Strategic Organizational Issues in Fire and EMS

SOIFEMS-Student Manual

4th Edition, 6th Printing-January 2014

FEMA

FEMA/USFA/NFA
SOIFEMS-SM
January 2014
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U.S. DEPARTMENT OF HOMELAND SECURITY

UNITED STATES FIRE ADMINISTRATION

NATIONAL FIRE ACADEMY

FOREWORD

The U.S. Fire Administration (USFA), an important component of the Department of Homeland Security (DHS), serves the leadership of this Nation as the DHS's fire protection and emergency response expert. The USFA is located at the National Emergency Training Center (NETC) in Emmitsburg, Maryland, and includes the National Fire Academy (NFA), National Fire Data Center (NFDC), and the National Fire Programs (NFP). The USFA also provides oversight and management of the Noble Training Center in Anniston, Alabama. The mission of the USFA is to save lives and reduce economic losses due to fire and related emergencies through training, research, data collection and analysis, public education, and coordination with other Federal agencies and fire protection and emergency service personnel.

The USFA's National Fire Academy offers a diverse course delivery system, combining resident courses, off-campus deliveries in cooperation with State training organizations, weekend instruction, and online courses. The USFA maintains a blended learning approach to its course selections and course development. Resident courses are delivered at both the Emmitsburg campus and the Noble facility. Off-campus courses are delivered in cooperation with State and local fire training organizations to ensure this Nation's firefighters are prepared for the hazards they face.

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Firefighter Code of Ethics

Background

The Fire Service is a noble calling, one which is founded on mutual respect and trust between firefighters and the citizens they serve. To ensure the continuing integrity of the Fire Service, the highest standards of ethical conduct must be maintained at all times.

Developed in response to the publication of the Fire Service Reputation Management White Paper, the purpose of this National Firefighter Code of Ethics is to establish criteria that encourages fire service personnel to promote a culture of ethical integrity and high standards of professionalism in our field. The broad scope of this recommended Code of Ethics is intended to mitigate and negate situations that may result in embarrassment and waning of public support for what has historically been a highly respected profession.

Ethics comes from the Greek word ethos, meaning character. Character is not necessarily defined by how a person behaves when conditions are optimal and life is good. It is easy to take the high road when the path is paved and obstacles are few or non-existent. Character is also defined by decisions made under pressure, when no one is looking, when the road contains land mines, and the way is obscured. As members of the Fire Service, we share a responsibility to project an ethical character of professionalism, integrity, compassion, loyalty and honesty in all that we do, all of the time.

We need to accept this ethics challenge and be truly willing to maintain a culture that is consistent with the expectations outlined in this document. By doing so, we can create a legacy that validates and sustains the distinguished Fire Service institution, and at the same time ensure that we leave the Fire Service in better condition than when we arrived.

FIREFIGHTER CODE OF ETHICS

I understand that I have the responsibility to conduct myself in a manner that reflects proper ethical behavior and integrity. In so doing, I will help foster a continuing positive public perception of the fire service. Therefore, I pledge the following…

- Always conduct myself, on and off duty, in a manner that reflects positively on myself, my department and the fire service in general.
- Accept responsibility for my actions and for the consequences of my actions.
- Support the concept of fairness and the value of diverse thoughts and opinions.
- Avoid situations that would adversely affect the credibility or public perception of the fire service profession.
- Be truthful and honest at all times and report instances of cheating or other dishonest acts that compromise the integrity of the fire service.
- Conduct my personal affairs in a manner that does not improperly influence the performance of my duties, or bring discredit to my organization.
- Be respectful and conscious of each member's safety and welfare.
- Recognize that I serve in a position of public trust that requires stewardship in the honest and efficient use of publicly owned resources, including uniforms, facilities, vehicles and equipment and that these are protected from misuse and theft.
- Exercise professionalism, competence, respect and loyalty in the performance of my duties and use information, confidential or otherwise, gained by virtue of my position, only to benefit those I am entrusted to serve.
- Avoid financial investments, outside employment, outside business interests or activities that conflict with or are enhanced by my official position or have the potential to create the perception of impropriety.
- Never propose or accept personal rewards, special privileges, benefits, advancement, honors or gifts that may create a conflict of interest, or the appearance thereof.
- Never engage in activities involving alcohol or other substance use or abuse that can impair my mental state or the performance of my duties and compromise safety.
- Never discriminate on the basis of race, religion, color, creed, age, marital status, national origin, ancestry, gender, sexual preference, medical condition or handicap.
- Never harass, intimidate or threaten fellow members of the service or the public and stop or report the actions of other firefighters who engage in such behaviors.
- Responsibly use social networking, electronic communications, or other media technology opportunities in a manner that does not discredit, dishonor or embarrass my organization, the fire service and the public. I also understand that failure to resolve or report inappropriate use of this media equates to condoning this behavior.

Developed by the National Society of Executive Fire Officers

A Student Guide to End-of-course Evaluations

Say What You Mean ...

Ten Things You Can Do to Improve the National Fire Academy

The National Fire Academy takes its course evaluations very seriously. Your comments and suggestions enable us to improve your learning experience.

Unfortunately, we often get end-of-course comments like these that are vague and, therefore, not actionable. We know you are trying to keep your answers short, but the more specific you can be, the better we can respond.

Actual quotes from student evaluations:	Examples of specific, actionable comments that would help us improve the course:
1 "Update the materials."	• The (ABC) fire video is out-of-date because of the dangerous tactics it demonstrates. The available (XYZ) video shows current practices. • The student manual references building codes that are 12 years old.
2 "We want an advanced class in (fill in the blank)."	• We would like a class that enables us to calculate energy transfer rates resulting from exposure fires. • We would like a class that provides one-on-one workplace harassment counseling practice exercises.
3 "More activities."	• An activity where students can physically measure the area of sprinkler coverage would improve understanding of the concept. • Not all students were able to fill all ICS positions in the exercises. Add more exercises so all students can participate.
4 "A longer course."	• The class should be increased by one hour per day to enable all students to participate in exercises. • The class should be increased by two days so that all group presentations can be peer evaluated and have written abstracts.
5 "Readable plans."	• The plans should be enlarged to 11 by 17 and provided with an accurate scale. • My plan set was blurry, which caused the dotted lines to be interpreted as solid lines.
6 "Better student guide organization," "manual did not coincide with slides."	• The slide sequence in Unit 4 did not align with the content in the student manual from slides 4-16 through 4-21. • The instructor added slides in Unit 4 that were not in my student manual.
7 "Dry in spots."	• The instructor/activity should have used student group activities rather than lecture to explain Maslow's Hierarchy. • Create a pre-course reading on symbiotic personal relationships rather than trying to lecture on them in class.
8 "More visual aids."	• The text description of V-patterns did not provide three-dimensional views. More photographs or drawings would help me imagine the pattern. • There was a video clip on NBC News (date) that summarized the topic very well.
9 "Re-evaluate pre-course assignments."	• The pre-course assignments were not discussed or referenced in class. Either connect them to the course content or delete them. • The pre-course assignments on ICS could be reduced to a one-page job aid rather than a 25-page reading.
10 "A better understanding of NIMS."	• The instructor did not explain the connection between NIMS and ICS. • The student manual needs an illustrated guide to NIMS.

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APPENDIX
COURSE REFERENCE LIST

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COURSE REFERENCE LIST

All Web addresses in this reference list have to be typed into the address space on your Web browser or, if your are using the copy of the reference list found in the student transfer files directory, the Web addresses may be copied and pasted into the address space on your Web browser. Where you see spaces in the address, type an underscore, i.e., Notes/Organizational_Theory_and_Design.htm

General References

Boone, Louis E., and Donald D. Bowen. *The Great Writings in Management and Organization Behavior*. 2nd ed. Columbus: McGraw Hill/Irwin, 1987.

Burke, W. Warner. *Organization Development: A Process of Learning and Changing.* 2nd ed. New York: Prentice-Hall, 1993.

Deal, Terrence E., and Kennedy, Allen A. *Corporate Cultures: The Rites and Rituals of Corporate Life.* New York: Basic Books, 2000.

Gallos, Joan V. *Organization Development: A Jossey-Bass Reader.* San Francisco: Jossey-Bass, 2006.

Hoover, Kenneth R., and Todd Donovan. *The Elements of Social Scientific Thinking*. 9th ed. Florence, KY: Wadsworth Publishing, 2007.

Ivancevich, J., R. Komopaska, and M. Matteson. *Organizational Behavior and Management.* 8th ed. Columbus: McGraw Hill/Irwin, 2007.

Ott, J. Steven. *Classic Readings in Organizational Behavior.* 4th ed. Belmont, CA: Thomson Wadsworth, 2007.

Pierce, Jon L., and John W. Newstrom. *The Manager's Bookshelf.* 8th ed. New York: Prentice-Hall, 2007.

Shafritz, Jay M., and J. Steven Ott. *Classics of Organizational Theory.* 6th ed. Belmont, CA: Thomson Wadsworth, 2004.

Tompkins, Jonathan R. *Organization Theory and Public Management*. Belmont, CA: Thomson Wadsworth, 2005.

Zemke, R., C. Raines, and B. Filipczak. *Generations at Work.* New York: AMACOM, 2000.

Getting Started with Internet Searching

Because each student has different research requirements, it would be impossible to provide specific Web sites that would provide appropriate and useful information. Instead, broad topic keywords are provided to get the student started and a list of Web sites that provide more specific keywords and links follow.

Broad Topic Keywords

- Organizational Theory
- Organizational Theory and design
- Organization Theory
- Organizational culture
- Organizational behavior
- Management Theory
- Classical Organizational Theory
- Classics of Organizational Theory
- Postmodern Organizational Theory
- Contemporary Organizational Theory

Specific Web Sites

Organizational studies keywords and links throughout article:

http://en.wikipedia.org/wiki/Organizational_behavior

Organizational development keywords and links throughout article:

http://en.wikipedia.org/wiki/Organizational_development

The **Organizational Theory and Design** site has an excellent compilation of theories and keywords that can be searched.

http://www52.homepage.villanova.edu/maureen.sullivan/coursematerial/L&M_Notes/
Organizational_Theory_and_Design.htm

The Free Management Library site index has a list of major topic area links. Selecting any one of these links will provide a detailed list of subtopic links which can then be selected for further information.

http://www.managementhelp.org/index.html

Research and the Six-Month Project

U.S. Fire Administration Learning Resource Center. *Research for NETC Students*. 2008. Retrieved April 10, 2009, from: http://www.lrc.fema.gov/research.html

UCLA Library, College Library, How to Guides. *Research Paper Planner*. 2009. Retrieved from: http://www2.library.ucla.edu/libraries/college/11605_12197.cfm

Hacker, Diana. *Research and Documentation in the Electronic Age.* 4th ed. Boston: Bedford/St. Martin's, 2006.

Offers guidelines on posing research questions and planning a research project, gives general suggestions for finding and evaluating sources and includes American Psychological Association (APA) documentation guidelines.

UCLA Library, College Library, How to Guides. *How to Guide Index*. 2009. Retrieved from: http://www2.library.ucla.edu/libraries/college/11605.cfm

This index provides a number of other How to Guides that students will find useful as they develop and write their projects.

Publication Manual of the American Psychological Association. 5th ed. Washington, DC: American Psychological Association, 2001.

Douglas College. *APA Style Guide*. 2009. Retrieved from: http://www.douglas.bc.ca/library/apa.html

Rules and examples for citing print and electronic references according to the APA style.

The Owl at Purdue. *Avoiding Plagiarism: Is it Plagiarism Yet?* 2009. Retrieved April 6, 2009, from: http://owl.english.purdue.edu/owl/resource/589/02/

Simplified explanation of what plagiarism is and a brief list of what needs to be credited and documented.

Evaluating Information Sources

Harris, Robert. *Evaluating Internet Research Sources.* 2007. Retrieved April 10, 2009, from: http://virtualsalt.com/evalu8it.htm

Colorado State University Libraries. *How to Evaluate Books*. 2008. Retrieved from Colorado State University Libraries: http://lib.colostate.edu/howto/evalbk.html

Colorado State University Libraries. *How to Evaluate Journal Articles.* 2008. Retrieved from Colorado State University Libraries: http://lib.colostate.edu/howto/evaljrl2.html

Colorado State University Libraries. *How to Evaluate a Web Page*. 2008. Retrieved from Colorado State University Libraries: http://lib.colostate.edu/howto/evalweb.html

Organizational Theory and Behavior

Baron, Robert A., and Jerald Greenberg. *Behavior in Organizations: Understanding and Managing the Human Side of Work.* 9th ed. New York: Prentice-Hall, 2007.

Cummings, Thomas G., and Christopher G. Worley. *Organization Development & Change.* 9th ed. Cincinnati: South-Western College Publishing, 2008.

Daft, Richard L. *Organization Theory and Design.* 10th ed. Cincinnati: South-Western College Publishing, 2009.

Jones, Gareth R. *Organizational Theory, Design, and Change.* 4th ed. Upper Saddle River, NJ: Pearson Education, Inc., 2004.

Morgan, Gareth. *Creative Organization Theory.* Los Angeles: Sage Publications, 1989.

Robbins, Stephen P., and Tim Judge. *Essentials of Organizational Behavior.* 9th ed. New York: Prentice-Hall, 2007.

Leadership

Blanchard, K., P. Zigarmi, and D. Zigarmi. *Leadership and the One Minute Manager*. New York: Harper Collins Business, 2000.

Heifetz, Ronald A., and Marty Linsky. *Leadership on the Line: Staying Alive Through the Dangers of Leading*. Boston: Harvard Business School Press, 2002.

Heifetz, R., M. Linsky, and A. Grashow. *Practice of Adaptive Leadership: Tools and Tactics for Changing Your Organization and the World.* Boston: Harvard Business School Press, 2009.

Hersey, P., K. Blanchard, and D. Johnson. *Management of Organizational Behavior*. 9th ed. New York: Prentice-Hall, 2007.

Hughes, R., R. Ginnett, and G. Curphy. *Leadership: Enhancing the Lessons of Experience.* Columbus: McGraw Hill/Irwin, 2008.

Koehler, Jerry W., and Joseph M. Pankowski. *Transformational Leadership in Government.* Boca Rotan: CRC Press, 1996.

Kouzes, James M., and Barry Z. Posner. *The Leadership Challenge.* 4th ed. San Francisco: Jossey-Bass, 2006.

Northouse, Peter G. *Leadership: Theory and Practice*. 4th ed. Los Angeles: Sage Publications, 2006.

Shelton, K. *A New Paradigm of Leadership: Visions of Excellence for 21st Century Organizations.* Provo, UT: Executive Excellence Publishing, 2000.

Yukl, Gary. *Leadership in Organizations.* 7th ed. New York: Prentice-Hall, 2009.

Yukl, Gary A., and Richard Lepsinger. *Flexible Leadership: Creating Value by Multiple Challenges and Choices.* San Francisco: Jossey-Bass, 2004.

Decisionmaking

Hoy, Wayne Kotler, and C. John Tarter. *Administrators Solving the Problems of Practice*: *Decision-Making Concepts, Cases, and Consequences.* 3rd ed. Upper Saddle River, NJ: Pearson Education, Inc., 2007.

Janis, Irving l., and Leon Mann. *Decision Making: A Psychological Analysis of Conflict, Choice, and Commitment.* New York: Free Press, 1977.

Klein, Gary. *Sources of Power: How People Make Decisions.* Boston: MIT Press, 1999.

Okray, Randy, and Thomas Lubnau II. *Crew Resource Management for the Fire Service.* Saddle Brook: PennWell Publishing Company, 2004.

Management Principles

Daft, Richard L. *Management.* 9th ed. Cincinnati: South-Western College Publishing, 2009.

DuBrin, Andrew J. *Essentials of Management.* 8th ed. Cincinnati: South-Western College Publishing, 2008.

Hunger, J. David, and Thomas L. Wheelen. *Essentials of Strategic Management.* 2nd ed. New York: Prentice-Hall, 2006.

Rue, Leslie W., and Lloyd L. Byars. *Management: Skills and Application.* 13th ed. Columbus: McGraw Hill/Irwin, 2008.

Tosi, H., Rizzo, J., and S. Carroll. *Managing Organizational Behavior.* 4th ed. Wiley-Blackwell, 2000.

Whetten, David A., and Kim S. Cameron. *Developing Management Skills.* 7th ed. New York: Prentice-Hall, 2006.

Planning

Bryson, John M. *Strategic Planning for Public and Nonprofit Organizations: A Guide to Strengthening and Sustaining Organizational Achievement.* 3rd ed. San Francisco: Jossey-Bass, 2004.

Fogg, C. Davis. *Team-Based Strategic Planning: A Complete Guide to Structuring, Facilitating, and Implementing the Process.* New York: AMACOM, 1994.

Nolan, Timothy, Leonard Goodstein, and William J. Pfeiffer. *Applied Strategic Planning, An Introduction.* 2nd ed. San Francisco: Pfeiffer, 2008.

Nolan, Timothy, Leonard Goodstein, and J. William Pfeiffer. *Plan or Die: 10 Keys to Organizational Succers.* San Francisco: Pfeiffer, 1993.

Wallace, Mark. *Fire Department Strategic Planning: Creating Future Excellence.* 2nd ed. Saddle Brook: PennWell Publishing Company, 2006.

Mann Gulch

Maclean, John N. *Fire on the Mountain: The True Story of the South Canyon Fire.* New York: William Morrow & Co., 1999.

Putnam, Ted. *Findings From the Wildland Firefighters Human Factors Workshop*. U.S. Department of Agriculture, Forest Service, Fire and Aviation Management, 1996. Retrieved from: http://www.fireleadership.gov/toolbox/documents/human_factors.htm

Contains presentations and reports from:

1. Putnam, Ted. *The Collapse of Decisionmaking and Organizational Structure on Storm King Mountain.*

2. Weick, Karl E. *South Canyon Revisited: Lessons from High Reliability Organizations.*

Rothermel, Richard C. *Mann Gulch Fire: A Race that Couldn't Be Won*. U.S. Department of Agriculture, Forest Service, Intermountain Research Station, General Technical Report INT-GTR-299, 1993. Retrieved from: http://www.fs.fed.us/rm/pubs_int/int_gtr299

Staley, Michael F. "Creating a Command Culture Based on Trust: Lessons Learned at Mann Gulch." *Fire Engineering* 151 (5) (May 1998): *119-121.*

"Tragedy on Storm King Mountain." *Fire Engineering* 148 (1), (January 1995): 57-65, 158-163.

Useem, Michael. "Wagner Dodge Retreats in Mann Gulch." *The Leadership Moment.* New York: Random House, 1998: 43-64.

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UNIT 1: INTRODUCTION

COURSE GOAL

Upon completion of this course, students will understand the theoretical basis for organizational practices.

ENABLING OBJECTIVES

The students will:

1. *Review the course requirements.*
2. *Explain the purpose and requirements for the Project Proposal and Six-Month Project Report.*
3. *Explain the course goal.*

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GUIDELINES FOR CLASS PROJECT AND WRITING PROJECT PROPOSAL

Purpose

The purpose of the class project is to help you learn to apply the principles of organizational theory to actual work situations. It teaches you to make the linkage between the theoretical foundation of management thought and the harsh realities of taking management actions in the complex world of the fire service/emergency medical services (EMS). The project also functions as a useful gauge of how much you really have learned in the course, and it provides a reality check during the course for the instructors and students. If a student is not meeting the learning goals for the course, the periodic review of the project by the instructor provides individual feedback to the student, enriching the learning experience and ensuring that the student gets the most from this class.

Keys to Success

You will solve an actual problem in your organization using the knowledge, skills, and abilities developed from learning about organizational theory. There are two keys to achieving success:

1. Pick a problem over which you have the control to exercise change and the direct authority to take action.

2. Pick a problem that is small enough, simple enough, and reasonable enough that you have a high probability of solving it. However, the problem should not be trivial. Chose an important problem of reasonable scope and magnitude so that you can solve it without spending every waking moment over the next 6 months struggling with it.

If you heed these two principles, you will find that your project will be a powerful learning experience which will build knowledge and skills that can provide a life-long foundation for effective management.

Project Proposal Phase

The project consists of two phases. The first is the Project Proposal phase, in which **you must answer a series of questions assigned for homework every night.** These questions have two purposes. First, they will advance each stage of the problem-solving process, so that you will make substantial progress on solving the problem during the class. Second, the questions tie the theories, principles, and knowledge learned that day in class to the real world of applying that knowledge. It should reveal any problems in your understanding of what was covered that day in class. Hopefully, it will cement your understanding of the theories by giving you an opportunity to apply them. This also gives the instructors the opportunity to evaluate what you have learned.

It is imperative that you complete the required questions each night so that this learning process is structured. To help you, the questions are separated by day of the week on the following pages. Completely answer all questions under each day's list.

If you cannot answer some questions, seek assistance from the instructors, members of your project group, or other people in the class. Your instructors will be the best source of information and you are encouraged to demand much of them in assisting you to understand the material. However, the National Fire Academy (NFA) is committed to developing a team-oriented management approach, and you are encouraged to work actively with your classmates to pursue common learning goals.

On the first day, the class will be divided into work groups. These will be the project groups, and will function as the central support for members throughout the 2 weeks. There are seven mandatory meetings. The Project Proposal phase will culminate in a formal presentation to the project group on Thursday morning of the second week. Group members will provide a formal review of the project based upon what was presented, and will give specific feedback to the presenting student on the strengths and weaknesses of the project at this stage. This peer group review is the last critical step before you must implement the solution in your department or division.

