide the incentive to do a good job.

This alternative would give Brithinee more control over financing, future budgets, and lasting well-being, while staying within management's objective of pay equity.

8. Improving financial management techniques

Brithinee management has stated that the company is conservative when it comes to finance. However, although Don Brithinee keeps a close watch on the finances, he does not understand some portions of everyday operations. The company can improve this aspect of operation by instituting a few minor changes. At present, it replaces two or three vehicles each year and pays cash for them. But instead of purchasing the trucks outright, it could use a leasing plan. This would free up some working capital, which could be used more efficiently somewhere else in the organization. Another change might be to invest the firm's idle cash, which always seems to collect in its non-interest-bearing checking account. The company needs to manage its cash better which means that it should compute a cash budget on a daily and monthly basis. If the cash budget is done correctly, Brithinee could invest the idle funds in a money market mutual fund or make a similar low-risk liquid investment and still be able to meet its cash needs.

CHOICES AND IMPLEMENTATION

1. Replace Rod Samples by hiring a qualified production/inventory control manager

The production/inventory control manager who would replace Rod Samples must focus on improving management of the operations. He or she will be involved in the study and eventual decision on implementing a just-in-time inventory system. Consequently, this new manager must be an expert in a just-in-time inventory system and be able to lead a project to investigate the capabilities and restrictions associated with such a system.

2. Implement a just-in-time inventory system

The manager would undertake this task with the owners and proceed along the following lines:

- Perform a market study.
 - Determine the customer base, the frequency of orders, volumes, and the unit price.
 - Interpret results to determine if a just-in-time system should be established.
- Establish lead time guides.
- Specify contract requirements.
 - Customer's part of contract agreement: frequency of orders, volume, price, and location.

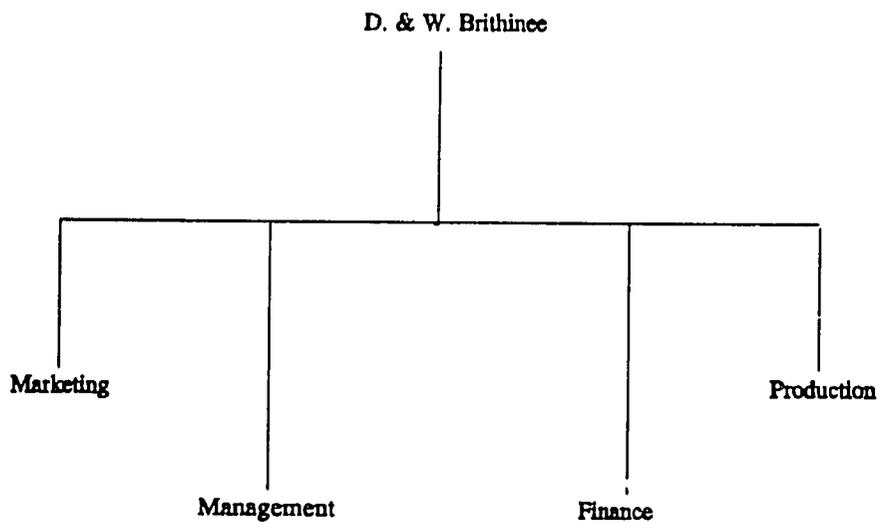
Brithinee's part of contract agreement: location, price, volume, and frequency of orders (that is the same list as for the customer, but in reverse order); and

- Contract with Brithinee and its suppliers to guarantee profits.
- Accountability or control for inventory.

The new manager will need to enact the job rotation goal, which should then improve morale. The manager will also assume all production responsibilities and introduce methods to improve worker efficiency.

3. Outline job descriptions for each employee

Top management will separate job duties by area of operations: management, marketing, finance, and production. This is important for continued expansion and growth and is essential in order to avoid duplication of effort. A suggested hierarchy could be set up according to this model.



- Marketing:** . sales and advertising; promotion
Management: purchasing; employee benefits
Finance: accounts receivable; cash management/investments; and payroll
Production: inventory control; service department

4. Restructure methods of compensation

Management should consult a respected firm that is well-versed in employee compensation programs in order to find out if the proposed alternative is a feasible and legal means of compensation. Then the pay structure described in the alternatives should be instituted using the following:

- Pay all laborers in operations on an hourly basis, with pay incentives for meeting certain preset objectives, such as production quotas, spoilage, and so on.
- Place salespersons in a commission/salary structure.
- Put all office personnel on a base salary, plus bonus.

5. Improve financial management

Management should consult a financial professional with strategy for better cash management in this area to help map out a strategy for better cash management techniques. Don or Wally Brithinee should make sure that they understand the concepts and principles involved in making financial cash budgets. They might have to hire a financial officer to improve the company's finances.

The consultant should conduct a lease/buy analysis for the purchase of new vehicles and set up an investment fund for excess cash. This fund should have low risk and high liquidity.

Management should then implement the changes and keep monitoring their effects.

6. Upgrade contingency planning

At present, there is no contingency plan if something were to happen to Don and Wally Brithinee. Consequently, a plan for eventual succession needs to be formulated. A plan is also needed to address the problem of hazardous wastes and the safety of the firm's employees.

7. Implement job rotation

The current employee responsible for each individual task would be responsible for training the other employees in that task. This employee would outline the

Teaching Note for Instructors
for HO 9-2 (continued)

responsibilities and teach the others on either an individual or group basis. To implement this may require overtime on off days.

Each employee would be required to spend time working at each stage of production. For instance, each could spend thirty days at a station before rotating to the next. This process would continue and eventually each employee would become proficient in the different areas.

Management would need to evaluate the plan and set a minimum time for it. After than time, it should evaluate the results to see if continuation of the program is justified--that is, if worker productivity has increased to decreased. Then management must make a decision, whether to institute rotation permanently.

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