Some students feel more comfortable when undertaking a project if they develop a plan to guide them in their work. If you feel this way, there are two Internet sites that have excellent outlines for developing such a plan:

U.S. Fire Administration Learning Resource Center. (2008). *Research for NETC Students.* Retrieved April 10, 2009, from http://www.lrc.fema.gov/research.html

UCLA Library, College Library, How to Guides. (2009). *Research Paper Planner.* Retrieved from http://www2.library.ucla.edu/libraries/college/11605_12197.cfm

There are other useful references in the Research and the Six-month Project of the Course Reference List that will help you as you work on your project.

The schedule for the project follows. All tasks listed here will be performed outside class hours.

PROJECT SCHEDULE

First Monday	Meet with your group to discuss the project and to list problems that could be selected for solution. Organize the group and your activities to take maximum advantage of the experience and talents of group members.
First Tuesday Questions 1 to 7	The group will review every member's problem statement and analysis and make suggestions for further development. Select the project problem and submit questions 1 to 7 to the instructor Wednesday morning for approval.
First Wednesday Questions 8 to 11	Meet with project group to discuss how to apply theory to the project. Share information on LRC resources that members of the group have found. The group will formally review every member's application of theory to his or her selected problem, define any issues which exist, and make suggestions for further development.
First Thursday Questions 12 to 18	The group will formally review every member's solution selection and the reasons for selecting it over the other alternatives. They will define any issues which exist, and make suggestions for further development. Turn in answers to questions 8 to 18 Friday morning to instructors for approval on the direction of work.
First Sunday Questions 19 to 23	Meet with project group to share instructor feedback on the project.
Second Monday Questions 24 to 27	The group will formally review every member's application of theory to the project questions. Continued Next Page

Second Tuesday Questions 28 and 29	Review any impact objectives developed, define any issues that exist, and make suggestions for further development. Set the ground rules for the presentations on Thursday. Develop an action plan.
Second Wednesday Questions 30 to 34	The group will review every member's use of quantitative analysis techniques for their project. Make suggestions for further development. Prepare presentation for next morning.

If you wish to change the problem you are working on after the instructor has approved it Wednesday morning, Week One, the instructor must approve the change and you must redo all the evening questions to bring your new project back to a current stage of development.

The project group is your lifeline to completing the project, and therefore the course, successfully. Follow the schedule precisely, give honest and clear feedback to each other in the group sessions, and be honest in asking for help or clarification from the group. Approach the instructors with the same open attitude about seeking help. Their job is to help you understand the material. This is extremely challenging material, and you are expected to encounter problems understanding it. There should be no embarrassment in failing to grasp concepts at this level because of the complexity and abstract nature of theory. Ask for help whenever you need it.

Project Presentations

You will make a formal presentation to your group on the last Thursday morning of the class. The presentation should be 15 to 20 minutes in length, followed by a maximum 10-minute feedback period. It may be as formal or informal as you wish to make it. You may use easel pads, slides, or other presentation aids. You may make copies of your answers or other notes at the Learning Resource Center (LRC) copier and distribute them to the group for your presentation. See your instructor for assistance in making slides or other presentation materials.

Your group will set the ground rules on such issues as what will be done with presentations that run past the time limit and whether there will be written feedback in the form of notes made during the presentation or evaluation forms completed by the group. These details should be decided no later than the second Tuesday night. The instructors will circulate among all the groups to observe, but with the number of groups they will be unable to spend much time in any one of them. Because of this, the groups are allowed a great deal of latitude in deciding on the policies and management of the presentation session. This session belongs to your group, and the quality of the experience will depend on the effort your group gives to make it a valuable opportunity for both the individual presenter and the group as a whole.

The presentation should focus on the solution to the problem and the specific theory that underpins it. Do not describe details and mechanics of what you are going to do, since they are not important. What is important are the principles and reasons that led you to identify this problem and to choose the solution you did. Make the link with the larger principles of theory. This ability to explain the application of theory to the specific situation is critical, and the group should ensure that the presenter clearly explains this. The group has the responsibility to clarify any problems it sees in the presentation, and to make suggestions about how to correct or address these deficiencies. This feedback is essential if all students are to have a strong base on which to build when they return home to write the final Six-Month Project Report.

QUESTIONS FOR PROJECT PROPOSAL

Tuesday Project Homework, First Week

Using what you have learned in class today, answer questions 1 to 7 tonight. Questions 1 and 2 relate to the selection and analysis of the problem which you have chosen and should be relatively clear in their expectations. Consult your SM about these issues.

Select a problem or issue facing your organization over which you personally can have some influence. Choose the problem carefully so that you can implement your proposed solution to test the theories you have chosen. Choose a problem which is small enough to manage reasonably within the scope of this course and this project.

1. Write a problem statement.

2. Analyze the problem to determine the symptomatic problems and the root problems that exist. List them by category, as indicated below, and provide supporting factual evidence and additional analysis so you will be able to apply an appropriate theory to solve the problem. In other words, ask yourself the questions: Why have I defined the problem this way? On what information am I basing my judgment?

   - Symptomatic problems and factual evidence?

   - Root problems and evidence?

3. Does the problem prevent the department from achieving its mission statement? If so how? If not, why should you spend the time and energy addressing this issue?

4. Does the solution contribute to the mission of the department? If so, how does it do this specifically?

5. Does either the structure of the organization or the cultural values of the department account for the problem or affect the nature of the solution or the way in which it must be implemented?

6. What department goal(s) are affected by this problem or issue?

7. Write a goal for this problem solution.

Wednesday Project Homework, First Week

Question 8 is the first example of what will be a continuous pattern of questions designed to help you make links between the theory you are learning and the practice of management. You must explain specifically which theories you employed in answering the questions. This is essential for satisfying the course requirements. While not every question expressly requires that you list a theorist and school of theory, many do.

When you use theory to make a decision, it is important to do two things:

1. Provide the name of the theorist or the name of the school of theory from which the specific theory is derived.

2. Provide a complete explanation of the key issues of the theory used, and the reasons why it is compatible with the situation to which it is applied.

You must demonstrate clearly your knowledge of theory and your ability to apply it to work problems based upon rational analysis and justification.

It must be present in those questions where appropriate, or the class project will not be considered acceptable.

Here are some specific examples of how you are expected to answer these questions. Since this is only the third day of the course, and you have not completed the entire introduction to theory, these examples will become clearer as you move through the course. Consider the unacceptable and acceptable examples below. Then, to the best of your ability, answer questions 8 thru 11 (SM p. 1-10) in as much detail as possible.

Examples of Unacceptable Demonstration of Theoretical Knowledge

Question: What types of leadership actions do you plan to take in implementing the solution you have proposed?

Answer 1: Hertzberg.

Why unacceptable?

Reason: Simply stating the name of the theorist ignores condition two: "Provide a complete explanation of the key issues of the theory used, and the reasons why it is compatible with the situation to which it is applied."

Answer 2: Human Relations School.

Why unacceptable?

Reason: Same reasons as in answer one.

Answer 3: The implementation of a career development program requires the participation of a large number of people in the organization to assure a high level of support. The fact that there is a high willingness in our department to serve on such committees, as well as and the high priority that firefighters/emergency medical technicians (EMTs) gave career development in the needs surveys completed by department members indicate that the culture is receptive to these principles. Volunteers will be assigned to three committees to make the initial set of recommendations for Phase One.

Why unacceptable?

Reason: The answer never gives the name of a theorist or the name of a school of theory (which would be participative management).

Example of Acceptable Demonstration of Theoretical Knowledge

Question: What types of motivational issues, if any, must be addressed to ensure the success of the solution?

Answer: The fact that average salaries in the department have gone up an average of 7.5 percent per year for the past 4 years, yet job dissatisfaction is at an all-time high on the latest consultant's survey appears to validate a basic premise of the Human Relations School, found in Hertzberg's motivation-hygiene theory. Consistent with that theory, the use of greater self-determination and control of working conditions should produce higher motivation. Therefore, I will use a new program (based on Participative Management) that allows individual engine companies to determine the mix of fire prevention activities to use in their districts, and will provide them total freedom to schedule those activities when they think they will be most effective. This should lead to a decrease in the total fire rate and fire losses, and should improve employee satisfaction when employee morale is surveyed with the same instrument next year.

If you cannot answer the following questions, first ask your study group to assist you in finding theories to apply to your problem and solution. If you cannot resolve this with their assistance, then meet with one or both of the instructors to help you find the theoretical underpinning for what you are trying to achieve. This class puts a premium on your ability to assess your progress honestly and in your willingness to seek help actively from everyone involved. You are expected to seize the initiative for addressing the issues in the class project during the 2 weeks you are at the NFA.

Your chances of mastering the material decline significantly once you are isolated back at home, without the support and contributions of your classmates and instructors. This research and evaluation of ideas must occur while you are here in class. Seek assistance before you turn in your assignments Friday morning. You know whether you understand these questions, and whether you need help. Do not wait to be told this Friday by the instructors.

8. Based on what you have learned so far, what theory might be useful in explaining the nature of the problem you have chosen? Name the specific theory and theorist you believe are relevant to explaining how the problem arose. What elements in your situation make this theory applicable to your problem?

9. Does this theory, or any other theory, assist you in determining the best solution to the problem? What elements in your situation make this theory applicable to your problem or solution?

10. Based upon research at the LRC, what sources did you use to find further information on the theory? Cite the full title of the book or article, including page numbers, as well as the author.

11. What did you learn from the additional readings that might be applicable to identifying the problem or selecting a solution?

Thursday Project Homework, First Week

12. What types of leadership actions do you plan to take in implementing the solution you have proposed?

13. On what theory is your choice of leadership actions based? Who is the major theorist and what writings (including the book or article title and page numbers) are most influential in this choice?

14. Why is this theory the best choice for the specific circumstances of this situation in your department?

15. What types of motivational problems, if any, must be addressed to ensure the success of the solution?

16. On what motivational theory is your course of action and philosophy based? Who is the major theorist and what writings (including the book or article title and page numbers) are most influential in this choice?

17. Why is this theory the best choice for the specific circumstances of your department?

18. Classify the decisionmaking process you used in this project.

Sunday Project Homework, End of First Week

19. What cultural conditions have you identified in your environmental scanning to this point?

20. What trends, influences, and events in your community, state, nation, or world have affected and will affect the problem and the solution?

21. What trends, influences, and events in the fire service/EMS (outside your department) have affected and will affect the problem and the solution?

22. Reflecting back on question 5 from Tuesday night's assignment, would you add anything to your observations on what trends, influences, and events in your department have affected and will affect the problem and the solution?

23. What assumptions about the future did you make while developing your solution?

Monday Project Homework, Second Week

24. Develop impact objectives that are related directly to the goal for your problem.

25. List all the alternative solutions you have considered to achieve the goal for your problem. Analyze the advantages and disadvantages of each (you will need this later for your project report--see the Guidelines for Writing the Six-Month Project Report).

26. Explain why you chose the alternative(s) you are recommending as the optimal solution to your problem. Be precise, detailed, and as factual as possible.

27. What theory supports your selection and why? If there is no theoretical foundation for your selection, what supports the solution you have selected?

Tuesday Project Homework, Second Week

28. Develop program objectives that support the impact objectives and the solution.

29. Write an action plan with steps to meet each of the program objectives.

Wednesday Project Homework, Second Week

30. What data will you collect to evaluate whether you have achieved your impact objectives and program objectives? Are they available at this time? If not, how will you collect this information?

31. Is any other system of control needed for you to manage and control the process?

32. What method of quantitative analysis have you used to define a problem? You probably compared the raw numbers only. Summarize your findings and interpret what the results mean. If you have not used quantitative analysis, can you justify why it is not relevant? (If you are refuting the relevance, be sure to address the specific issues raised in class today, both in this question and in question 33.)

33. Reflecting on what you have learned today, what quantitative analysis techniques will you now use in evaluating the nature or scope of the problem and the performance of your solution? If you do not plan to use quantitative analysis, can you justify why it is not relevant?

34. Are there state, regional, or national data which might support your analysis or justification of your problem, or support your solution?

GUIDELINES FOR WRITING THE SIX-MONTH PROJECT REPORT

The off-campus phase of the project consists of returning home and implementing the solution developed during class, then writing a formal report on the process. This report must be completed and returned to the NFA within **6 months of the date of graduation.** The instructors will review the project report, and if it meets the standards described in these Guidelines for Writing the Six-Month Project Report, the NFA will mail you the Certificate of Achievement for the course. If the report does not meet Academy standards, the instructors will return the report with specific suggestions about what must be done to bring it up to standard. You will have one chance to revise and return it by a specified date.

Students who fail to meet these deadlines and requirements will not receive a Certificate of Achievement for the course, or credit for it in NFA records.

The solution you implement does not need to be fully successful for your project report to be a success. If you learn something concrete from the failure, and can explain why it failed, what principles of organizational theory help to explain the failure, and what lessons you learned about theory in practice from the experience, the project report can be a success. The goal of the course is to build management skills that can be applied to a broad range of managerial problems and issues, not just the problem selected for the class project. If those skills and understanding are evident in the project report, that goal is achieved.

If the solution requires more than 6 months to evaluate the results fully, report on the state of results available at the time of the report, the design of the categories of evaluation data that are being collected, and how they will be used to determine the success or failure of the solution. You should begin work on implementing the solution and writing the paper immediately upon arriving home. Maintaining running notes throughout the implementation and evaluation process is necessary to complete the report.

Purpose of Guidelines

The NFA has established a format for the *Strategic Organizational Issues in Fire and EMS* (SOIFEMS) Six-Month Project Report to ensure consistency and fairness to all students. These guidelines provide a single set of criteria for students' requirements for the report and standards for instructors to evaluate the report.

Part of the report (especially the problem statement, background, and solution) was developed during the SOIFEMS class in the Project Proposal. This Six-Month Project Report will include a rewrite of that information and will discuss implementation of the solution results, and lessons learned.

Style Standards

The project report must be a minimum of 10 to 12 double-spaced pages. More than 12 pages are acceptable if the information provides substance to the report. Points will be taken off for additional pages of irrelevant materials. The report must be typed, double-spaced, with margins of approximately 2 inches on the left, and 1 inch on the other three sides. It must have a title page with the student's name and address, the label *Strategic Organizational Issues Project Report,* and the dates during which the SOIFEMS class was taken.

The report should be anchored with a single staple in the upper left corner or bound in a professional manner. All pages should be numbered in the lower right corner.

Project Deadlines

Mail the report to your assigned instructor within **6 months** of the last day of class. All reports will be graded at this time; reports sent earlier will be held until the deadline. Normally reports will be graded and returned within 45 to 60 days from the submission deadline. Send your instructor a self-addressed stamped envelope for return of your graded paper.

Students may apply directly to Dr. Burton A. Clark, Management Science Program Chair, National Fire Academy, 16825 South Seton Avenue, Emmitsburg, MD 21727, for 30-day extensions, which are reserved for genuine personal or department emergencies. Students must supply official documentation of family deaths, illnesses, or work-related emergencies which prevented them from meeting the report deadline. Such extensions are a sincere gesture of compassion for circumstances beyond the control of the student.

Student Failure

A student who fails an NFA on-campus course and applies for any subsequent course, including the one the student has failed, will be accepted only on a space-available basis (after all applicants have been placed and there is no waiting list). Attendance will be at no cost to the government, i.e., stipend will not be provided. Dormitory accommodations will be provided at the student's expense. This restriction will apply until the individual successfully completes an NFA on-campus course.

Conformation to Standards

The format must be followed exactly as set forth to ensure fair and equitable evaluation of each student's efforts. Evaluators will address the problems of content and quality of writing in specific comments, and students will have one opportunity to revise the project report and resubmit it for evaluation. Failure to adhere to the designated format will result in failure to complete the requirements of the course. Instructors will evaluate according to the format established here, and omissions and departures from this sequential format will result in loss of points in the evaluation. If sufficient points are lost because of this, the student will receive a failing grade for the project report and will not have completed the course successfully.

The Writing Process

The sequence of format headings roughly follows the timeline of selecting and implementing a solution to a department problem. **You are required to write each section of the report at the time that you actually do that part of the process.** It is important that you capture the detail, observations, and thoughts that occur at that point in the process. This means that you will write the Problem Statement and Background sections within the first week that you return home. You will write the Results and Lessons Learned sections at the time you prepare the final draft of the report for submission--nearly 6 months after you have written the first section.

For parts of the process which take an extended period of time, such as Implementation, take careful notes on the sequence of events, the data you collect or uncover, and factual observations on the process over that period. Such notes should capture your perceptions at the time, comments by others, research done on theory to explore issues which interest you, useful facts and information you uncover along the way, and your thoughts about the application of the theory to the process. This will provide you with valuable information for writing the final sections of the report.

Do not wait until the final week to try to reconstruct the entire process for the report. **Failure to write each section as you go along almost always will lead to an inferior product.** It is nearly impossible to reconstruct from memory the information for the initial sections because your perspective and attitudes are changed by going through the process itself.

Writing and Grammar

The NFA expects that all reports will contain clear and grammatically correct writing. Each report must contain complete sentences, correct spelling and punctuation, and correct use of words (such as noun-verb agreement).

Format

The report will be organized into the following sections:

I. PROBLEM STATEMENT
THEORY

II. BACKGROUND
THEORY

III. ALTERNATIVES

IV. SOLUTION
THEORY

V. IMPLEMENTATION
THEORY

VI. RESULTS

VII. LESSONS LEARNED (CONCLUSIONS)
THEORY

VIII. BIBLIOGRAPHY

Each of these sections should be titled with the heading for that section, printed in all capitals, and either underlined, boldfaced, or set in type that is two points larger than the body of the text, or a combination of any of the above, depending on the capacity of the typewriter or word processing package you are using. Skip at least one line between the title and first line of text in the section.

The title for each section should be exactly as shown in the list above, in the same order. Do not substitute your own titles for the section headings. You may use subtitles within the section to organize and present your findings, but they must be typed in a style clearly different from the other headings. The required format is illustrated below as the sections are explained in depth.

I. PROBLEM STATEMENT

This section should state the problem clearly, focusing on problem criteria which are factual and quantifiable wherever possible. Reliance on subjective opinions will lead to major problems in evaluating the success or failure of the proposed solution. Problem statements based on quantifiable criteria such as increased numbers of fires, low numbers of citizens knowledgeable about fire prevention principles, or poor performance on objective training standards are all examples of good objective problem criteria.

The problem should relate clearly to one or more impact objectives of the department, and its solution should contribute to accomplishing the mission statement of the department. Failure to relate the problem statement to these issues will trivialize the problem. If the problem does not relate to impact objectives, you should ask yourself if it deserves the time and effort required. That time and energy might be spent better solving problems directly related to accomplishing impact objectives and fulfilling the mission statement. The failure to discuss such issues as mission statement and impact objectives will jeopardize the evaluation seriously, even if the problem analysis is thorough and the problem statement is well written.

This section should contain a discussion of root problems and symptomatic problems as they relate to the problem selected.

Are you sure the problem you are addressing is a root problem?

What symptomatic problems indicate the existence of the root problem?

THEORY

Use this subhead in all caps, as shown here. Here you should discuss what theory or theories explain the cause of the problem or promote a solution. Be sure to identify the theory clearly by relating it to a particular theorist or school of theory studied in the course. Cite specific concrete observations about your local situation that demonstrate the theory or theories you have chosen are appropriate. If you cannot relate anything you have learned about organizational theory in this course to the problem you have chosen, state that explicitly in this section.

II. BACKGROUND

In this section, you should discuss all the historical and environmental factors that have caused the problem and will enhance or impede the chances for a solution. These may range from discussions of technical issues, economics, politics, and local fire hazard profiles to an analysis of the organizational culture and history of the department. This section should contain everything necessary for the reader of the report to understand the background that led to the problem, and that currently creates an environment that favors or blocks a solution.

It is important to exercise discipline by providing only background directly relevant to this problem and solution. Do not give long historical explanations about the general background of the community or department. Stick to the facts. Rambling here will cost evaluation points. Focus and relevance are the key words here, not just brevity. The background can be a page or less or it may run several pages if it contains important information that relates to the background of the problem.

THEORY

Use this subhead in all caps, as shown above. Here you should discuss what theory or theories explain the historical and environmental factors in the department or community that contributed to the problem. Be sure to identify the theory clearly by relating it to a particular theorist or school of theory studied in the course. It is critical to cite the specific concrete observations about your local situation that demonstrate that it is an example of the theory. If you cannot relate anything you have learned about organizational theory in this course to these issues, state that explicitly in this section.

III. ALTERNATIVES

Briefly list all the alternative solutions you evaluated before making your final choice. Summarize the key points of the alternatives, rather than including an exhaustive catalog of every aspect of them. You also should include a brief estimate of the cost (in terms of time, money, personnel, or other relevant resources) for each alternative. This will assist the evaluator in assessing the selection process you used.

IV. SOLUTION

State the solution you chose to implement in the department, and explain why it was superior to any of the other alternatives. Go into sufficient depth to justify the selection on the basis of factual evaluation about its potential effectiveness. List any selection criteria you used and discuss the tradeoffs in making the selection. Be sure to set at least one specific and realistic impact objective for this solution. This will serve as the standard against which the project will be evaluated after it is implemented.

Resist the temptation to revise your initial objectives and standards in the report to match the results that actually occurred. The report is a record of what you have learned from the process of applying theory to practice in solving a problem. **Whether this particular solution was successful is not relevant and will not be evaluated.** You will be evaluated on the process you used in developing solutions to the problem and on your ability to draw lessons from the experience. The documentation of important lessons learned from a failure will score far higher than the reporting of a huge success without discussion of what you learned from the experience.

The report is intended to document that you learned something from the course--a body of knowledge, a set of skills, an ability--that you can apply in the real world. It is your ability to explain **why** things happened in your project, and how those events and results relate to organizational theories, that proves your achievements in this course. That should be the focus of this section, and of the whole report, because that is how you will be graded.

Also in this section, set the program objectives that will help you attain the impact objective. This defines the activities that will help you achieve your forecasted results. Define the categories of data that you will collect to measure the success or failure of the proposed solution.

THEORY

Use this subhead in all caps, as shown above. Here you should discuss what theory or theories explain why the solution chosen has the best chance to succeed. Make any relevant comparisons to other alternatives showing how you used theory to evaluate and, ultimately, to reject them in favor of the solution chosen. Be sure to identify the theory clearly by relating it to a particular theorist or school of theory studied in the course. It is critical to cite the specific observations about your solution that demonstrate that it is an example of the theory. If you cannot relate anything you have learned about organizational theory in this course to these issues, state that explicitly in this section.

V. IMPLEMENTATION

In this section, summarize the process you used to implement the project. Be concise and to the point. Discuss only those problems that affected the assumptions you made going into the project, the forecasted results, or the process that you had selected. This is the record of the differences between the planning and the reality of the project. Focus only on the events and issues that affected what you have learned from attempting to solve the problems, and that will be of use to you in solving future problems.

THEORY

Use this subhead in all caps, as shown above. Here you should discuss what theory or theories explain problems or situations that arose during the implementation of your solution. Be sure to identify the theory clearly by relating it to a particular theorist or school of theory studied in the course. It is critical to cite the specific observations about your solution that demonstrate that it is an example of the theory. If no problems or complications arose during implementation that would relate to what you have learned about organizational theory, state that explicitly in this section.

VI. RESULTS

State the results your solution has achieved at the conclusion stated in your impact objective. If the 6-month report period ends before the period you have designated in your impact objective, report on the results to date. Interpret those results in terms of success or failure.

VII. LESSONS LEARNED

This section, and most especially the final subsection on theory, is the most important in the report. Here you should analyze what you have learned from the experience, not just from trying to solve the problem, but also how what you learned in the course affected your approach to solving problems in your organization. Examine the process you have just completed (or evaluated, if the program is still in progress) to determine whether the results meet the forecasts you had made in the impact objectives and program objectives. If the results differ, analyze how they differ and why that occurred.

Focus on the immediate lessons of the experiment, the analysis of the facts, and the implications that the results have for your department and for you personally.

THEORY

Use this subhead in all caps, as shown above. Here you should discuss what theory or theories explain the success or failure of your solution.

- Does your experience validate or invalidate the application of the theory on which you based your solution?
- Does it validate or invalidate the theory itself?
- Can you account for why the theory may not work in this situation?
- What factors (boundaries) may have been different, or what forces may have been at work in this case that affected the principles which normally would operate under the theory?
- What are the implications of this validation or invalidation of the theory in this application?
- How will it affect your perceptions and actions in the future?
- Have you learned anything about your organization or yourself through this process?
- Is theory more relevant to you now or not? Why?
- Does what you have learned in the course and the project have any implications for your personal life or the way you perceive the world?

These questions should be addressed in this subsection. Here is where you will demonstrate most clearly what you have learned from the *Strategic Organizational Issues in Fire and EMS* course and the project. Here is where you should spend the most time, effort, thought, and reflection. This is the most heavily weighted section of the report because it tells us how this course either has changed the way you see the process of managing an organization, or has not affected you.

VIII. BIBLIOGRAPHY

EVALUATION STANDARDS

The Six-Month Project Report will be evaluated on a scale of 0 to 4, similar to the traditional academic scale. The numbers are equivalent to the A to F scale. The standards are applied as follows:

Score of 4.0 or Grade of A

Such a score reflects an outstanding accomplishment in the project, either through a benefit to the organization or an important lesson learned from an ambitious solution that failed, as well as in the outstanding documentation of the experience. It requires that the problem be significant and the solution be innovative or challenging. In addition, the report itself provides an indepth analysis of how the student applied theory to the problem-solving process, how the results supported or refuted specific theory, and how the student can transfer the lessons learned from this experience to other work-related situations. This discussion of theory is analytical and insightful, as well as technically comprehensive. The report demonstrates clear, precise organization of ideas, grace and clarity of expression, and sound grammatical and mechanical structure.

Score 3.0 or Grade of B

Such a score reflects an excellent accomplishment of the project in the creativity of the solution, and clear demonstration of the student's ability to analyze the application of theory to this particular experience. It requires that the problem be important to the organization, even if only at the company level. It requires a solution that is interesting and informative, not a rehash of what always has been done in the past. The analysis of how the student applied theory in determining the solution, and what he or she learned in the implementation of theory, whether through success or failure, should be clear, precise, and complete. The report has almost no grammatical or mechanical errors, and is written in clear, well organized prose in a suitable managerial writing style. It reflects an achievement of excellence in the majority of the evaluation categories.

Score of 2.0 or Grade of C

Such a score reflects a substantial accomplishment of the course goals of applying theory to the practice of management. It requires a substantive problem, characteristic of those found in most organizational environments. The student discusses the theoretical basis for choosing a solution, and has drawn primary conclusions about whether the theory applied or did not apply in this situation. The student discusses how he or she would apply the lessons learned in the future. The writing is organized adequately, clear in expression, and relatively free of major grammatical and mechanical errors. It reflects a level of acceptable achievement in the majority of the evaluation categories.

Score of 1.0 or Grade of D

Such a score reflects an unacceptable level of accomplishment to complete the objectives of the course. The reasons could center on trivial problem or solution selection and execution, a poor discussion of the application of theory within this project, or a poorly written document, without organization or focus, or riddled with grammatical and mechanical errors. It reflects an unacceptable level of achievement in the majority of the evaluation categories.

Score of 0 or Grade of F

Such a score reflects an unacceptable level of accomplishment to complete the objectives of the course, with serious deficiencies in the project.

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POSTCOURSE PROJECT AGREEMENT SHEET
STRATEGIC ORGANIZATIONAL ISSUES IN FIRE AND EMS

Class of: ______________________________

Due Date: ______________________________

Dr. Burton A. Clark, Program Chair
Email: Burt.Clark@fema.dhs.gov
Telephone Number: 301-447-1069

Name of Student: ____________ Telephone (Work): ____________

Address: ____________ Telephone (Home): ____________

____________ Telephone (Cell): ____________

Telephone (Fax): ____________

Email Address: ____________

Project Title: ____________

____

Contract Instructor's Address (Send Project To):

____________ Telephone: ____________

____________ Fax: ____________

Email: ____________

Signatures of Project Agreement:

Student:	____________	Date:	____________
Lead Instructor:	____________	Date:	____________
Support Instructor:	____________	Date:	____________
NFA Course Manager:	____________	Date:	____________

	Grade 0-4	Weight	Score
Problem Statement		**1**	
Background		**1**	
Alternatives		**1**	
Solution		**1**	
Implementation		**1**	
Results		**1**	
Lessons Learned		**3**	
Grammar and Mechanics		**1**	
		10	
Average Score (Total divided by 10)			

Comments: ____

____

____

Evaluator's Signature: ______________________________ Date: ______________________

UNIT 2:
THE DEVELOPMENT OF ORGANIZATIONAL THEORY

TERMINAL OBJECTIVE

The students will be able to relate theory to practice.

ENABLING OBJECTIVES

The students will:

1. *Define the concept and purpose of "theory."*
2. *Link the terms used in theory with practical applications.*
3. *Describe why theory is needed and the impact of theory.*

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ORGANIZATIONS

An organization exists to do work related to its mission. It creates structure, indicating the way things are put together. An organization establishes formal lines of authority and responsibility and delineates lines of formal communication through an organizational chart. An organization also provides for accountability.

The elements of an organization:

- **Ethics:** There is currently a national focus on ethics--government officials, elected officials, corporate executives, savings and loan/banking, and the insurance industry. Acceptable behavior may differ from organization to organization.

- **Attitudes:** How do they affect the organization and the individual? Who is in charge of attitudes? This element addresses how we think about our jobs, ourselves, and our mission.

- **Perceptions:** How do we view the organization, its people, and its processes? Perception versus reality--why do we see things as we do? How many of our perceptions are reflective of our viewpoint?

- **Tradition:** The tendency to destroy the traditions of an organization when attempting to make a major change may not be prudent. A better way might be to use the best traditions to shape desired change.

- **Values:** family, spiritual, corporate, government (greed, power, caring).

- **Cultures:** ethnicity, gender.

- **Process:** how things are done.

- **Organizational culture:** An organization's culture is different from the cultures of the individuals in the organization. What is a typical fire department/emergency medical services (EMS) culture?

- **Product:** What do we produce?

- **Things:** stations, trucks, and equipment.

- **Places:** Where do we function? Neighborhood, community, city, State, etc.

- **People:** knowledge, skills, and abilities.

- **Purpose:** Why do we exist?

- **Norms:** acceptable behavior.

Tribes, clans, and settlements were the earliest organizations. People gathered in organizations to provide safety and security to each other. People wanted to gather with others of similar beliefs, such as the Catholic, Quaker, Mennonite, Amish, or Baptist religions.

One of the earliest types of formal organizations was the church. It developed written documents that governed behavior.

The military was another early formal organization. It developed values, such as loyalty and camaraderie and provided protection for the citizens.

Government, another early formal organization, established norms for peoples' behavior.

An organization's structure affects you, as an individual, in the following ways:

- depicts career path and advancement opportunities;
- depicts your place in the overall scheme;
- gives stability;
- indicates status and authority;
- provides purpose;
- embodies tradition--old and new;
- creates culture; and
- establishes norms of behavior through rules and regulations.

WHAT IS THEORY?

"A theory is a statement of relations among concepts within a set of boundary assumptions and constraints. It is no more than a linguistic device used to organize a complete empirical work."

- Samuel B. Bacharach

"In more detailed terms, a theory may be viewed as a system of constructs and variables in which the constructs are related to each other by propositions and the variables are related to each other by hypotheses."

- Samuel B. Bacharach

"A theory is a set of related propositions that suggest why events occur in the manner that they do."

- Kenneth R. Hoover

"A theory is a set of related propositions that attempts to explain, and sometimes to predict, a set of events."

- Kenneth R. Hoover

"The term "theory" connotes a degree of uncertainty about whether the understanding it offers is valid and correct. Theories, then, are tentative formulations."

- Kenneth R. Hoover

"Theory (is) any intellectual construct that enables someone to make sense of a situation or a problem."

- Michael M. Harmon and Richard T. Mayer

"A **practical** theory is one that either illuminates possibilities for action that would not otherwise be apparent **or** stimulates greater understanding of what the person has already been doing."

- Michael M. Harmon and Richard T. Mayer

Looking at the definitions presented here, you can begin to understand the vague concept of "theory." Let's begin by taking the definitions apart to see if we can begin to relate to what is being said. The most helpful key in the first definition is that theory is a "linguistic device." This means that there are certain words or ways of speaking unique to discussing and understanding theory.

This is true of any unique profession, including the fire service/EMS. Fire service/EMS terms are almost like secret words of a private club. If you are a member, you learn the words and get to use them correctly. Some examples:

- rig;
- Jaws of Life™;
- reverse lay;
- siamese;
- forward lay; and
- apron.

Thus, the first step in understanding theory is learning the language. If a definition is incomprehensible because of the terminology, relax. Then begin to investigate the terminology.

Variations of the term "relate" occur in many of the definitions presented above. Thus, theory somehow is involved in tying things together. Theory is obviously imprecise. Look at the words in the definitions--assumptions, constraints, suggest, uncertainty, tentative, illuminate, stimulate. Theory is not meant to be absolute and concrete; it is a guide rather than a road map.

Theory is made up of numerous subparts--propositions, variables, constructs, hypotheses, and boundaries. Thus, it is complex.

Coupling this reality with the fact that theory is imprecise, we begin to recognize that when we identify theory in practice, not **all** of the factors of the theory may be present, or that the theory does not explain **all** aspects of the situation. That does not mean the theory is useless, because it accounts for partial understanding and explanation.

The two main purposes of theory are to explain and to predict. Thus, organizational theory is a way of organizing tested and generalizable information that can aid a manager in understanding what goes on in his/her organization and helps predict what may occur in the future.

WHY IS THEORY NEEDED?

Kenneth Hoover presents four particular ways in which theory can be used.

1. Theory provides **patterns** for the interpretations of data.

2. Theory **links** one study with another.

3. Theories supply frameworks within which concepts and variables acquire **special significance**.

4. Theory allows us to interpret the **larger meaning** of our findings for others and ourselves.

(Hoover, Kenneth. *The Elements of Social Scientific Thinking*. 3rd ed. New York: St. Martin's Press. 1984.)

Each of these contributions of theory helps to organize information so that each of us can better understand what is happening. Once we have this deeper understanding, we are equipped better to respond appropriately.

Knowing why someone does something or why an organization is structured the way it is alleviates uncertainty and frustration, as well as offering parameters in which change may be made.

Theory provides a framework for analyzing problems in an organization. Theories about organizations are developed after numerous studies and critical evaluations. The information from this massive amount of work on the part of organizational theorists falls into self-identified categories that have been reinforced over the years. These categories form the framework within which organizations can be studied and understood.

These categories follow the different areas of an organization, operations of an organization, and/or administration of an organization. Analysis of any component of or activity in an organization falls within one of these previously identified areas. Thus, the information that already has been gathered and proven--the theory--provides a framework within which one can examine the organization or administration in question.

Theory enables us to learn from others in a useful way. It helps avoid duplication of work and erroneous approaches to information gathering and analysis. By following the existing framework, we can identify problems in an organization more rapidly and correctly.

Theory identifies potential solutions to problems in an organization. Much of organization theory has centered on explaining why certain events take place in some organizations and not others. In other words, theorists have come to conclusions about **why** things exist and occur as they do within organizations. Once the why is determined, an examination of theory also can reveal how other organizations have avoided the problem in question successfully.

For example, if a study of your organization reveals low job satisfaction, you then can examine theory to identify what causes differences in job satisfaction. Theory states that job satisfaction is a function of reward and a feeling of ownership. Therefore, in order to alleviate the problem identified, you either can increase reward or increase the feeling of ownership. Given finite resources, it may not be feasible to increase the reward system: pay, benefits, time off, etc. Thus, you would turn to ways to increase ownership; ways to make your employees feel that the operation of the organization and its success was their success.

Further examination of specific studies then could offer suggestions about programs that have worked in the past. Thus, theory enables you to use the work of others to further the development and success of your own organization.

The History of Cardiopulmonary Resuscitation--Example of Theory Influencing Practice

Cardiopulmonary resuscitation (CPR) has evolved over time and different theories on how to successfully resuscitate a victim have been evaluated. In 1740 The Paris Academy of Sciences officially recommended mouth-to-mouth resuscitation for drowning victims. In 1891 Dr. Friedrich Maass reported the first successful use of chest compressions in humans. The first case of closed cardiac massage was performed by Dr. George Crile in 1904.

In 1954 James Elam proved that expired air was sufficient to maintain adequate oxygenation. Peter Safar and James Elam invented mouth to mouth as we know it today in 1956. The American Heart Association (AHA) began training physicians in CPR in 1960. This became the forerunner of CPR training as we know it today. In 1966 standardized training and performance standards were adopted. In 1972 Seattle began conducting mass training of citizens in CPR; they trained over 100,000 persons. Emergency dispatchers were trained in how to give telephone CPR instructions beginning in Seattle in 1981.

As CPR has evolved the basic theories have remained the same. Moving oxygenated blood through a victims system increases the likelihood of recovery. The major changes in the last few years involve the compression to ventilation ratios. The old standard was one rescuer 15 to 2, two rescuers 5 to 1. In the early 2000's that was changed to a ratio of 30 compressions to 2 ventilations whether performed by a healthcare provider or a lay rescuer. Before these changes there was the "precordial thump" that was taught throughout the country by the AHA. Then it was determined that only trained healthcare providers should administer a precordial thump and only for a "witnessed" arrest.

The newest supporting device to aid in CPR is the automatic external defibrillator (AED) that is now seen in places of assembly, schools and businesses. The AED essentially replaces the precordial thump and with a minimum of training can be used very effectively to initiate life support and recovery of a victim of an arrest.

Modern CPR is based on a theory that has been tested, evaluated, and changed over time.

THE LANGUAGE OF THEORY

The language of organizational theory may seem unfamiliar to you now. However, by the end of this course you will have a working knowledge of the specialized terms used in this field. Here are several definitions with which you should become familiar:

- proposition--a subject for analysis;
- construct--a concept that is constructed from simple elements;
- variable--a quantity capable of assuming any of a set of values; and
- hypothesis--an explanation accounting for a set of facts that can be tested by further investigation.

WHAT IMPACT DOES THEORY HAVE?

Theories of organization have developed over time. Many theories build on what has gone before, often adapting to changes in society--both social and economic. The fundamentals of various theories are timeless; examples of the "oldest" theories can be found in modern organizations.

Beware of Management by "Best Seller"

The appeal of many "how to" management books is based on the false promise of a "quick fix." Some of these books contain simplistic 1-2-3 steps to fix what is wrong with you as a manager or with your organization. These **do not** work for all organizations because the parameters involved are not presented or discussed. There is usually no explanation of **why** some of these techniques are supposed to work. It is impossible to determine whether they suit your organization or not.

The impact of television has led us to believe that major problems can be solved in 30 minutes--60 if the problem is really complex. Commercials strengthen this perception with the 30-second cure to life's problems.

Theory is harder to grasp, understand, and use--but it lasts longer and serves you more faithfully. Theory is more complicated and complex, and does not present easy solutions.

Theory provides a model for a broad range of situations and organizations. However, you need to evaluate the organization in order to apply theory to change it. You can use theory in the evaluation itself.

Theory deals with broader issues--the why of a situation as opposed to just how to do a quick fix. In order to use theory effectively, a manager must be informed and intelligent.

Popular management is the quick-fix temporary solution. Proper application of theory provides for long-lasting development of the organization and its workers. However, it requires constant nourishing and detailed understanding.

Positive Impacts of Theory

Identifies Emerging Trends

Organizations are a function of the society in which they exist. Just as society changes, organizations shift and change constantly. One of the reasons some organizations lose their preeminence is because they have failed to adapt to the changing societal and economic world.

The scientific study of organizations identifies emerging trends in successful and unsuccessful organizations. This enables other administrators to learn about shifts taking place that may have an impact on their unit. These managers then can institute changes to enhance the operation of their organization.

Provides Information on Alternative Methods

Theory explains what has worked and what has not worked in organizations. This information can be used to determine which items may be most successful in your particular organization according to its characteristics.

In order to use this information, however, you need to know how to analyze your own organization.

Negative Impacts of Theory

The use of theory that does not fit with the situation in the organization can cause severe damage. This occurs when the:

- when the assumptions or limitations of the theory are not considered;
- when the theory is improperly understood and applied; and
- when the organization or situation is improperly understood.

Lack of theoretical understanding limits an individual from using knowledge developed by others. It hampers managers trying to make decisions and solve problems because they do not have an awareness of how to approach problems, what the causes of problems may be, and solutions that have worked in comparable situations.

Theories, as stated earlier, are bound by parameters and assumptions. Applying theories using false assumptions or beyond the parameters is invalid. Theory does not hold true in these situations.

When theory is used to defend a position, one must examine the argument presented carefully to ensure that it is within the bounds of the assumptions inherent in the theory and that no new, false assumptions are incorporated. When absolute statements are being made, the assumptions and parameters are critical keys to identifying the degree of accuracy.

PUTTING THEORY INTO PRACTICE

Know the Theory to be Applied

In order to build an argument on theory, the three following steps must be taken:

1. You must know the theory to be applied.

2. Critically examine the organization/individual to determine the presence or absence of characteristics common to the theory.

3. Apply the theory. Thus, solutions are suggested and probable future events can be predicted.

STUDYING THEORY

Introduction

Those who study human and organizational behavior when trying to understand what has happened in the past (explaining) and what is likely to happen in the future (predicting) use a combination of two approaches:

- Gather and analyze qualitative and quantitative data through their own research.

- Review the literature to place their research in the context of what has been done before and what is currently being done. New ideas often take time to gain acceptance. Researchers:

  - Use references in published articles and books to trace connections among theories and ideas.

  - Work from more recent to older theories. The fact that a theory is old does not mean that it is no longer applicable.

Traditional Publication versus Internet Information

Many people believe that information printed in books or articles is more reliable because anyone can place information on the Internet and books and articles are checked by reviewers and/or editors.

- A disadvantage to print media is that there is often a lag between the proposal of an idea and its publication.
- Internet information is almost instantaneously available, but it may not be reliable.
- The bottom line is that it is the responsibility of the user to make their own evaluation of the suitability (quality and significance) of the information for its intended use.
- Information should be judged on its **merit**, not on the medium in which it is presented.

Critical Reading

Critical reading is different from reading for enjoyment, information, and/or content. It involves examining arguments to see if they are valid.

- Are the explicit boundaries expressed by the theorist?
- Are the implicit boundaries expressed?
- Is the research valid?
- Is the theory adaptable?
- Can it be used by a variety of organizations?

General Article Organization

- Introduction: The introduction sets forth the purpose of the article--what is being discussed and why.
- Literature review: examines the theory relating to the study and establishes the relevance of the current discussion to other theorists.
- Methodology: how the study is being approached, and how the information is being examined or analyzed.
- Findings or results: what the study revealed.
- Conclusions and recommendations.

People	Structure/Function	Empirical	Leadership	Decisionmaking	Planning
Human Relations Early Human Relations Hawthorne Experiment Later Human Relations **McGregor** (Theory X and Theory Y) **Argyris** (Balance goals) **Likert** (Employees more productive when goals matched **Barnard** (Informal organization) **Human Resources** (Employee best source of information - **Miles**) **Group Dynamics** (Focus group--**Simon**) **Industrial Psychology** (Match individuals to job) **Minnowbrook I / New Public Administration** (manager represents interests of public) **Theory Z** (Employees set goals--**Ouchi**)	**Scientific Management** (One best way) **Taylor** (Time and motion studies) **Fayol** (Management roles and tasks) **Bureaucracy (Weber)** **Gantt** (Functions and planning) **Gulick, Urwick** (Functions PODSCORB) **Barnard** (Social analysis) **Systems Theory** (Input, Output, Process) **Decision Making Theory** (Managers make decisions) **Simon** (Employees selected and training based on decisions they will make) **Institutional/Functional** (Organizational culture--Selznick) **Contingent/Situational** (Need for flexibility in management) **Matrix** (People from various areas work on single focused project) **New Public Administration** **Quality Circles** **Minnowbrook II** Amelioration Leadership Prestige in serving Ethics Organizational structure	**Hawthorne** (Mayo) **Descriptive Statistics** **Statistical Inference (Dodge, Romig, Shewhart)** **Sampling Theory (Fisher)** **Statistical Process Control (Demming)** **Program Evaluation (Campbell and Stanley)** **Policy Analysis (Lineberry)** **Quality Circles**	**Genetic** **Trait** **Behavior** **Mayo** **McGregor** **Blake and Mouton** **Likert** **Gantt** **Autocratic-Democratic-Laisse Faire** **Lewis** **Lippit** **White** **Contingency** **Fiedler** **Tannenbaum-Shmidt** **Vroom/Yetton** **Blanchard** (Leader, follower, situation) **Transformational (Tichy, Devanna)**	**Rational Comprehensive** **Bounded Rationality (March and Simon)** **Intuitive (Mintzberg)** **Participative Management** **Political** **Incremental (Lindbloom)** **Carnegie Model** **Motivation** **McGregor (Theory X and Theory Y)** **Maslow Hierarchy** **Herzberg** (Motivation, hygiene) **McClelland** (Power, achievement, affiliation) **Behavior Modification (Skinner)** **Expectancy (Vroom)** **Pygmalion (Livingston)** **Equity** **Goal Setting (Pinder)**	**Lilienthal** **Gulick, Urwich** **Modern Planning Theories** **Planning, Programming, Budgeting System** **Management by Objectives** **Cost-Benefit** **Technical planning specialization**

Activity 2.1

Evaluation of Information Sources

Purpose

To use the Criteria for Evaluation of Information Sources checklist to evaluate the credibility and reasonableness of information obtained in a research article.

Directions

1. Working in table groups, discuss the questions shown under each of the six areas on the Criteria for Evaluation of Information Sources checklist so you understand the questions being asked.

2. As part of your evening assignment and working in your small group, make comments in the following areas after applying the Criteria for Evaluation of Information Sources checklist to the precourse reading "The Collapse of Sensemaking in Organizations: The Mann Gulch Disaster" by Dr. Karl Weick. Your objective is to determine how the Weick article meets the criteria defined by the questions asked in each section and then making an overall judgment about the quality of the article. It is not necessary for you to answer each question in each section in detail.

3. Point out that most materials you read will not meet all of the criteria.

4. Your group will be asked to give a brief report tomorrow morning at the beginning of class.

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Activity 2.1 (cont'd)

Criteria for Evaluation of Information Sources

These criteria are presented as "things to think about" when evaluating the credibility and reasonableness of information obtained from the background research you use as you work on your Six-Month Project Report. It is important to realize that most of the materials you use will not meet all of the criteria. It is your responsibility, as an author, to evaluate the suitability (quality and significance) of the information as you apply it. Information should be judged on its merit, not on the medium in which it is presented.

1. **PURPOSE**

   What is being discussed and why?

2. **AUTHORITY**

   a. Are the author and sponsor/publisher indicated?

   b. What is the author's educational background and professional experience?

   c. Is the sponsor/publisher reputable?

   d. If the author and sponsor are not identified, are there other ways to identify the source?

3. **SCOPE/COVERAGE**

   a. Is the information relevant to your topic?

   b. How complete and indepth is the information?

   c. Is the information organized in a logical and understandable manner?

   d. Is the methodology used to develop the information described?

   e. Is there evidence to support the author's argument?

   f. How convincing and complete is the evidence?

   g. Are the limitations and boundaries of application clearly stated?

   h. Are the results, conclusions, and recommendations clear?

   i. To what degree is the core thesis of the article adaptable to a variety of organizations? To your organization?

4. **ACCURACY**

a. Is the information provided by the source correct?

b. Is it complete and error-free?

c. Is at least some of the information verifiable from other sources?

d. Does the source provide adequate evidence of claims?

e. Is there a bibliography?

5. **CURRENCY**

a. How current is the resource?

b. What is the date of publication and of the latest revision?

c. How current are the links to other sources?

d. Is the information sufficiently current for the topic being researched? Some information is of historical interest or remains usable over an extended period of time.

6. **OBJECTIVITY**

a. What is the author's point of view and does it show bias?

b. Does the author acknowledge the validity of multiple points of view regardless of his/her personal biases?

c. Is the author or sponsor associated with a special interest group?

Activity 2.1 (cont'd)

Criteria for Evaluation of Information Sources Group Comments

Comments on PURPOSE:

Comments on AUTHORITY:

Comments on SCOPE/COVERAGE:

Comments on ACCURACY:

Comments on CURRENCY:

Comments on OBJECTIVITY:

GROUP JUDGEMENT:

APPENDIX A

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ZEROING IN ON YOUR PROBLEM

Thinking about the answers to the following questions should help you better understand your problem. These questions are intended to guide you to clearly observe the nature of the problem without becoming emotionally involved in it. Before you begin to work on the solution you must have a clear definition of the symptomatic and root causes of the problem.

1. What has happened to indicate that a problem exists (symptoms)?

2. Why did it happen? (Keep asking why until the ultimate cause is identified.) Does this indicate the root problem?

3. Where and when does the problem occur?

4. When and how often does it happen, and how long has it been going on?

5. What resources, processes, or procedures are involved?

6. What people are affected by the problem?

7. What people get hurt by the problem?

8. Who gains if the problem is not solved?

9. Do you have the authority and control to correct the problem?

10. Has a similar problem occurred in the past? Was it solved? Can you use a similar solution?

11. Are there places in the organization where you would also expect the problem to exist, but it does not? Why?

12. How did things work before the problem came to your attention? Which of these things might have caused or contributed to the problem?

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APPENDIX B

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INTO THE DRAGON'S THROAT

MAY 1999

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Into the Dragon's Throat

WHEN I THINK OF FIRE, I SEE campfires under cold starlight, or Moses chatting with a burning bush. When my brother, one of the nation's 276,000 career firefighters, thinks of fire, he sees an upside-down river of gold streaming across ceilings, pooling in high niches just as water pools in depressions, and pouring up walls like inverted, glowing waterfalls: since heat rises, firefalls cascade upward. "We see things," he says, "both beautiful and terrifying, that people in other professions will never see." In Tucson, Arizona, where my brother works, Fire Chief Fred Shipman remembers the beautiful dark eyes of the small girl he carried 100 feet down through smoke and screaming to safety. Battalion Chief Alan Moritz remembers finding another child curled up in a closet; the body was so blackened and disfigured that it took him awhile to realize what he was looking at.

Most of us will stare mesmerized at tamed fire by the hour, but we are all hard-wired to flee fire's touch. In a cynical world, the firefighter remains one of our ideal figures of bravery and heroism. What makes certain

BY JENNIFER LEE CARRELL

PHOTOGRAPHS BY TERRENCE MOORE

individuals not only brave enough to quell the instinct to run, but skilled enough to turn and fight?

It's June 1998, and in the desert south of town. Chief Moritz and his lead training captain, Jim Napier, along with four more captains, an engineer and a paramedic, are preparing to knock more than a century's worth of collected knowledge and experience into the minds and bodies of 42 recruits and, to a lesser extent, me, as a participating observer.

"I like to call them my Jedi Knights," says Chief Shipman of the men and women who serve under him, and he's only half kidding. Going into the dragon's throat: that's what firefighters call moving into battle with red, roaring, ripsnorting fire. Increasingly, the nation's firefighters are also the first responders to medical emergencies; call 911 and you're likely to get a crew of firefighters who are also emergency medical technicians (EMTs) or paramedics. Sixty percent of their calls are medical, but the great enemy is still fire. Learning to fight fire, though, is "a lot more involved than just putting the wet stuff on the red stuff," notes Capt. Brian Delfs.

One of their earliest lessons is that water, their best weapon, is no more than a reluctant and fickle ally. At the end of the first week, the captains order the recruits two at a time into the water-filled, brush-lined lane called the Mud Bog and dump "charged line," or water-filled hose, into their hands. The point is to drag that hose 100 feet down the lane, keeping the lance of white water aimed steadily into the center of a suspended automobile tire. These are one-person hose lines, but today there will be a captain backing up each recruit. "Don't quit," yells Capt. Jeff Thompson. "We'll be behind you, so we're gonna know exactly how much effort you're putting in. Don't let us down." "Open 'em up!" yells Captain Napier, and the first two recruits open the valves and begin their long march down toward the tires.

No more than 10 or 20 feet out, all but the burliest of the recruits begin to struggle with the growing strength and wildness of the hose. The smallest member of the class wonders aloud whether the captains are holding them back, and Captain Napier orders her back into the mud to try again, with less help. When I try, I see why she made this mistake: it does feel like someone's tugging on the line. That "someone" is no captain, however, but Sir Isaac Newton: for every action, there is an equal and opposite reaction. With 95 gallons of pressurized water shooting out its front end every minute, the hose does its best to go walloping backward, but woe to the recruit who lets it: these hoses can buck and kick with the strength of an angry mustang. Even these "small" lines can break an arm or a leg.

After the last recruits slog down the

lane, forcing the tips of their nozzles into the tires and collapsing forward with loud groans, Napier gathers everyone in the deep end, reviewing today's lesson: though strength helps, fighting fire is more about technique and heart than brawn. They've just proved that they have the heart. In the upcoming weeks, they will learn the necessary technique. What the recruits are left to figure out for themselves is that the captains are right behind them, pulling for them, sometimes literally. "You people are a filthy mess," snaps Napier, and his charges catch their first glimpse of his mischief when the captains open a hose on them.

For the recruits, just getting to Day One of the academy has been an odyssey. With more than 1,500 people applying for 42 positions, this year it was statistically more than four times harder for applicants to get into Tucson's firefighting academy than to get into Harvard. "It's like winning the lottery," grins Brett Welander, though his preparation has been a lot more involved than just buying a ticket; he's been working toward this since graduating from college two years before, taking fire science and emergency medicine courses, and working for a smaller fire department.

Tall and 20, Bryce Womack is the youngest recruit. Most hover around the age of 30; the oldest is 38. Seven are women. Traditionally, the fire service has drawn heavily from the military as well as from the ranks of mechanics and construction workers, and this class is no exception. But these recruits also count among their number several paramedics and lifeguards, a skydiving instructor and a mail carrier, a nanny, an English teacher and two massage therapists. They are athletic, outdoors people, many of whom share an addiction to risk: for fun, they fly, ski and scuba dive, ride Brahman bulls, or climb near-sheer faces of rock.

It used to be that recruits were selected primarily for their brawn; now the fire service demands brains as well. Half these recruits have college degrees, but their kind of intelligence does not require the sheltered hush of the ivory tower. They prefer the challenge of thinking through the thud and bang of a heartbeat in overdrive, with lives swaying in the balance: a stranger's, their comrades', their own.

Getting in was hard, but the real saga is just beginning. "It's a brutal process," says Chief Moritz. With a friendly manner that only strengthens his authority, he opens orientation by telling anxious families that their loved ones are about to disappear for 21 weeks. Now and again, they will resurface, openmouthed, to feed, after which they will immediately fall asleep. Then he gets to the bad news: although the recruits have staked everything on this academy, not all of them will graduate. In previous classes, between a quarter and a third of those who started have given up or been let go.

Week by week the strain will mount as the recruits face a barrage of skills tests and written exams; failure to pass any one subject will result in automatic firing. Meanwhile, the physical training and endless drilling will increasingly strain as well as strengthen their bodies; injuries that require too much downtime will also trigger automatic dismissal. With lives and property teetering on the edge, a firefighter cannot respond to a command by saying, "Oh, I failed that test," or "I missed practicing that skill because of a sprain." Up in his office, Capt. Jim Critchley makes somewhat different sense of all this rigor. "My goal," he says, "is not that they all survive this academy. It's that those who do graduate all survive to retire."

About a hundred firefighters die in the line of duty every year in the United States. The best way to better their odds is to train them well. Training scenarios can never quite be real, because firegrounds are true chaos, but the closer these recruits can come to realistic disasters, the better for them, for their partners and for us, the trusting public. It's this tried-and-true wisdom that makes this new campus, a firefighter's cross between Disneyland and a movie set, worth all the money.

Beyond the cavernous apparatus bay, housing three engines and an ambulance, curves an array of firefighting props including a fireable gas main, trenches and sewer pipes; a flammable liquid pool; burnable cars; a roof sitting on the ground; collapsible concrete floors; and the Burn Room, a squat concrete building that can become anything from a fiery car-cluttered garage with an apartment above to an empty warehouse. At the far end rises the six-story tower with a working elevator and rooms that can simulate offices, apartments, even a movie theater; artificial smoke can be pumped into any floor.

After a month of training, the captains decide the recruits are ready to enter a burning building. In the entryway to the Burn Room, the recruits seal themselves into their protective yellow Nomex suits called "turnouts" and Self-Contained Breathing Apparatuses, or SCBAs, which look like diver's tanks and make the wearer sound like Darth Vader. In the gloom, the reflective tape on their turnouts glimmers like the silvery trails of deep-sea animals. Four recruits sink to their knees along a charged hose line. Briefly, it looks like a prayer meeting, but then the iron door swings open, and following their captain, they crawl forward, dragging the hose with them into the darkness.

Hollywood likes to imagine firefighters bursting at a run into rooms draped with golden flame. In real life they go into the dragon's throat on their hands and knees. Like some infernal wedding cake, trapped heat divides into well-defined layers. Down near the floor, the temperature in an average house fire may be a survivable 100 to 200 degrees Fahrenheit, but sit up and you may reach a searing 350 to 400 degrees, hot enough to melt your helmet's face shield in a few seconds. Stand up, and you may break into superheated gases pooling at the ceiling at around 1,200 to 1,300 degrees, plenty hot enough to ignite turnouts, which are fire-resistant, not fireproof. In this world, standing tall is not heroic but foolhardy: safety lurks near the ground.

In the Burn Room, the upper layers aren't allowed to get that hot. Nonetheless, with nearly 1,000 degrees at the ceiling and 350 at eye-level, it's plenty hot enough to feel the thermal layering. Through black haze, I can barely make out Capt. Scott Krause hovering six inches to my right; the bonfire I know to be as tall as I am masquerades as a distant, dull orange blob. Inside turnouts, the heat doesn't feel like heat; it feels more like an evil, pressing force relentlessly searching for a way to seep into my own private cosmos.

Captain Napier orders a recruit to send a burst of water toward the ceiling. Instantly, the water explodes into steam, knocking everyone to the floor as it expands in volume 1,700 times. The effect on the thermal layer cake has been roughly like sticking a mixer into it: what's left is a steamy, formless pudding. Though it's cooler on top, the lowest levels of the room are now a lot hotter. "What happened to those people you were trying to save?" Capt. Jim Critchley bellows. "If they were alive before, they sure aren't now. You've just boiled them like a bunch of lobsters!" Given half a chance, water will cross over to the enemy; don't use water any more than necessary, the recruits learn, and not at all until they're sure no one unprotected remains alive.

The day begins with an easy run to the beat of a jody, or rhyming chant, the favorites being the concoctions of Recruit John Vincent: "Can't make me quit, ain't no way, like stink on a monkey, I'm here to stay." Then it's time for "paying off towers," the most common penalty for mistakes large and small. Or, as Jeff Mayhew learns early, sprinting up six stories to the top of the tower, leaning out and yelling, "Sir, Recruit Mayhew, Sir!" and running back down, as many times as required.

Valve by hose section by hydrant, the recruits learn the basic tools of their trade, building up the complex maneuvers or "evolutions" at the heart of firefighting. Laying hose from water to fire, they reach into the engine to pull on a coil of hose so that it slithers to the ground, then hoist it onto a shoulder and run so that it spills behind in neat lines, ready for water. Working in full turnouts under an angry sun is like lifting weights in a sauna.

In the coolness of the classroom, the recruits learn theory. The nozzles class leaves a herd of algebraic equations describing water flow and friction loss trailing across the board. In the building construction class, they learn how all kinds of walls and roofs go up, so as to better understand how, and how fast, fire will make them fall down. EMT classes force-feed them anatomy, physiology, pathology and pharmacology. Ron Valencia, a big, bearish man who has dreamed of being a firefighter all his life, says: "It's a lot of studying, a lot of studying. But you have to get it right, or people die."

They also learn something corporate folks might call stress management. When I ask Capt. Alex Martinez what it looks like to go into a real fire, he says, "Close your eyes." For the recruits, the captains create more elaborate simulations. One morning, Jeff Mayhew and Linda Wekenborg don face masks blacked-out with tape, and the captains lead them deep into the Maze, an ingeniously variable labyrinth with a grid system built into its ceiling, allowing plywood walls to be slid into different patterns. As the recruits kneel at the nozzle end of a hose, Captain Thompson sets the scene: inside a big warehouse fire, Mayhew's alarm has just gone off, signaling that he has no more than five minutes of air left; lung-searing temperatures and poisonous gases mean that for firefighters, running out of air is equivalent to running out of life. "Got to get out, Sir!" cries Wekenborg. "Get out!" yells Captain Thompson, and the game is on. The means of escape is as old as Theseus' exit from the Minotaur's lair: having dragged a hose in, it is now the recruits' Braille trail out. I join the captains in making an unholy din, but Mayhew and Wekenborg ignore us, fumbling hand-over-hand along the line, bumping into furniture and walls but never letting go of the hose or each other. With only a few seconds to spare, they tumble out into open air.

Captain Martinez pushes Steve Ruetz and Ron Valencia through a similar scenario. At first they are fast and sure, but right near the door Ruetz unwittingly lets go of the hose leading out and picks up another. After a quick exchange, they turn and crawl back inside; Captain Martinez shakes his head but says nothing. When their five minutes are up, he calls, "Lie down, you're both dead."

The recruits' next acquaintance with disorientation is trial by foam. In the morning they learn the chemistry and physics of using foam to smother flammable liquid fires that water would only spread—jet fuel on runways, for instance—as well as fires in confined spaces too dangerous to enter, such as basements or tanker cars. When the captains fill the Burn Room to the ceiling with specialized suds, however, it's not to quench fire but to produce a suffocating atmosphere akin to a smoke-filled room. The first time the recruits descend into this lacy darkness, panic erupts at the bottom of the stairs and they scramble back up, retching and coughing. But the captains lead them relentlessly down again into the suds. In stubborn lines they trace their way around the walls until they reach the door and emerge like ragged snowmen. For the first time, they catch Captain Thompson cracking a smile.

The academy is an emotional roller coaster, and monthly inspections produce more strained faces, as Chief Moritz moves down taut rows of recruits, firing questions. Everything they've learned is fair game, from the care of axe heads to the problems of fighting combustible metal fires so hot they pull water molecules apart into hydrogen and oxygen, turning water into fuel.

The hardest of all the long, hard drills is decidedly old-fashioned: ladders. The recruits have to be able to raise and climb every ground ladder the department owns. Although the hydraulics of the ladder truck raise the 105-foot aerial ladder, the recruits have to clamber quickly to the top, hook themselves into the rungs with one leg and let go with both hands, ready to work. Most punishing of all are roof ladders, which have to be hauled up another ladder onto a roof and then pushed even farther, to hook over the roof's peak. One of Linda Wekenborg's finest moments comes when Captain Thompson watches her put up a ladder and says simply: "Good job."

Drilling continues, with a difference: now, says Mitzi Sloan, "it's not essentially 'How do I do this evolution?' You're asking 'How can I do this better?'" The scenarios grow more complex, from high-rise fires in the tower to car fires that must be approached from uphill and upwind to avoid gas tanks that are bombs and bumpers that are missiles poised to go airborne. Video footage of a firefighter in flames, tumbling down an aerial ladder, makes Sloan blanch and look away.

By mid-October, what was once a motley, bumbling crew is becoming a highly skilled, well-drilled unit. Rather than announcing their confidence, however, the captains show it: they put their lives into the hands of the recruits.

The prop called the Dragon simulates a gas main on fire; when it roars, flames shoot up 50 feet in huge orange balloons, and cyclones of fire spin off into the night. Suited up like yellow astronauts about to walk into the sun, Jeff Mayhew and his partner open their nozzles, and glittering cones of water lift hissing before them. A mere quarter-inch thick, this shield of water is all that stands between the recruits, their trusting captain and flash-roasting. Captain Napier puts a hand on each recruit's shoulder, and they strain toward the thundering tower of fire, the pressurized water driving the heat and flames before them. One bobble on the part of the recruits, and the fire will rush back to devour all three of them. As they reach the fire-breathing pipes, Captain Napier suddenly pitches forward as though to turn the valve at the base, shutting off the gas.

Not until they have backed into safety does the fire begin to die: up at the control booth, Engineer Dave Cox has finally turned down the gas. The valve at the main is a dummy, but there's nothing fake about that fire, and whoops of triumph clash in the night as the recruits shed their masks and airpacks.

The following week it's EMT practicals that make for a violent day at the academy. Brett Welander has become a bar-fight victim, his guts slipping through a slash across the belly; Linda Wekenborg lies moaning in a smashed car, white bone glistening from a gash in her thigh. Another recruit stretches unconscious with a bullet hole in his forehead, and still another spills blood from slashed wrists. K. D. Corcoran, the beloved EMT instructor who has taught Tucson's firefighters for more than a decade, has made up a few of the recruits with ghastly realism, to give their fellows a chance to practice responding to trauma.

Acting honors go to Recruit Andy Pashos, whose problem is not guns, knives or cars, but bees. His face and neck grotesquely swollen, he's wheezing and heaving as Ron Valencia and Bryce Womack arrive; calm and amused as ever, Paramedic Sharon McDonough calls out the effects of their actions, altering Andy's vital signs and symptoms according to what they do. Watching them, Capt. Max Parks tells me about his worst day at work, when despite all their efforts, his crew lost six people, including a young mother with an allergic reaction and a 5-year-old hit by a truck that plowed into his living room. "How do you go away from that day?" he says, still filled with disbelief. Paramedic McDonough talks about watching a little girl die after the glass table she was playing on shattered, slitting her throat. Parks shakes his head. "How do you tell these guys, Look, this is going to happen to you? We're not Supermen. You can't save everybody. People will die. But try hard. That's what this is all about: trying hard."

The graduation ceremony is impressive and emotional, as Chief Shipman tells the recruits that once out in the field they will do things that will make them laugh, see things that make them cry and witness events that shock them to the core. But every day, he says, "you're going to have the satisfaction of knowing that what you do makes a difference. There's no more honorable profession."

That night, at the party in the Union Hall, they finally cut loose, shoot some pool, dance, have a cigar and maybe even a beer. Casual greetings from captains startle them: "Hi, Bryce," says Jim Napier, and a wide-eyed Bryce Womack glances over his shoulder to check out the possibility that someone else with his name, a captain maybe, is standing nearby. All night the new firefighters pool and eddy in small groups, reliving their adventures with each other and the captains. They've been split up among Tucson's three fire shifts, one of which is always on duty. As a result, they will never all be together in one room again, until they have all retired. Recruit Bill Tylutki puts it into words, his brown eyes roaming the room: "It's hard to imagine not being with these people. It's the only thing that got you through, this group. Especially on bad days: you could take refuge in the group, and they'd pull you along, no matter how bad you were feeling or how bad you messed up."

Two days later, the new firefighters are out in the field. Steve Ruetz heads over to Station 8, one of the busiest in the country, under the command of Capt. Scott Krause. As the "boot," or junior member of the crew, it's Ruetz's job to clean, polish and nearly sterilize the station and its apparatus bay, make the coffee and do the shopping; he answers the phone in about half a ring.

Neither the studying nor the drilling is finished. As soon as the chores are done, Krause and the rest of the crew—Engineer Darrell Alexander and my brother, Bill Carrell—set Ruetz through familiar paces, laying hose, sliding quickly into his SCBA and putting up those inescapable ladders. They hurry to get through by lunchtime, because by traditional belief, it's the stroke of noon that ushers chaos into their corner of Tucson. Sure enough, at 12:03 there's a click, fluorescent lights glare and a sound like the trumpet of a lovesick electronic elephant fills the station house. "Engine 8; Medic 8," says the disembodied voice of the dispatcher, and we're off.

There's a click, fluorescent lights glare and a sound like the trumpet of a lovesick electronic elephant fills the station house. "Engine 8; Medic 8," says the voice.

Call after call, the engine wails down the street in a storm of whirling red-and-blue lights. I watch in wonder as we part seas of traffic, scattering everything from bicycles to semis, but Ruetz is busy pulling on gloves or strapping himself into his SCBA. We visit a scared and lonely old man, a young man who'd like morphine, a diabetic whose blood sugar soars after she's charged with shoplifting, and a brushfire ignited by tires exploding off a truck. At a freeway accident, Ruetz puts a bandage on a woman's finger while she proclaims she's not going to pay for any of this. Later, the crew gathers about the bedside of a woman dying of lung cancer, waiting for the ambulance that will take her on her last ride to the hospital. She's full of grace as well as fear, and as the ambulance doors close, she blows the crew a kiss.

A few days later, Ruetz is crawling into his first house fire. Despite everything he learned at the academy, the thick, claustrophobic darkness amazes him: he can't see *anything*. Right behind him, Bill leaves him no time for wonder, shouting: "Go on! Go on! Look for the glow." They bump forward until Ruetz sees a glimmer of orange, and then a golden line of flame rolls toward them across what turns out to be the surface of a burning bed. After they knock this fire down, Ruetz gradually realizes he's been baptized: he's really a firefighter now. As with every "first" for every boot across town, he'll be buying ice cream for the house.

In this first, Ruetz is fortunate, for there was no one in that bed, no shadow of death over this rite of passage. Bill Tylutki is not so lucky. On his first shift, he encounters the seared and cracked body of a man melted into his recliner.

Back at Station 8, I find Ruetz hunched over his books in the study. Then he smiles and wraps up his experience with two spiraling words: "anticipation" and "fulfillment." All the anticipation, he says, has finally arrived at fulfillment—only to stretch into anticipation again, as he and his classmates hurtle toward beautiful and terrifying experiences.

Click. The lights flick on, the alarm sounds. Amid reality at its messiest, the learning goes on . . .

Jennifer Lee Carrell last wrote for SMITHSONIAN *on the popularity of Shakespeare in the Wild West. Terrence Moore photographed the Mesa Verde story in our February issue.*

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UNIT 3:
THEORIES REGARDING PEOPLE

TERMINAL OBJECTIVE

The students will be able to apply different theoretical approaches to a given scenario/situation.

ENABLING OBJECTIVE

The students will correctly identify human relations theories being used in an organization.

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HUMAN RELATIONS THEORIES

Human relations refers to theories dealing with the people in the organization and their interaction. The "concept of man" is the basic assumption concerning what people are like that is used to form the foundation of the theory in question.

Scientific Management

Scientific Management (also called traditional or classical) is based on the concept of humans as economic beings, motivated by money and tangible rewards only.

Four basic principles of Scientific Management: (1) scientific task performance: any task can be studied to determine the **one** best way to do it; (2) workers should be scientifically selected and trained; (3) management and workers need to cooperate because employees are valuable and adaptable and will learn what is expected of them and why; (4) there is a clear division of work and responsibility; managers must manage while workers perform the tasks.

Frederick Taylor (an engineer)--He dealt primarily with the hierarchical structure from the worker up, and developed time and motion studies. He felt that workers should be trained to do their tasks most efficiently; managers would train and then manage.

Henri Fayol (manager of a mining company)--A contemporary of Taylor, he focused from the top down, concentrating on management tasks. Managers' roles were defined as planning, organizing, commanding, coordinating, and controlling.

Scientific Management views an organization as highly structured with each individual having his/her specific duties. The managers organize and control the entire operation. There is little interaction between employees and management. Employees have no input as it is not warranted--not "part of their job." Jobs are strictly defined and are task-based.

Primary principles:

- Unity of Command;
- delegation of authority;
- span of control; and
- organizational and employee specialization.

Theory Development

The assumptions of Scientific Management were that workers were inherently lazy and had to be coerced into working. They had to be given incentives in order to get them to perform.

- Proposition: Improving employees' working conditions will increase productivity.

- Constructs: Working conditions and productivity.

To test this theoretical proposition, Roethlesberger and Dixon conducted a series of experiments in Hawthorne, CT. Working with an assembly production firm, they developed a number of hypotheses to test the proposition.

- Hypotheses: Improving the **lighting conditions** will increase the **number of pieces assembled per hour.** Improving the **seating** arrangement will increase the **number of pieces assembled per hour.** Increasing the **number of breaks** will increase the **number of pieces assembled per hour.**

The variables are in boldface above.

To test these hypotheses, a group of assembly-line workers were placed in a separate room and their working conditions were changed in a stepwise fashion. After each improvement, productivity (measured as the number of pieces assembled) went up.

To further confirm the theory, the investigators then put forth another proposition and related set of hypotheses:

- Proposition: A decline in working conditions will lead to a decline in productivity.

- Hypotheses: Decreasing **lighting** will result in lower **number of pieces assembled per hour**. Making the **seating** uncomfortable will result in a decrease in the **number of pieces assembled per hour**. Cutting back the **number of breaks** will result in a decrease in the **number of pieces assembled** per hour.

The variables are in boldface.

To test this, the researchers took away the breaks, yet productivity went up! They decreased the lighting, yet productivity went up! They made the workstation very uncomfortable, yet productivity went up!

The true nature of the motivation was the special attention given to workers in the study.

As a result of their findings, the researchers formulated a new theory, known as Early Human Relations (Early HR). Proposition: Making people feel important and part of the organization will increase productivity. There is a causal relationship between job satisfaction and performance.

Early Human Relations

The concept shifts to humans as social beings. Workers react to their environment. Managers are not always in total control of the situation.

Early HR portrays workers as basically lazy, disliking work and avoiding it if possible. Because of this, managers must control, coerce, direct, threaten, or punish workers. The average human prefers to be directed and avoids responsibility if possible.

Early HR focused on discovering ways to adjust the **working environment** to increase and improve worker performance. The assumption was that workers needed to be manipulated/motivated to achieve maximum performance. That was the primary task of management.

Elton Mayo developed a theory based on motivating employees through their need for social acceptance and security.

Maslow described a "Hierarchy of Needs" that provided progressive sources of motivation.

Later Human Relations

Later Human Relations (Later HR) is based on the assumption that work is as natural as play or rest, and that external control is not necessary. Workers will be self-directed and motivated to achieve those goals and objectives to which they are committed.

McGregor with his discussion of Theory X and Theory Y bridged the Early and Later HR Theories. Theory Y begins recognizing the willingness to work on the part of an employee who feels valued.

Chris Argyris recognized that there are sometimes discrepancies between the interests of the organization and of the individual. Workers attempt to achieve a balance. Managers are best when they help achieve it.

Rensis Likert pointed out that as the goals of the organization began to match the goals of the individual, employees became more productive.

Chester Barnard

The Functions of the Executive by Barnard is referred to as the Barnardian Bridge. This work began the movement from management thought to organizational thought. It brought the human relations aspect to the formal organization and is the first to begin discussing systems as a whole.

This was the first work to recognize and deal with the informal organization as an integral part of the organization as a whole. It recognized that people in the organization are perhaps the most important and difficult aspect of management.

Human Resources

Employees are the best source of information about their jobs. Employees have much to contribute to the operation of an organization.

Raymond Miles felt that the ditch digger should be asked to design the shovel to be used; workers know best what is needed.

Minnowbrook Conferences

Minnowbrook I: The New Public Administration

In 1968, 30 of the upcoming leaders in the field of public administration theory were invited to a closed conference to debate the future of public administration. This was held at the Minnowbrook Conference Center in upstate New York. The result was a body of theory referred to as New Public Administration.

The administrator was called upon to be **proactive**, to take the lead rather than to simply follow. In public organizations, the manager was to represent the interests of the public rather than those of the organization.

Citizen participation was encouraged. Eventually this led to consideration of employee participation as well. Citizen participation should come not only through the political system, but also in public administration. The priorities of the public should be the priorities of the public organization.

Public servants are servants of the citizens and should serve them as well as possible. The public employees are responsible not only to themselves, their supervisors, and the organization, but also to the public.

Minnowbrook II and III: The New Public Administration

Minnowbrook II was held in 1988. Here attendees discussed and debated the continuing challenge of the status quo of public research and practice.

Minnowbrook III was held September 5-7, 2008. At this conference attendees discussed how public service can better respond to the turbulence and critical problems of our times. (Minnowbrook III will be covered in more detail in Unit 4: Structural/Functional Theories.)

Theory Z

Ouchi wrote Theory Z in the early 1980s. It was a discussion of the Japanese system of management that relied heavily on employee participation in management.

Employees set goals--individual and organizational--assist in planning, assist in making decisions, and assist in the rewards of the organization's success.

INTEGRATED APPROACHES

More recently, there has been a realization that the study of organizational theory cannot be undertaken in a vacuum. Rather, the new emphasis is on the interrelationship of organizational theory with other fields of study. For example, you cannot study **organizations** effectively without also looking closely at the role of organizational leadership. Similarly, you cannot study organizational **leadership** effectively without also looking closely at the role of followership. And, you cannot study **followership** effectively without looking at the role of motivation. Naturally, you cannot study **motivation** effectively without also looking closely at the internal and external environments, and so on.

This multidisciplinary approach complicates the question of where organizational theory begins and ends, and how it fits in with such seemingly unrelated fields as anthropology, sociology, and genetics. However, if you put those issues aside, here are some current concepts that affect theories regarding people.

ORGANIZATIONAL CULTURE

The concept of "culture" was first studied extensively by anthropologists. Originally, this study was concerned largely with the culture of people in foreign countries. Later, researchers became interested in how foreign people "learn" their culture (now called "enculturation"), and the culture of groups in the United States, such as Native Americans. In recent years, especially from the late 1980's on, there has been a dawning recognition that organizations also have cultures. **Edgar Schein** has written extensively on this subject (see Edgar Schein, *Organizational Culture and Leadership*, 3rd ed., Jossey-Bass, 2004).

Essentially, organizational culture is the set of values, assumptions, guiding beliefs, attitudes, and feelings shared by people in an organization. People in an organization visibly display culture by observable symbols, dress and appearance, sayings and slogans, ceremonies, and physical settings.

LEADERSHIP ISSUES

Although leadership issues are discussed in more detail in Unit 6: Leadership and Supervision, the subject is important to mention now since a great deal of the human part of organizational theory involves leadership and followership. While the **leadership** portion of the equation has been studied extensively for decades, interest in followership is much more recent. Yet, the interrelationship between the two must be examined if you wish to understand why some organizations succeed while others fail.

A related leadership area is the differentiation between Transactional and Transformational Leadership. Transactional Leadership implies that there is a process that occurs, much like the purchase of goods. For example, a firefighter/EMT reports for his/her shift and performs satisfactorily. An officer makes a notation to that effect, and ultimately the firefighter/EMT is paid for that day's work. Essentially, the transaction involved "trading" work for pay. Naturally, there are other nonmonetary types of "pay" as well, i.e., the satisfaction of a job well done, etc.

Transformational Leadership presumes and builds upon Transactional Leadership. Transformational Leadership involves the followers with a highly respected leader to the extent that the process "transforms" or improves them all. This change process brings up related subjects such as mentoring, succession planning, and vision.

PARTICIPATIVE OPTIONS

Over the past decade there also has been intense interest in providing more opportunities for workers to participate--in decision making, work planning, program evaluation, etc. Spurred on by Minnowbrook: The New Public Administration (see the unit bibliography listing for Marini for further information), and going by a variety of names, such as Participative Management, self-directed work teams, Quality Circles, empowerment, Theory Z, these attempts, if undertaken with commitment, can yield great improvements in morale, performance, and productivity.

Group Dynamics and Industrial Psychology

These areas of study began in the early 1960s and have continued to develop as major areas of organization research.

Group Dynamics is based on the assumption that the structure and nature of **groups** affects individual activity and should be the primary focus of managerial attention.

Industrial Psychology focuses primarily on the **individual** in the organization, attempting to match individuals with their aptitudes.

Human Relations Theories in Organizations

Although many administrators or managers may not subscribe consciously to a given theory, their assumptions about the role of manager or their "concept of man" results in management styles which conform to the theories discussed.

Given that large organizations have many managers, it is common to find a number of different theories in operation. Just because an organization is hierarchical, does not mean that it will be traditional in terms of its treatment of employees. Numerous theories can exist in one organization. In addition, theories may be "mixed" instead of pure.

Remember, theory developed from studies of organizations and how managers manage. Thus, managers practice theory without knowing it. Identifying theory in operation can assist an individual in managing more effectively.

Activity 3.1

Role Play with Human Relations Theories

Purpose

To illustrate a human relations theory so that others can identify the characteristics of the theory.

Directions

1. The following pages give each of the scenarios to be presented, but they do not identify the theory to be applied to each. This is to enable you to understand the background of the scenario being presented.

2. Your instructor will divide the class into four groups.

3. Your instructor will assign each group a separate scenario and give each group a handout that identifies a theory and lists the major characteristics of the theory.

4. Your group will have 15 minutes to prepare a role play.

5. Your group will have 5 minutes to present its skit in coordination with the next lecture.

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Activity 3.1 (cont'd)

Scenario 1

The mayor has requested that the fire department/emergency medical services (EMS) prepare a policy manual including current rules, regulations, and operating procedures. He/She also has requested that any proposed or planned changes be incorporated in this manual. The chief assigns the assistant chief the task of preparing the manual, explaining that he/she will review it prior to delivery to the mayor.

Notes:

Scenario 2

The city has authorized the construction of a new central fire station. In addition to the traditional station requirements, the city manager has requested that a training classroom and a physical fitness room be included. The chief has been asked to work with the architectural engineer in designing the new station.

Notes:

Scenario 3

A local fire department/EMS has provided fire suppression and inspection services to the city since its inception. Recently, a proposal was presented to expand the department's service base to include EMS. The department has the opportunity to go full-paramedic status with an increase in full-time and part-paid personnel. There are a few vocal citizens pushing for the full-paramedic service.

As assistant chief, you are in charge of department records. Your analysis of runs over the past 3 years shows that paramedic-level service was provided for only 12 percent of the 200 EMS calls each year. A private contractor currently provides this service. A number of the residents in the community are working-class individuals with moderate incomes. There is one new, very affluent housing development recently completed. This is where the vocal residents reside. You know from your volunteers that there is growing concern about this issue in the community. The chief has requested that you prepare a proposal to present to the council.

Notes:

Scenario 4

Your department has authorization to purchase five new EMS response vehicles. In the past, modular-type patient transport vehicles have been used. However, a number of area fire departments/EMS now have changed from the modular unit and are using other types of vehicles with some success. The chief has requested that each company officer submit information pertaining to the type of vehicle the paramedics would prefer.

Notes:

Activity 3.2

Fire Service/Emergency Medical Services Organizational Culture

Purpose

To explore the concept of fire service/EMS organizational culture.

Directions

1. Using the content of the article, "Training to Slay the Dragon" (which you were to read as homework), **individually** answer the following questions. You will have 10 minutes to complete this part of the activity.

    a. What are some examples of observable symbols, ceremonies, slogans, and dress that indicate the recruits described in the article are part of a particular organizational culture?

    ____

    ____

    ____

    ____

    b. What are some examples of values, assumptions, guiding beliefs, and attitudes that indicate the recruits described in the article are part of a particular organizational culture?

    ____

    ____

    ____

    ____

2. In your assigned work group, discuss each of your examples.

3. Write your examples on an easel pad.

4. Select a spokesperson for your group. Using your group's prepared easel pad, the spokesperson will describe your cultural examples to the rest of the class and answer any questions about these examples.

5. Your work group has 20 minutes to complete Steps 2 to 4.

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Activity 3.3

Identifying Management Theories

Purpose

To assist you in identifying various management theories within your own organizations.

Directions

1. Identify the management style used by your immediate supervisor. Work in small groups to identify the following for supervisors represented in your group.

   a. Managers' style under emergency conditions.

   ____

   ____

   ____

   ____

   b. Managers' style under nonemergency conditions.

   ____

   ____

   ____

   ____

2. Discuss who works for the "best manager" in your group. Students nominating their own supervisor should explain why, and give an example to the small group.

3. Each group will provide a brief report for the rest of the class. Debriefing questions:

   a. What type of management style predominates in the fire service/EMS?

   ____

   ____

   ____

   ____

b. Does it change under different conditions? Why?

c. What types of management styles are practiced by the "best managers?" Why?

UNIT 4: STRUCTURAL/FUNCTIONAL THEORIES

TERMINAL OBJECTIVE

The students will be able to apply different theoretical approaches to a given scenario/situation.

ENABLING OBJECTIVE

The students will correctly identify structural/functional theories being used in an organization.

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STRUCTURAL/FUNCTIONAL THEORIES (WAYS TO ORGANIZE WORK)

There are two ways of looking at how to get something done: checking the structure of the organization and deciding which unit should do a particular task, or organizing the work according to the functions that need to get done in order to finish a particular task. The theories examined here are based on one of these two basic principles.

Scientific Management

Scientific Management deals with the appropriate structure of organizations: hierarchy with set chain of command, division of labor, etc.

Max Weber

Weber discussed the structure of the bureaucracy. The word itself comes from "bureau," meaning chest of drawers. In an organization, there is a structural drawer for each function of the organization. Specialization and separation of activity are based on expertise.

Gantt Chart

The Gantt Chart is based on function. It left structure as it was but recognized that work transcends boundaries. Gantt developed a charting system to ensure that tasks were completed as needed and on time. The chart provides a snapshot of who does what when. Then tasks also could be tied to bonuses. The chart identifies the different tasks within an operation and ensures that each of the tasks comes together at the same time.

Gulick and Urwick

Gulick and Urwick focused on organizational structure. They saw an organization like a machine, and established the role of the manager in a number of functions using the acronym **PODSCORB.**

- **P**lanning;
- **O**rganizing;
- **D**istributing;
- **S**taffing;
- **Co**ordinating;
- **R**ecording; and
- **B**udgeting.

Chester Barnard

Barnard also dealt with the structure and function of an organization. Barnard introduced social concepts into the analysis of management function and developed an elaborate network of definitions and concepts, with a heavy application of sociology.

Barnard said that one must consider and work with the human relations aspect because that is one of the critical functions of the executive. He was the first to identify and address the presence of the informal organization.

People are a major part of the organization. People often have responsibilities due to their expertise. These responsibilities may change department if the person with the expertise moves. Things change!

Systems Theory

Once Barnard established that things change, he began to look at an organization as an open system, constantly moving. This theory recognizes the impact of the environment and the interaction of the various components of an organization.

It analyzes the effect of the system's parts, which are not operating in isolation; they interact and have an impact on one another. The environment affects the organization; thus, everything is in motion. The **process** is as important as the overall structure.

Systems Theory emphasizes the continuous dynamics of an organization. It is based on cybernetics and biology. An organization is like a one-celled animal. It takes things in, processes them, and then puts things out.

Decision Making Theory

Herbert Simon presented the most direct challenge to the classical school. The number and types of decisions an individual in an organization will make depend on the position held. Employees should be selected and trained according to the decisions they will make.

Institutional/Functional School

Philip Selznick also takes a holistic approach. Management is institutional leadership as well as people management. The administrator directs the institution. Organizations and individuals go through development stages and, in doing so, develop a character of their own. (This is the beginning of the concept of organizational culture.)

Contingency/Situational Theory

Tannenbaum and Schmidt are probably the best-known theorists in this area. Contingency/Situational Theory recognizes the need for flexibility in management style and structure. It is based on Systems Theory but goes beyond. Systems Theory analyzes a situation, Contingency Theory responds.

The Matrix Organization

Delberg and Filey, and Knight, presented the concept of a Matrix Organization wherein there is dual responsibility across organizations on the basis of departments and projects. This increased in application as organizations began more comprehensive programs. Examples include hazardous materials response teams or a multidivision task force.

The following charts (Tables 4-1 and 4-2) demonstrate the difference between a typical, Traditional Organization and the Matrix Organization.

Table 4-1
Traditional Organization

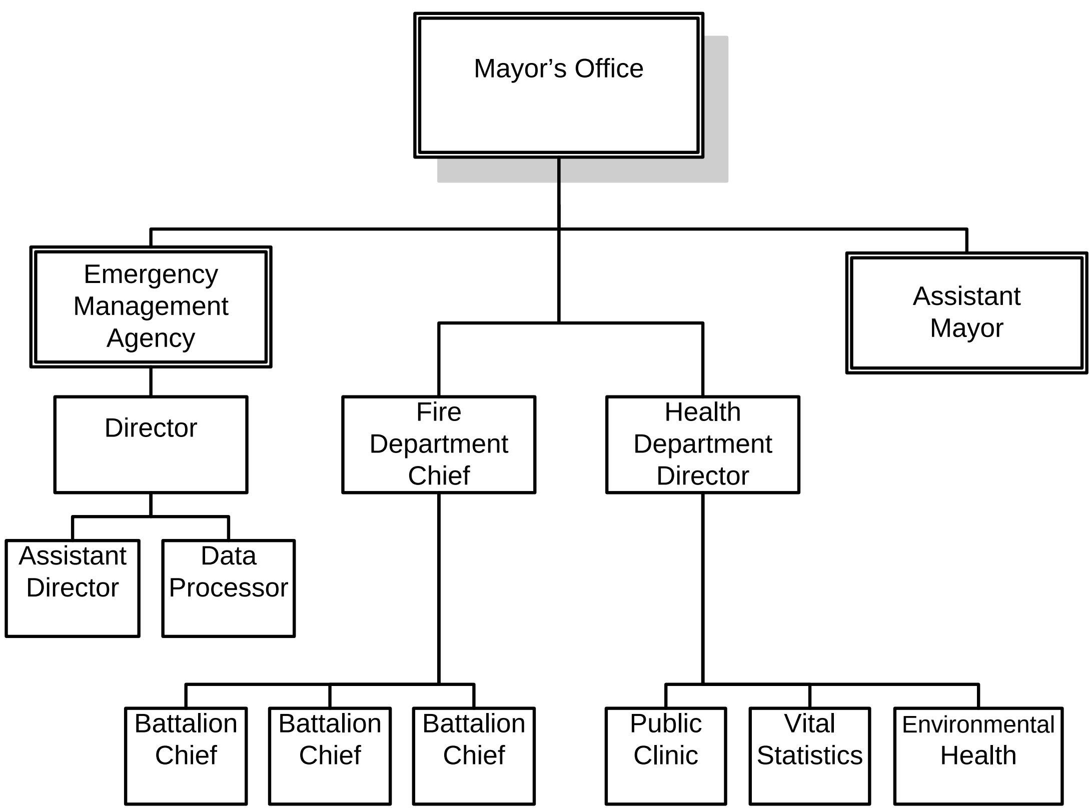


Table 4-2
Matrix Organization

	Mayor's Office	Fire Department	Environmental Health	Emergency Management	Mass Transit	Media
Public Information		X	X	X		X
Hazmat Containment		X				
Data Processing		X	X	X		
Evacuation	X		X	X	X	X

CURRENT ORGANIZATIONAL THEORIES

Minnowbrook II

Minnowbrook II was held in 1988. The original attendees who developed The New Public Administration, and 30 graduates and leaders of the 1980s were invited to examine and discuss the current and future state of public administration. A number of current theoretical debates were held.

Three books emerged from this conference: Frederickson and Chandler, *Minnowbrook II*, Volumes 1 and 2, and Bailey and Mayer, *Public Administration Theory in a World of Interconnectedness*.

Due to finite resources and infinite problems, government must practice **amelioration** (Bailey, Mayer, Guy). Government can raise only a limited amount of money. The fire department/ emergency medical services (EMS) has a limited budget. Social problems are overwhelming and it is impossible to eradicate all of them totally. It is not possible to stop **all** fires from starting. It is not possible to eliminate all loss of property due to fires. It is not possible to have EMS response times below 2 minutes for every call. Therefore, the goal must be to ameliorate rather than to solve problems.

Amelioration means to make better without curing or solving. This relates directly to the debate in the fire service concerning the leveling off of the reduction in the number of deaths due to fires and the amount of property lost. Leadership can have a variety of forms (Wambaugh, Bruce). Given the different types and needs of organizations, different types of leadership are appropriate. There are two subsets of constructs for this: Managers who do not allow organizational change in times of cutbacks are leaders. (This contrasts with the emphasis on transformational leaders. These people are not allowing change. The assumption is that change under the circumstances of the environment would be negative.) Leadership can be taught in a variety of new ways. The prestige of the public administrator needs to be reestablished (Hart, White, Harmon, Goodsell).

Public administrators have lost prestige due to scandal and lack of understanding **on the part of the public.** The lack of prestige has led to a decrease in morale and a drop in the level of public service. In order to reestablish the social value of the public administrator two things need to be done.

1. Educate the public concerning what public administrators do.

2. Recognize the accomplishments of public employees.

The ethics of the public administrator need to be high and public (Denhardt, Marini, Bok, Fleischman and Payne, DeGeorge). Ethics is a branch of philosophy concerned with the study of moral principles and moral action. **Morality** is concerned with those practices and activities that are considered right or wrong and with the values those practices reflect and the rules used to carry them out in a given organization. Morality expresses group values. Thus, the values of the public sector must be high, and the performance of public employees is, therefore, of high character.

Basic values cannot be compromised. For example: Respect for individuals remains even though someone makes a mistake. A firefighter's/emergency medical technician's (EMT's) actions are reprimanded or challenged, not the firefighter/EMT.

Situational or relative ethics are not valid. If it is wrong to steal, it is not okay to take something from a store because you were overcharged on your last purchase. In inspecting a building, is it okay to let some violations go uncited since you cited the "major" ones?

Minnowbrook III

Minnowbrook III's theme was "The Future of Public Administration, Public Management, and Public Service Around the World." When held, in September of 2008, 56 attendees were invited to participate.

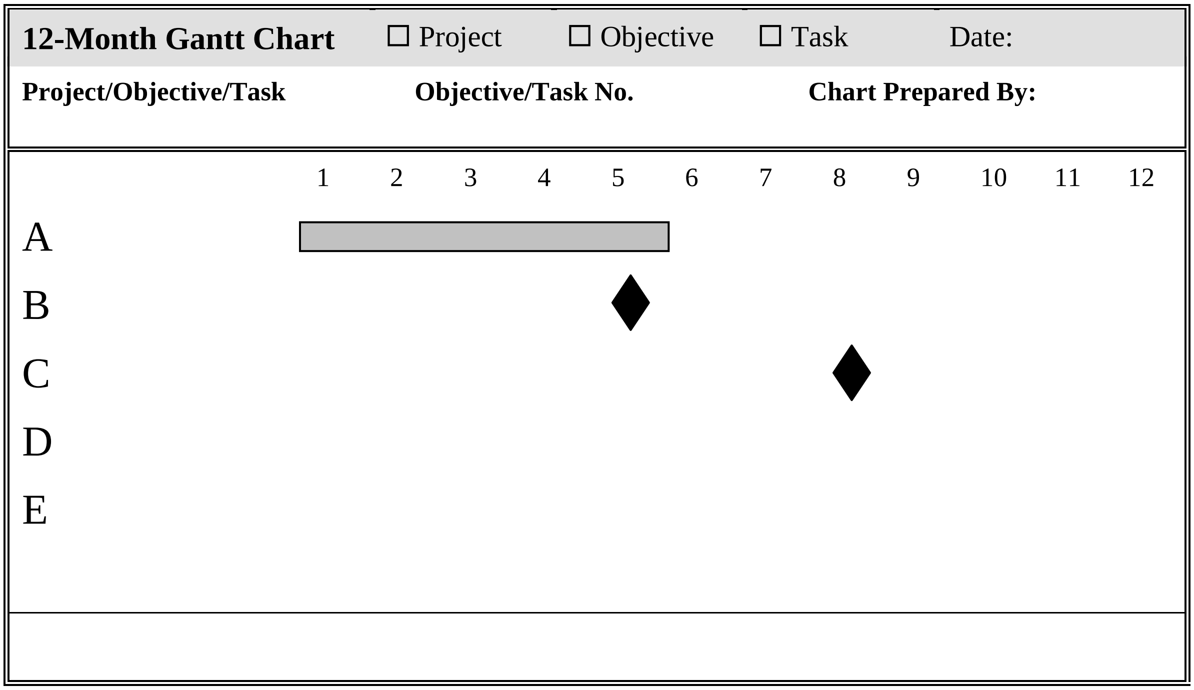
The Conference consisted of two phases. The first focused on summaries of concerns and future directions representing a dozen focal areas presented to senior scholars and attendees. These included academic-practitioner relations; democratic performance management; financial management; globalization/comparative perspectives; information technology and management; law, politics and public administration management; leadership; methods/interdisciplinary; networks; performance measurement; public administration values and theory; social equity and justice; and transparency and accountability.

The group interested in globalized perspective encouraged a renaissance of comparative studies as the world has become more increasingly interdependent. The essence of the comparative approach is context sensitive, that is, awareness that institutional and cultural context matters and should be incorporated into research. Contributions of this approach are practical for meeting curricular needs, and theoretical in making research more rigorous, revealing underlying, often U.S.-oriented assumptions and exploring alternative contexts.

The group that discussed research methods proposed a statement of commitment document, informally referred to as a pledge or manifesto, asking new scholars to serve as change agents regarding the use and teaching of research methods and the responsiveness of the peer review process. One element of this was more attention to the method of action research to increase with the issues and practice of public administration; another was a commitment to methodological pluralism.

The group interested in public administration values and theory offered a reformation of public administration, defining public administration as: "a socially-embedded process of collective relationships, dialogue, and action to promote human flourishing for all." Questions arising from the reformulation included how public administration might recognize competing values and whether a critical consciousness regarding public administration should be encourages.

The scholars from Minnowbrook III are in the process of writing papers on the Conference and a book reflecting the best of Minnowbrook III is currently being edited for publication. Both the papers and the book will be available and hopefully in the National Fire Academy's (NFA's) Learning Resource Center (LRC) sometime in 2012.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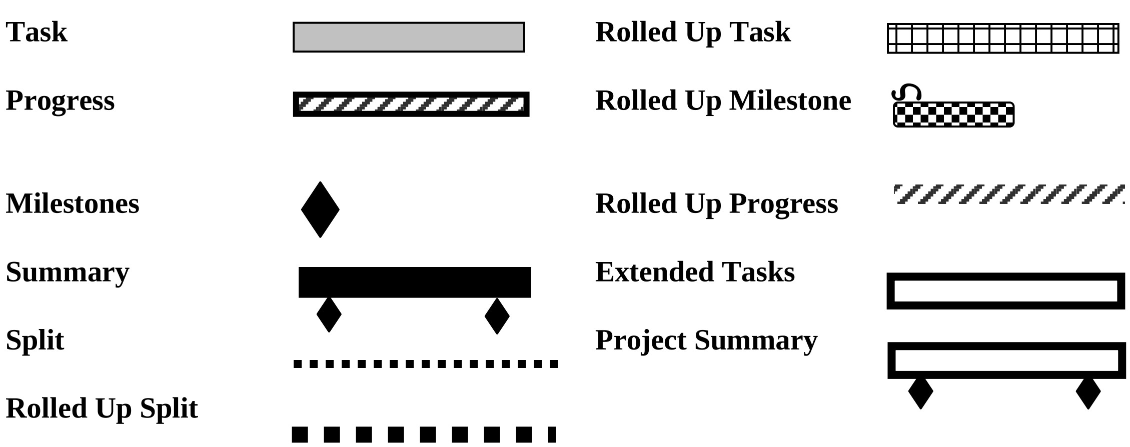
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Activity 4.1

Organizing to Perform Work

Purpose

To identify how the use of different theories would lead to different approaches to solving a problem.

Directions

1. You will be divided into four groups.

2. A different theory will be assigned to each group. Your group must approach the solution to the problem using your assigned theory.

3. You will recommend changes in the structure of the organization based on the theory.

4. Each group should prepare a report for the class.

5. For your presentation to the class, present the reorganization your group recommends and explain the process your group followed to arrive at the recommendation.

Scenario

A city with a population of 14,000 has a combination fire department that provides emergency response to fires only. The department has a full-time chief, three full-time captains, and three full-time firefighters. They work a three-platoon system. Paid-on-call personnel are available as needed. A fire safety inspection program is in operation; however, the information gathered on these inspections is maintained in file folders and is not disseminated or used. No response preplanning has been systematically prepared. The chief is responsible for training, but often relies on one of the captains to "put something together" at the last minute. There is a public education program that visits each school during Fire Prevention Week. Usually one of the captains will take the initiative and ask some of the part-paid personnel if they want to participate.

For the past 10 years, emergency medical services (EMS) has been provided by a private contractor. However, the city council has been notified that effective in 6 months the contractor will be moving its station outside the city limits and will no longer dedicate an emergency response vehicle to the city. The private service has just signed a lucrative contract with an adjacent city much larger in size. The service is still interested in transporting patients, but is concerned that response time will be beyond the nationally recognized limits for first-responder care.

The city council has decided it wants the fire department to provide first-responder EMS. At the same time, an independent evaluation of the department has recommended a complete department reorganization. The chief is within 2 years of retirement and is not emergency medical technician (EMT) certified. One of the captains is a paramedic and two full-time firefighters are EMTs. Several part-paid personnel are EMT certified and two are paramedics. (They work for the private service.)

Group 1: Reorganize the department using Scientific Management and the theory of Max Weber. You may add no more than two full-time positions. Remember, this theory is based on specialization, hierarchy, and compartmentalization.

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Group 2: Reorganize the department using Matrix Organization. Remember, this theory is based on use of functions across departments or units. You may add no more than two full-time positions.

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Group 3: Reorganize the department using Contingency Theory. You may add no more than two full-time positions. Contingency Theory will take into account various options. Therefore, this will be flexible and offer different alternatives depending on different outcomes.

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Group 4: Reorganize the department using the principles of Gulick and Urwick: form should follow function. The structure is built around the activities to be performed. You may add no more than two full-time positions.

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Activity 4.2

Applying Current Theories

Purpose

To give you an opportunity to use what you have just learned about theories to address an actual fire department/EMS situation or problem.

Directions

1. Individually identify a problem or situation in your department that could be addressed using one of the current theories explained so far in the course. In the space below briefly jot down the situation/problem, the theory, and your ideas for how to implement the theory to mitigate the situation/problem.

   a. Situation/Problem:

   b. Theory:

c. Implementation:

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2. In your assigned work group discuss each of your examples.

3. Select the best application of theory to practice for presentation to the rest of the class. Write your examples on an easel pad.

4. Select a spokesperson for your group. Using your group's prepared easel pad, the spokesperson will describe your examples to the rest of the class and answer any questions about these examples.

5. Your work group has 20 minutes to complete this activity.

UNIT 5:
EMPIRICAL-BASED THEORIES

TERMINAL OBJECTIVE

The students will be able to apply different theoretical approaches to a given scenario/situation.

ENABLING OBJECTIVE

The students will correctly identify empirical theories being used in an organization.

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EMPIRICAL-BASED THEORIES

Organizational analysis is primarily descriptive in nature. However, from the earliest development of organizational theory as an area of concern and study, attempts have been made to incorporate empirical ways of measuring functions.

Statistical Inference

The studies of Roethlesberger and Dixon, and Elton Mayo (discussed earlier) were only pieces of a much larger organizational study underway at these businesses. Other team members were looking at production quality and quality-control measures.

Statistical Inference was developed by H.F. Dodge, H.G. Romig, and W.A. Shewhart. It means you can measure only a small number, and infer or deduce the nature of the whole population. Theory is based on probability sampling.

Examples: You need to buy a box of bolts to fit a supply of wing nuts. The hardware store has boxes of different-sized bolts, but the labels giving the sizes are torn off. You "sample" the different boxes to find the one containing the right size bolts. How many do you try in each box? Should you try more than one because one may have fallen inadvertently into the wrong box? When you find a box from which three or four bolts fit the wing nut, you infer or deduce that this is the right size and buy it.

The fire department/emergency medical services (EMS) in a town of 15,000 needs a new levy. There is an election coming up soon and you have to get the levy on the ballot within the next 2 weeks. However, you are not sure if you have a good chance of winning and are thinking of waiting until the next election. In order to find out the sentiment of the voters, the fire association calls 500 registered voters. More than two-thirds are unwilling to increase their tax payments at this time. You deduce there is strong opposition to a levy at this time and decide to wait until the next election.

The Harris and Gallup polls rely on random sampling and the selection of only a limited number of representatives. If the right 400 are chosen, a sample of only 400 can indicate the opinions of the Nation. You can infer the characteristic of the population given the characteristic of the sample, if you have selected the right members of the sample.

Sampling Theory--Ronald Fischer

It is the procedure of selecting randomly the appropriate members of the sample. Randomization is critical--every member of the population has to have an equal chance of being selected. Random number tables can be found in the back of statistics books. These identify who should be part of the sample. Sample size means that a certain number of people can represent the whole **if** they are selected randomly. The design of the study is as important as the measures.

Example: There are rumors of a morale problem in the fire department/EMS. The mayor decides he/she wants to survey the department. An assistant interviews everyone in the station on Monday between 1 and 3 p.m. No morale problems are found. The mayor deduces that the rumors have no substance. The city manager is not convinced. He/She assigns three assistants to visit the fire department/EMS and interview one senior officer, two junior officers, and six firefighters/emergency medical technicians (EMTs), two from each of the three squads. These individuals are selected in advance from the duty roster. One assistant is assigned to go over on Wednesday, one on Thursday, and one on Friday. The consolidated report shows that morale ranges from high to low over the 3 days. Which study is correct? Why?

If the design is flawed, then the study, measures, and outcome are flawed.

Statistical Process Control--W. Edwards Deming

During the era of emphasis on effectiveness in organizations, the concept of Statistical Process Control (SPC) received increased support.

SPC is the ongoing statistical measure of quality of output. It allows immediate correction when deviation occurs. It is applied to production because of the ease of measurement. SPC has been adapted to public organizations through the use of alternative measuring techniques. Many public agencies integrated the concept of allowing only minor variations in quality of service.

Example: The most obvious example for the fire service is the use of response times as a measure of quality control. If EMS response times average more than 4 minutes, a review of operations is held.

A list of random numbers to equal 12 percent of calls is posted on the Quality Assurance (QA) Officer's desk. It is in code and no other department members know which runs have been identified. When the alarm sounds for the next indicated run, the QA Officer looks out the window onto the station floor and records procedures followed. (To ensure that the firefighters/EMTs do not change normal activities, he/she watches response preparedness the most.) When five or more deviations from standard operating procedures (SOPs) occur, a run debriefing and procedure review is held. When one deviation occurs more than three times on any shift, a general review of the SOP is scheduled for the entire shift. If the same deviation is identified on two of the three shifts within a week's time, the SOP is reviewed with each shift and a training session is scheduled.

Program Evaluation--Campbell and Stanley

Ethically, experimental design cannot be applied to research involving individuals. Comparison groups can be used effectively as long as the parameters are controlled to ensure comparability.

Example: You want to know whether to buy Akron Brass Akromatic nozzles or the comparable Elkhart brand. Your primary concerns are structure fires and mobile home fires. You need to make your decision within a week. (The option of buying one of each and using them for a month and comparing effectiveness is not reasonable. You do not have time to borrow one of each for a month to try.) You identify 10 departments of **comparable size and structure** with **the same type and frequency of runs.** (The **boldface** segments are the parameters.) Five have Akron Brass equipment and five have Elkhart. You interview the departments to determine the strengths and weaknesses of each and then make a decision.

Policy Analysis--Lineberry and Sharkansky

Policy analysis is an expansion of program evaluation which looks outward from the organization as well as into the organization. It took a more extensive, comprehensive view of the evaluation of the operations of the public sector. Policy analysis examines not only the program itself, but also the

- entire process of establishing policy;
- implementation mechanism selected;
- establishment of goals;
- presence of goal displacement;
- chosen alternatives of evaluation; and
- final impact on the problem or event addressed.

Lineberry developed this area following his participation at Minnowbrook. This area has developed as a major component of public administration. It can be used to evaluate the successful implementation of external policy to ascertain whether the public organization is, in fact, implementing the policy established and whether the policy addresses the issue/problem. Internal policies can be analyzed as to their effectiveness as well.

Quality Circles

Quality circles were developed in both Japan and Sweden. They are expansions of statistical process control with the incorporation of the elements of participative management from the Human Resources School. It also assumes that worker or employee ownership of the process will enhance concern and, therefore, quality.

For Quality Circles to succeed, they are usually part of a large-scale effort to interject **Total Quality Management** into all aspects of the department. This can be enhanced further by including **benchmarking,** which involves finding those organizations that do something in an outstanding way and mirroring (or improving) on their actions. This may even mean going outside of a specific service area. For example, if a fire department/EMS wanted to benchmark its emergency dispatch system it could look for excellent **fire service/EMS** dispatch systems. That's a good start. Going beyond that, however, it may be wise also to look at excellent emergency dispatch systems of police departments, and emergency road service companies (such as the American Automobile Association (AAA)).

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Activity 5.1

Use of Empirical Techniques

Purpose

To identify how the use of different theories would lead to different approaches to solving a problem.

Directions

After answering the questions for the problem assigned to your small group, report back to class for debriefing.

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Activity 5.1 (cont'd)

Problems

Problem A

Your hose test records were destroyed. You have the opportunity to purchase 1,000 feet of new hose. You currently are working with three different brands, each purchased within 1 year. Informally, officers and firefighters claim there is a difference in quality, but there is no agreement as to which is best. You do not have time to test all of the hose you have currently.

1. What do you do?

2. How do you select which hose to test? (Think: different engines, different sizes, etc.)

3. How do you compare the hose? (Think: same criteria used to measure "good" by each testing unit.)

Problem B

You are the new chief of a midsized department. You have been hired from outside the department, and it is your second week on the job. The State Fire Marshal's Office has started a new Officer Training Program which is very popular and in great demand. You have to turn in the names of the officers you will be sending by Monday of next week. In the past, the chief would select "favorite" officers for any special training and not give others the opportunity to attend (which is one reason you are now the new chief). None of your officers has attended this program. Only 25 percent of your officers can attend this year.

1. How do you select them?

2. Do you eliminate the "favorites" from any consideration?

3. Should you divide officers into subcategories and select from each subcategory?

4. Why did you select the option you did?

Problem C

You are getting mixed feedback about the quality of your public education program. At the districtwide PTA meeting last night some teachers came up to you and said it was great while others said it was a total waste of their time. After complementing you on your uniform, your daughter's teacher suggested you might want to review the public education program to see if it could be improved. You have a meeting scheduled with the Fire Prevention Officer this afternoon.

1. What do you do?

2. Who would you get information from? (Fire department presenters, teachers, students, independent experts?)

3. What might cause some of the differences in reactions by school teachers?

4. How can you pinpoint problem areas?

Problem D

The Nation's fire service has adopted a *"National Fire Service Seat Belt Pledge."* There has been some, but limited, compliance throughout the country. There is an established reporting system that allows departments that have made a 100 percent commitment to the pledge to report their compliance

1. How do you determine what percentage of those who have not reported should?

2. Why aren't they reporting?

3. Why aren't personnel wearing their seatbelt?

4. Do you have to spend time talking to those that have reported?

5. Do you have to deal with every department individually?

UNIT 6: LEADERSHIP AND SUPERVISION

TERMINAL OBJECTIVES

The students will be able to:

1. *Select effective leadership styles for each group or situation within the organization.*

2. *Apply human relations theories and select effective supervisory practices for each group or situation within the organization.*

ENABLING OBJECTIVES

The students will:

1. *Identify the basic components of three major leadership theories.*

2. *Match personal leadership styles with leadership theories presented in class.*

3. *List three ways a leader's style can influence an organization.*

4. *Explain the need for differing motivational theories.*

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WHAT IS LEADERSHIP?

Various definitions of leadership are favored, depending on one's position, perception, and orientation.

The following quotes are assumptions upon which the authors built their theories.

"Leadership is the capacity and will to rally men and women to a common purpose."
- Field Marshal Montgomery

"Leadership is a potent combination of strategy and character. But if you must be without one, be without strategy."
- Retired General Norman Schwarzkopf

"You do not lead by hitting people over the head--that's assault, not leadership."
- Former President Dwight D. Eisenhower

On Leadership- "Being responsible sometimes means pissing people off. You can't please everyone."
- Retired General Colin Powell

"A leader takes people where they want to go. A great leader takes people where they don't necessarily want to go but ought to be there."
- Former First Lady Rosalynn Carter

"Learning to take the heat and receive people's anger in a way that does not undermine your initiative is one of the toughest tasks of leadership." "Frequently people who exercise leadership are amazed that their organizations and communities resist."
- Ronald A. Heifetz and Marty Linsky
Leadership on the Line

"A manager does a thing right. A leader does the right thing."
- Warren Bennis

Power, Authority, and Leadership

Power is the ability to command or apply force. In other words, A has power over B to the extent that A can get B to do something that B would not otherwise do.

Authority is the right to command and expend resources. Authority implies power, based on "right" or justification that is coupled with resource allocation. Authority results in achievement of an end.

Leadership implies power because it is capable of achieving an end independent of resource allocation. Success is determined by power. Power is multidimensional and complex.

Types of Power

- Positional power--*ex officio.*

  Individuals follow whoever is in that office or position. Authority is vested in the office. A captain will lead a lieutenant. The mayor leads the city government.

- Charismatic leadership.

  This type of leadership is based on personality or style of an individual. Examples include John Kennedy, Franklin D. Roosevelt, Martin Luther King, Jr., Norman Vincent Peale, and Adolf Hitler. The example of Hitler shows that charismatic leaders are not necessarily good.

- Legitimate authority comes from laws and is established by rules.

- Traditional authority comes from custom or habit. Examples of this include the parent-child relationship and teacher-student relations.

- Reward power--The ability to compensate others for performance or actions. The compensation may take the form of promotions, merit bonuses, or public recognition.

- Coercive power--Based on perceived expectations that punishment will follow if one does not comply with the leader or manager. Punishment may take the form of warning, reprimand, suspension, demotion, or firing.

- Referent power--Based on the identification or association of subordinates with a leader or manager and what the leader or manager represents, or symbolizes. For example, a subordinate loyally implements the policies of his/her manager because he/she identifies with and supports the manager's organizational philosophy.

- Expert power--Based on a person's knowledge of content in technical areas.

Leadership and Leadership Styles

- Authoritarian or autocratic: The leader has tight control, makes all decisions, and closely supervises employees.

- Participative or democratic: A group process in which the leader allows participation in decisions, majority vote, and autonomous activity by employees.

- Situational power: Use is based on the severity of the situation, level of expertise and training of the workgroup relative to the situation that must be dealt with.

- Flexible: Currently the most popular leadership style, involves the ability to adapt to the situation and the team.

- Delegative or free rein: The leader allows the employees to make the decision, but the leader is still responsible for the decision. The leader's roles will be: directing, supporting, coaching, and mentoring.

Although it appears initially that the democratic style is most desirable, further research indicated that effective leadership styles change according to the situation. Each of these primary styles can be refined further to describe the leader's characteristics.

Transactional Leadership

Transactional Leadership implies that there is a process that occurs, much like the purchase of goods. Our earlier example was of a firefighter/emergency medical technician (EMT) who reports for his/her shift and performs satisfactorily. An officer makes a notation to that effect, and ultimately the firefighter/EMT is paid for that day's work. Essentially, the transaction involved "trading" work for pay. Over time this relationship of "money for services" becomes accepted by both the firefighters/EMTs and the officers. This example is, of course, an oversimplification. If all you really wanted was to earn the maximum amount of "pay" why not just rob banks, and cut out the middleman! So the nonmonetary types of "pay" can be extremely important, too. For example, these include the provision of an essential community service, helping people in need, the ability to do a job well under stress, etc.

Don't think that Transactional Leadership occurs only in paid, career departments either. Even in a volunteer fire department/emergency medical services (EMS) a transaction occurs: a volunteer firefighter/EMT participates--answers emergency calls, trains, participates in fund drives, etc.--and, in return, receives a feeling of satisfaction for serving the community, recognition within the organization, etc.--essentially, some of the same motivators as those in a paid department receive (except the pay), and perhaps some different ones as well.

Transformational Leadership presumes and builds upon Transactional Leadership. The transactional system must already be in place. Transformational Leadership involves the followers with a highly-respected leader to the extent that the process "transforms" or improves them all.

According to James Kouzes and Barry Posner, two highly respected leadership researchers, there are several critical characteristics that transformational leaders have. First, such leaders have "source credibility," which Kouzes and Posner indicate means that when these leaders communicate they do it with honesty, inspiration, and in a competent manner. As a result people believe in them. Such leaders also are forward-looking, not just considering next week or next year, but the implications of their vision and actions for the next decade, and beyond. In addition these leaders are action-oriented. In plain English they "make things happen." Finally, transformational leaders reinforce the shared positive values of the workers. (For more information please see the Kouzes and Posner required reading for this unit, "Leadership is Everyone's Business.")

As a result of these characteristics, transformational leaders create--with the members--a new vision for the entire organization. Then they mobilize the people in the organization to commit to the changes needed to bring about this new vision. Finally, they institutionalize the changes, dealing with a variety of practical issues, such as resource allocation, training, control systems, etc.

Transformational Leadership

This theory (developed by Noel Tichy and Mary Anne Devanna) places the leader in the role of change agent. The leader has a vision of where the organization should go. Transformational leaders are courageous; risk-takers; believers in people; motivated; value driven; life-long learners; able to deal with complexity, ambiguity, and uncertainty; and visionaries.

Transformational Leadership presumes and builds upon Transactional Leadership. Transformational Leadership involves the followers with a highly-respected leader to the extent that the process "transforms" or improves them all.

Critical characteristics that transformational leaders have are

- source credibility;
- forward-looking;
- action-oriented; and
- reinforce the shared positive values of the workers.

As a result of these characteristics transformational leaders create--with the members--a new vision for the entire organization. They then mobilize the people in the organization to commit to the changes needed to bring about this new vision. Finally, they institutionalize the changes, dealing with a variety of practical issues, such as resource allocation, training, control systems, etc.

They take the organization through three acts on an ongoing basis:

- Act 1: Recognize the need for revitalization.

- Act 2: Create a new vision.

- Act 3: Institutionalize change.

REVIEW OF LEADERSHIP THEORIES

Trait Leadership Concepts

Do physical and psychological traits induce leadership? The presence or absence of any or all traits identified in different studies does not predict that one will or will not be a successful leader.

The Ghiselli Study examined more than 300 managers in 90 different U.S. businesses.

The study concluded that certain traits are important but **not necessary** for successful leadership. The following six traits were significant for effective leadership in the Ghiselli Study.

1. Supervisory ability--getting job done through others.

2. Need for occupational achievement--motivation to work hard to succeed.

3. Intelligence--judgment, reasoning, and thinking abilities.

4. Decisiveness--problem-solving and decisionmaking.

5. Self-assurance--confidence in one's own ability.

6. Initiative--self-starting and self-directed.

Other studies, such as the one conducted by the *Wall Street Journal*, suggest other traits important for successful leadership. These traits are: desire to achieve, persistence, integrity, persuasiveness, mental energy, decisiveness, confidence, and ability to handle people.

Scientific Management Theory

This theory focuses primarily on the job. Employees are secondary, if considered at all. Theorists include Frederick Taylor and Henri Fayol.

Behavioral Leadership Theory

This theory focuses primarily on the people who perform the jobs. It addresses **human skills** important to leaders.

Theorists and studies include Elton Mayo--the Hawthorne Studies; Douglas McGregor--Theory X and Theory Y; Blake and Mouton--Managerial Grid; Rensis Likert--System 4; and Henry L. Gantt.

Contingency Leadership Theory

This theory focuses on the impact of the environmental, technological, and organizational characteristics of successful leadership.

For example, the impact of fire prevention and public education programs can be seen in the decline of the number of fires that occur. In addition, the reduction in financial resources has forced many organizations to downsize their staffing requirements.

Contingency Leadership Theory, which was developed in the 1960s, is predicated on the belief that there is no **one** best way to lead or manage. The best way **varies** with the situation. Fred E. Fiedler was one of the major developers of this theory.

Robert Tannenbaum and Warren Schmidt developed a leadership continuum that was based upon Contingency Leadership Theory. It demonstrates the actions a leader would take based upon either an autocratic or a participative style of leadership. For example, under an autocratic style, the leader will make decisions and announce them. However, the leader using the participative style will permit subordinates to function within limits defined by the leader. The definition chosen depends on the nature of the situation.

Victor Vroom and Philip Yetton developed Expectancy Theory which basically states that individual performance matches what is expected by others. If you expect professional performance, you get professional performance. If you expect someone to make a mistake, he or she will.

Theory Z--Participative Leadership

Theory Z emphasizes individual responsibility, collective decisionmaking, and slow evaluation and promotion.

Theory Z includes holistic concern for the employee and the organization along with implicit, informal control with explicit, formalized measures.

The developers of this theory are W. Edwards Deming and William Ouchi. Deming developed the original theory and went to Japan to implement it. Ouchi studied the impact of the system, gave it the name "Z", and wrote about the theory.

LEADERSHIP STYLES

Differences Between Leadership Theories and Styles

Theory is the explanation of why. It identifies what does and does not work and why. Theory develops descriptions and categorization of styles to aid in the explanation while style describes the various characteristics of a specific type of leader.

The definition of leadership style is "methods of interaction and motivation used by leaders when working with employees." Behavioral leadership theories assume that there are distinctive styles which effective leaders use consistently.

The Blake-Mouton Model

This model is based upon two leadership dimensions: a concern for production and a concern for people.

To determine where a manager is in relationship to this model, people complete a survey detailing what actions they would take in specified situations. Once this is complete the results are placed on the managerial grid. The Blake-Mouton Model identifies five leadership styles:

1. The Impoverished Manager--low concern for both production and people.

2. The Sweatshop Manager--high concern for production, low concern for people.

3. The Country Club Manager--high concern for people, low concern for production.

4. The Organized Manager--balanced--medium concern for both production and people.

5. The Team Manager--high concern for both production and people.

Contingency Leadership Theory

This theory was developed during the 1980s when there was considerable emphasis toward participation management.

It assumes that the appropriate leadership style varies from situation to situation. Part of this theory is the Leadership Continuum, developed by Tannenbaum and Schmidt.

Autocratic Style

- Leader makes decision and announces it.
- Leader "sells" decision.
- Leader presents ideas and invites suggestions.
- Leader presents tentative decision subject to change.
- Leader presents problem, gets suggestions, makes decision.
- Leader defines limits and asks group to make decision.
- Leader permits subordinates to function within limits defined by leader.

Participative Style

Figure 6-1
The Leadership Continuum--Tannenbaum and Schmidt

The scale ranges from totally autocratic to totally participative. The most appropriate category is determined by three factors:

1. The supervisor's preferred style.

2. The subordinate's preferred leadership style--what makes him/her most comfortable.

3. The situation at hand.

The third condition (the situation at hand) is the most influential since it has an impact on the subordinate's preference.

The fire service/EMS is a perfect example: How many would **want** a participative management style at an incident? How many would like to participate in preincident planning, selecting training options, or equipment purchasing?

Situational Leadership Model (Blanchard)

Blanchard expanded the Contingency Leadership Theory to include the needs of the people involved as well as the situation.

The Blanchard Situational Leadership Model states that the style of leadership varies according to the development level of the individual as determined by his/her competence and commitment to the organization.

There are four basic leadership styles:

1. Directing (low supportive, high directive).

2. Coaching (high supportive, high directive).

3. Supporting (high supportive, low directive).

4. Delegating (low supportive, low directive).

The leader chooses the style that will match the follower's level of competence and commitment.

For example, if a firefighter is highly competent at the skills needed for ventilating a roof and has confidence in his or her ability and motivation to perform the task, a leader would be most effective using a delegating style. On the other hand, this same firefighter may have few skills in hazardous materials operations and yet is excited about learning this new task. In this case, the effective leader would use a directing style.

The four styles differ in terms of how the leader responds to the needs of a subordinate. The difference is in the degree to which the leader provides direction or support to the follower.

In all four styles, the leader sets goals, observes performance, provides feedback, and remains accountable.

Situational leadership states that there is no single best leadership style. The dynamic and effective leader should be able to use each style according to the needs of the subordinate as well as the situation at hand.

Selecting Leadership Style When You Take a New Position

Use the following steps when you must evaluate which leadership style to use in a new organization.

1. Scan the organization.

    a. Internal--identify culture, practice, and tradition.

    b. External--become aware of environment.

2. Identify problems that have an effect on department and personal performance.

    a. Set goals for solving them.

    b. Establish priorities.

3. Mold and review alternative solutions.

    a. Solutions have two parts:

        - Outcome--what you want to achieve/change.

        - Process--**how** to change.

    b. Review methods and theories.

4. Select the **best** approach. (The best approach is the most appropriate alternative, given the situation.)

5. Write objectives and action plan.

6. Use the **best** leadership style to implement the action plan.

7. Monitor and evaluate the process--adjust if necessary.

MOTIVATIONAL THEORIES

The Importance of Motivation

To be a successful leader, one must have followers.

The ability to get others to do what is necessary is critical to leadership. Quality of performance is higher when the individual wants to do a task. Motivation is the greatest challenge of leadership.

Review of Classic Motivational Theories

Douglas McGregor--Theory X and Theory Y

A person's belief system about human nature influences his/her behavior as a leader. Subordinates react to the leadership style present. Table 6-1, Theory X and Theory Y Assumptions About Human Nature on the following page provides details about these theories.

Table 6-1
Theory X and Theory Y
Assumptions About Human Nature

Theory X

1. The average person has an inherent dislike of work and will avoid it whenever possible.

2. Because they dislike work, employees must be coerced, controlled, directed, and threatened with punishment in order to get them to put forth adequate effort to assist in achieving organizational objectives.

3. The average person prefers to be directed, wishes to avoid responsibility, has relatively little ambition, and wants security above all.

Theory Y

1. The expenditure of physical and mental effort in work is as natural as play or rest.

2. External control and the threat of punishment are not the only means for bringing about effort toward organizational objectives. People will exercise self-direction and self-control in the service of objectives to which they are committed.

3. Commitment to objectives is a function of the rewards associated with their achievement.

4. The average person learns, under proper conditions, not only to accept, but also to seek responsibility.

5. The capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population.

6. Under the conditions of modern industrial life, the intellectual abilities of the average person are only partially utilized.

Source: Adapted from *The Human Side of Enterprise* by Douglas McGregor. McGraw-Hill Book Company. 1960.

Abraham Maslow (1908-1970)--Hierarchy of Needs

Maslow described five levels of need which an individual attempts to satisfy.

Once the lower-level needs have been satisfied, the individual can address the higher-level needs.

An individual can be motivated by filling the five levels of Maslow's Hierarchy of Needs.

1. Physical--food, shelter.

2. Safety/Security--physical, job.

3. Belonging--acceptance by significant others.

4. Self-esteem--worthy and admirable.

5. Self-actualization--create and maximize talents. A growth level requiring that:

   - All other levels have been met.

   - The individual is challenged to create.

   - The individual has the freedom to create.

Although this is the priority order, it may not always hold true.

Frederick Herzberg--Motivation-Hygiene Theory

Herzberg described hygiene needs and motivating needs.

Fulfillment of motivation needs encourages growth in individuals and job satisfaction. These needs include advancement, responsibility, the job itself, recognition, and achievement.

When hygiene needs are not met, the individual is dissatisfied. Hygiene needs include working conditions, supervisory relations, salary, and administrative policies.

B.F. Skinner (1904-1990)--Behavior Modification

In Skinner's theory, motivation is based on operant conditioning. This also is referred to as "shaping theory." Behavior is a function of its consequence. Reward (reinforcement) results in an increased probability that a behavior will be repeated. Punishment decreases the probability that the behavior will be repeated.

Victor Vroom--Preference-Expectancy Theory

Vroom believed that people are motivated to work if they believe their efforts will be rewarded and if they value the rewards offered.

Following are the three main concepts in the Expectancy Theory.

1. The value is placed on the reward. (How much is it worth?)

2. Instrumentality--the relationship of performance and reward. (What will it take to do it?)

3. Expectancy--probability of accomplishing objective. (Can I do it successfully?)

J. Sterling Livingston--Pygmalion Theory

This is also called "self-fulfilling prophecy." Subordinates often perform according to their manager's expectations. High expectations from managers result in quality and high productivity. Low expectations result in poor quality and low productivity.

Pinder, 1984--Goal Setting Theory

This theory states that human behavior occurs in response to goals and incentives. Harder and higher goals will produce higher levels of performance. Clear, measurable goals are better than ambiguous goals. No incentives will work unless they result in goals that are ambitious and clear.

Many of the current writings appear in the form of challenges to previous motivation theories.

Current/Popular writings are often a quick fix. They try to provide a, b, c steps to solve challenges and problems. Make certain that articles you try to implement are not just superficial attempts at a quick fix.

Many theorists argue that just as leadership needs to adapt to situations, motivation techniques have differing success depending on the situation. One element of determination seems to be the environment/current events.

During the depression, job security was a tremendous motivation technique. During the 1960s, the social value of a job attracted many young people.

DELEGATION OF RESPONSIBILITY AND AUTHORITY

Delegation is the process of assigning responsibility and authority for accomplishing an objective.

Three steps to effective delegation:

1. Assign work to subordinates; make sure the assignment is clear and is possible.

2. Make it the subordinate's responsibility to perform the work satisfactorily.

3. Grant authority to take actions necessary to complete the task.

Purposes of Delegation

Delegation has four major purposes: to motivate, to manage time, to increase organizational effectiveness, and to serve as a mentor.

Expressions of confidence in a subordinate through delegation can increase self-esteem and job satisfaction. Delegation increases discretionary time for planning so that the performance level of a leader is appropriate to his/her position in the organization.

Delegation can increase organizational effectiveness. It increases the smooth flow of activities and eliminates bottlenecks by allowing people to perform at their capacity.

Delegation also allows the leader to serve as a mentor. Employee development is an important aspect of a leader. It enables subordinates to strive for greater accomplishments. The leader can help guide them to personal growth that benefits both the organization and the individual.

Mentors can exist outside of the organization as well as internally. Consider how a local business leader may serve as a mentor to you or others in your department.

Someone subordinate to you in the organizational structure can serve as your mentor if you are attempting to gain expertise or knowledge he or she possesses.

The Responsibility--Authority Dichotomy

Delegation involves giving **both** responsibility and authority. Some responsibility, however, remains vested in the manager. When responsibility is delegated, but authority is not, the individual is set up to fail.

Sandbox Concept

Managers have some discretion to meet set objectives. This amount of discretion is determined by four factors:

1. Resources--personnel, space, and equipment.

2. Funding--money.

3. Policies and procedures.

4. Law and ethics.

The four "walls" set up by these factors help determine how to approach meeting the objectives and whether to delegate. This can be likened to a sandbox in which one can play and build anything one wishes, as long as one does not run into the sides of the box.

SUMMARY

Leadership takes many forms. Effective leaders may need to adapt their style to the situation. Understanding a leader's style can assist a subordinate in working with him/her more effectively. Motivating is a leader's greatest challenge. Delegation is an effective management technique when used appropriately.

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Activity 6.1

Transformational Leaders

Purpose

To give you an opportunity to "compare notes" on transformational leaders you have known.

Directions

1. Take a few minutes now to jot down your recollections of the most memorable characteristics of a transformational leader you have known. This individual--man or woman--could be from within the fire service/EMS or outside (church, school, military, sports, wherever).

2. Share your recollections with your table group. No easel pad is necessary.

3. Select one or two examples to relate to the rest of the class.

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Activity 6.2

Leadership Style

Purpose

To provide an example of a fire service/EMS leadership style.

Directions

1. View the segment of the movie "Ladder 49."

2. At the completion of the segment answer the following questions.

   a. What was the leadership style used?

   ____

   ____

   ____

   ____

   ____

   b. Was this style appropriate?

   ____

   ____

   ____

   ____

   ____

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Activity 6.3

Mann Gulch Case Study, Part 1

Purpose

To analyze a fire service/EMS case study in terms of leadership theories.

Directions

1. View the video reviewing the critical aspects of the Mann Gulch disaster.

2. In your assigned group, discuss the following questions and be prepared to discuss your group's answers with the remainder of the class.

    a. Were there failures in leadership? If yes, list the failures.

    ____

    ____

    ____

    b. What could have been done to improve the quality of leadership?

    ____

    ____

    ____

    c. How does a leader secure the trust of his/her followers?

    ____

    ____

    ____

d. What types of leadership were used? Did they work? Why?

____

____

____

e. Can any of the leadership theories you have studied help you to better understand the events that occurred at Mann Gulch?

____

____

____

f. Who were the informal leaders?

____

____

____

UNIT 7: DECISIONMAKING

TERMINAL OBJECTIVES

The students will be able to:

1. *Make effective decisions in their organizations.*

2. *Use calculated descriptive statistics to justify recommendations made to solve a problem presented in a scenario.*

ENABLING OBJECTIVES

The students will:

1. *Identify the four major factors in selecting decisionmaking styles.*

2. *Identify the six major categories of decision theories, including examples of each.*

3. *Identify the eight steps of the rational comprehensive theory.*

4. *Calculate descriptive statistics using Microsoft® Excel.*

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INITIATING THE DECISIONMAKING PROCESS

Four Critical Factors

There are four critical factors which must be considered when making a decision:

1. Time.
2. Cost of information.
3. Conditions in the organization.
4. External environment.

Time

Short-time horizons dictate a different style of decisionmaking--primarily single individuals using limited information and expedient criteria for the solution. One example is when an Incident Commander (IC) makes tactical decisions; another is when a shift commander makes an immediate decision about relieving a subordinate from duty if the commander believes the firefighter/emergency medical technician (EMT) may be under the influence of drugs or alcohol.

Long-time horizons make it possible to use group decision techniques, or analytical methods. Analytical decisionmaking considers a large amount of information, many alternatives, and an analytical decision process, which evaluates all issues and possibilities. An example of group decisionmaking is a department policy established by a committee. An example of analytical decisionmaking is the master planning process, which considers five or six alternatives for every option in the final plan.

Cost of Information

Information normally improves decision quality, but most decisions are made under conditions of uncertainty. Generally, a manager does not have access to all the facts, and does not know exactly how effective each of the alternative courses of action will be. If the manager knew any of these things, better decisions could be made. But there always is a cost for additional information; whether it is a cost of time, effort, or money.

How long should a manager spend gathering additional information before making a decision? How much money should a manager spend before making a decision? Where does the break point come, at which point it is more expensive to gather additional information than to absorb the cost of making a mistake? These are questions which any manager must ask in determining how much information to gather before making a decision. Examples of these questions are: How many departments should a chief visit before deciding what brand of dispatch software to purchase? How many firefighters/EMTs should an assistant chief talk to before making a decision on a vacation policy?

The consequences of making a wrong decision will determine the appropriate cost of additional information. Low-impact decisions require low-cost decision processes. High-impact decisions justify high-cost decision processes.

Primary issues are the cost of collecting additional data, determining if it is a cost-effective investment, and deciding whether the issue is one of comparatively high priority. Given pressing issues regarding a departmental reorganization and expansion, how much time should be spent on a decision about the design of a new patch?

Conditions in the Organization

The organization's history and tradition in decisionmaking are major factors in determining the decision styles used in the department. If previous decisionmaking has been centralized historically in a single individual, such as the chief, personnel may not be ready to participate in the decisionmaking process. They must be trained to make decisions so they understand the big-picture issues in a decision. They must have a positive attitude toward decisionmaking, and they must understand their role in the process. A command staff of 20-year veterans, who have never been entrusted with major decisions must be trained to make those decisions properly. They should not be required to make them suddenly.

The identity of the department's decisionmakers is a critical factor. Some decisionmakers let their personal prejudices interfere with objective decisions. Some have blind spots or misconceptions about issues. Some have to be involved or consulted to prevent them from sabotaging the decision. Some critical power brokers must be sold on a decision to see that it is implemented properly.

There are areas in which the organizational culture will resist change. Will the rank and file accept sweeping changes in line responsibilities? Will they accept major changes in promotional processes or criteria? Each group will have its vested interests to protect; turf which it will fight to control.

External Environment

Forces outside the department will affect issues about which decisions will be made. Political figures may undermine decisions because of personal relationships, personal prejudices, or pressure from special interest groups such as business associations, neighborhood associations, or unions. No department operates in a vacuum; decisions are made in a political arena.

Community groups often interfere with the decisionmaking process on issues that affect them directly. Frequently they need to be brought into the process to ensure a minimum of interference. Then there are key issues which are political bellweathers, or signposts of public attitudes. Staff personnel must be sensitive to the key political issues and sufficiently sophisticated to deal with the issues successfully in the decision process. Examples of these sensitive areas for the community include: resistance to tax increases, resistance to closing of a present station, or local support of independent status of all volunteer departments in a county.

Opportunity Costs

Another important concern in decisionmaking is understanding the concept of opportunity costs. While it is not one of the four factors in determining the type of decisionmaking style to use, it is vital to understand the consequences of making a choice. It forms a key element of the framework for making decisions.

An opportunity cost is the benefit that would derive from any other alternative choice you could make, but must give up when you make your final choice. The concept originates in economic theory. Given a limited amount of money, a person must make choices. When they choose one investment, a bond for example, they forego the profit they could have made on another choice, for example the greater return possible on a high-growth stock. Of course there are benefits, such as a guaranteed return on the bonds, which they would have to forego if they chose the stock instead. The point is that every choice is also a giving up of the benefits of alternative paths of action. Nothing is absolutely free and without consequence.

This is true of noneconomic choices as well. If you decide to intervene in a problem between two subordinates, you forego the benefits of them learning to work out conflicts.

In most cases choices are economic, or to be more precise, quantifiable, in nature. For example, you chose to initiate a major fire-education program rather than purchase a new truck in the coming budget year. You give up the benefits that the truck would bring (less down time, lower maintenance costs, and lower response times) when you make that choice. Of course you receive benefits from your choice as well, such as a reduced fire rate.

Whether quantifiable or not, managers must always consider opportunity cost when making a decision.

DECISIONMAKING THEORIES

Scholars have studied the decision process for a number of years to determine exactly how decisions are made in organizations, and why they succeed or fail. Specific patterns of decisionmaking have been identified. Bodies of theory have evolved to explain how certain decision processes work. They explain why certain decision styles are used in an organization or situation, and why they succeed or fail, based on their environment. These theories allow the manager to evaluate the process of decisionmaking, and to select the most appropriate decisionmaking process for the particular situation facing him.

Six major categories of decisionmaking theories will be presented here. Other decision theories evolve each year in an attempt to explain decisionmaking. It is important to understand that these theories represent schools of thought which diverge in their view and may be contradictory to each other. All theories ultimately should be subjected to the test of best fit by each manager to determine the degree to which theory conforms to real experience.

Theory 1: Rational Comprehensive

This is the classic decisionmaking process, essentially based on a scientific decision methodology. It is a clear, logical, step-by-step process by which all information is analyzed and processed carefully. While there are slight variations in the steps depending on which expert is writing about the process, it generally consists of the following eight steps:

1. Monitor the decision environment--Scan the internal and external information to determine if any deviations from the expected and acceptable level of performance exist.

2. Define the problem--Consider where, when, who, and how it is measured.

3. Specify decision objectives--Decide what performance object-tives should be achieved.

4. Analyze the problem--Search for the root causal factors.

5. Develop alternative solutions--Generate a large number of options for a problem to increase the probability of finding the best solution.

6. Evaluate the alternatives--Use a cost/benefit analysis and performance effectiveness measures to evaluate each alternative objectively.

7. Choose the best alternative--Select an alternative based on the evaluation criteria developed in the previous step.

8. Implement the best alternative--Develop clear implementation guidelines and timetables.

This classic problem-solving and decisionmaking model generally is used for large-scale problems or projects in which the outcomes are critical enough to justify the time and effort spent. Examples of appropriate uses for this model would be master planning, task-force studies of a major fire-hazard problem in the community, the regulation and control of hazardous materials storage and use in the community, and the institution of a career development plan for a department.

Theory 2: Bounded Rationality

Limitations of time, money, and energy often prevent managers from using the full rational comprehensive model. Instead they use an abbreviated form, especially during generation and evaluation of alternatives.

Therefore attempts to be rational are limited (or bounded) by lack of time and money. Instead of generating a large number of alternatives, the manager adopts the first solution which works.

An example of bounded rationality is the process of making command decisions on a fire scene. The IC generally carries out the first four steps of the process. However, the IC does not generally consider a large number of competing alternatives, but settles on the first strategic or tactical decision that appears to meet the objectives. The IC has neither the time nor the ability to evaluate five or six options and the effects of each. The IC uses trial and error to come to decisions at a fire. If something works, even if it is not the optimal solution, it will be used.

A primary tenant of bounded rationality is that choices are limited because of time or resource constraints, so the selection is made with a limited pool of alternatives. The first alternative that has any effect on the problem is used.

Theory 3: Intuitive Decisionmaking

The intuitive theory is related closely to the bounded rationality model. Essentially the process is the same except that the manager does not consciously consider the first four steps of the rational model (as he or she does in the bounded rationality model). Intuitive decisionmaking is based on experience, a hunch, or "gut feelings" as to what to do. Although the same steps of problem identification and diagnosis are being taken, they occur on a subconscious level.

Experience is like a mental Rolodex we use to judge problems. The mind processes all the facts it can immediately gather, makes comparisons, and selects a response which has worked earlier on a similar problem.

All managers must use a bounded rationality or intuitive model on a frequent basis to survive. The vast majority of decisions have little penalty if they are later determined to be wrong, but will have a devastating effect if they are delayed or deferred.

Examples of the intuitive model include a captain's decision on assigning station duties, or a decision on how to settle a disagreement between two of his staff over a petty issue, or responding to a question by the chief on what he or she thinks of a proposed rule.

Theory 4: Participative Decisionmaking

This theory has two major points: First, that superior decisions result from decisions made by groups rather than those made by individuals; second, that specific motivational benefits are derived from involving a larger number of members of the organization in an action meaningful to their own futures. Participative Management improves and increases information flow and reduces uncertainty. It gives people a sense of control over their own lives and destinies in the organization.

Theory 5: Incremental Decisionmaking

The two processes discussed so far are individual. The incremental decisionmaking process is an organizational process. It refers to decisions made by individuals or groups collectively within the organization, and consists of three phases:

1. **Identification Phase:** This consists of two steps: recognition that a problem exists and the need to make a decision.

2. **Development Phase:** This consists of one of two alternative responses, search and design. The search is for a standard solution already known, proven, and used on similar problems in the organization in the past. If none exists, the organization will design a solution for the problem.

3. **Selection Phase:** Evaluation and choice may be accomplished in four ways.

   a. Judgment: used if the decision is made by an individual and based upon experience.

   b. Analysis: used if the decision is made by an individual but involves some systematic evaluation.

   c. Bargaining: used if the decision is made by a group with different stakeholders who negotiate their best position.

   d. Authorization: used if the chief accepts recommendations from those in the chain of command.

Theory 6: The Carnegie Model

This organizational decisionmaking process focuses on the limitations of decisionmaking and the compensating behavior adopted by members of the organization to cope with this ambiguity. The first premise is that organizational goals are often inconsistent or ambiguous, and therefore cause conflict. The second thesis is that the principles of bounded rationality (too little information, or too little time or money to improve things) create uncertainty.

To cope with these problems, managers form coalitions in organizations--interdependent relationships that pool information and knowledge. The coalition conducts a search to find a decision which will provide a **satisficing** solution. (**Satisficing** is an economic term, which means that it is the first viable solution around which a coalition can be built.)

DESCRIPTIVE STATISTICS

Descriptive statistics provide information about the central tendency and variability of a set of data. In its original form, the data can be a confusing collection. Calculating various statistics uses standardized rules and procedures so the data may be presented in a more usable and meaningful form.

Central Tendency

Central tendency is a measure of a central or typical value within a set of data. The term, central tendency, is used instead of "average" because the term "average" is ambiguous and causes confusion among lay people.

There are three commonly used measures of central tendency.

1. Mean--the numerical average, found by adding the data values and dividing by the number of observations. The mean is sensitive to extreme values.

2. Median--the middle value. If we arrange all of our values in increasing order, the median is the middle value. The median is insensitive to extreme values.

3. Mode--the value that occurs the greatest number of times.

Fortunately, we can enter the data set and let Excel calculate each of the values.

Comparison

The mean is the preferred statistic for representing central tendency. The median is used when there are extreme values (outliers) that would distort the mean. The mode is used when a quick rough estimate of central tendency is desired.

Variability

Variability is the amount of variation or dispersion of the data about the central point. (The tendency of a set of values to spread out around their central value.)

There are two measures of variability we will use (there are others):

1. Range, the simplest measure of dispersion, is the distance between the largest and smallest values.

   Example: If the oldest firefighter/EMT in a department is 56 and the youngest is 21, the range is 56 to 21 or 35.

2. Standard deviation is a value that reflects the dispersion or variability of data in a mathematically more precise way.

   Example:

Numbers	Mean	Standard Deviation
100, 100, 100, 100, 100	100	0
90, 90, 100, 110, 110	100	10

The first set of numbers has no spread or variability at all. It has a standard deviation of 0. The second set has some spread to it; on average, the numbers are about 10 points from the mean, except for the number that is exactly at the mean. That set has a standard deviation of 10. Again, we can let Excel calculate the standard deviation.

The range gives a rough estimate of variation of the values, but one extreme value would make the dispersion of scores seem very large when, in fact, if the extreme score is dropped the range might indicate a compact set of data.

Standard deviation provides a standard way of comparing the variability of different sets of data. The closer the data values in a set are to one another, the smaller will be the standard deviation. The standard deviation is roughly the average distance of the observed values from their mean.

GROUPTHINK

The term "Groupthink" was brought to prominence by psychologist Irving Janis in 1972. As noted in *Groupthink In Government*, he originally defined it as "A mode of thinking that people engage in when they are deeply involved in a cohesive in-group, where the members' strivings for unanimity override their motivation to realistically appraise alternative courses of action" (Hart, 1990, pg. 5). Essentially, what Janis was driving at is the surprising discovery that it is possible for a group to be too cohesive, and thus uncritical. This tendency to be uncritical then causes them to have a higher probability for making poor decisions.

The preexisting conditions (which Janis called "antecedent conditions") that contribute to Groupthink are:

- **High cohesiveness of the decisionmakers.** Tightly knit teams are especially susceptible to Groupthink.

- **Organizational structural faults.** These include group insularity, and homogeneity of members' backgrounds and experiences.

- **Provocative situational context.** Examples include high stress, tight time constraints, and difficult moral dilemmas.

Avoiding Groupthink

Here are some ideas about how to reduce your group's chances of stumbling into a Groupthink mindset

- Awareness: the more cohesive the group, the greater the tendency to be uncritical. However, awareness of the pitfalls of Groupthink can give you early warning of the indicators.

- Decision type: Groupthink is particularly prevalent with decisions that are:

  - nonroutine;
  - controversial; and
  - have great future importance.

- Share evaluation: Every member of the group should have as one of his/her primary roles that of critical evaluator.

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Activity 7.1

Factors in Making a Decision

Purpose

To increase your understanding of the four factors in making a decision, and what impact these factors have had on the success or failure of decisions in your organization.

Directions

1. Your instructor will assign you and your fellow students to groups of about six people.

2. Review the four factors that must be considered in making a successful decision. Reflecting on actual successful and unsuccessful decisions made in your own departments, your group should discuss those decisions and the reasons they succeeded or failed in relationship to these four factors.

3. The group should select the **best** example of a decision that either succeeded because it recognized the factor, or failed because it ignored a particular factor. The group should select (and report on) one example for each of the four factors.

4. Groups will have 25 minutes to discuss.

5. Each group will elect a spokesperson to present their group's list and share specific examples of the group's insights. The class will have 20 minutes for these presentations, questions, and comments.

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Activity 7.1 (cont'd)

Time

1. Failure because of time:

2. Success because of time:

Cost of Information

1. Failure because of cost of information:

2. Success because of cost of information:

Conditions in the Organization

1. Failure because of conditions in the organization:

2. Success because of conditions in the organization:

External Environment

1. Failure because of external environment:

2. Success because of external environment:

Activity 7.2

Decision Methods

Purpose

To increase your ability to match decisionmaking theories to typical decisions that fire/EMT managers make.

Directions

1. Your instructor will assign you and your fellow students to groups of about six people.
2. Review the six decision theories and select one example of a decision that would yield the best results for each of the theories. The emphasis should be on selecting a decision situation that would be optimized by the type of decision theory chosen.
3. Be as concrete and detailed as possible in selecting examples.
4. Your group will have 30 minutes to make its selections.
5. Your group will select a spokesperson to present its examples of appropriate decisions for each decision theory.
6. Your group will have 5 minutes to make its presentation.

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Activity 7.2 (cont'd)

Theory 1: Rational Comprehensive

Describe a decision that would be made most effectively by using this theory rather than any other. Why is it the best?

Theory 2: Bonded Rationality

Describe a decision that would be made most effectively by using this theory rather than any other. Why is it the best?

Theory 3: Intuitive Decisionmaking

Describe a decision that would be made most effectively by using this theory rather than any other. Why is it the best?

Theory 4: Participative Decisionmaking

Describe a decision that would be made most effectively by using this theory rather than any other. Why is it the best?

Theory 5: Incremental Decisionmaking

Describe a decision that would be made most effectively by using this theory rather than any other. Why is it the best?

Theory 6: The Carnegie Model

Describe a decision that would be made most effectively by using this theory rather than any other. Why is it the best?

Activity 7.3

Descriptive Statistics

Purpose

To use calculated descriptive statistics to justify recommendations made to solve a problem presented in a scenario.

Directions

1. You should individually enter the two data sets in a spreadsheet in your computer and calculate the descriptive statistics for each set of data (you have 15 minutes to enter the data).

2. Your group should reach consensus on which department it would support in the dispute and be able to justify its recommendation based on what you have learned from the descriptive statistics (you have 15 minutes to reach consensus).

Scenario

Two volunteer fire departments/EMS are involved in a dispute over which should be allowed to provide service to an unincorporated area. This issue has fiscal overtones because the department providing the service has the right to solicit households in this wealthy area for contributions. They have asked the County Commissioners to resolve the disagreement. The Commissioners have decided that they will base their decision on a review of call data. They will study the amount of time it takes for an ambulance to respond to a call in this area and they will choose the department that has the faster response.

The County Communications Center provided the data for last year's responses by the two departments:

Department A	**Department B**
90 sec.	45 sec.
85	49
78	87
98	200
83	215
97	57
101	320
94	35
91	40
86	52

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Activity 7.4

Mann Gulch Case Study, Part 2

Purpose

To analyze a fire service/EMS case study in terms of decisionmaking theories.

Directions

In your assigned group, discuss the following and be prepared to present your group's work to the remainder of the class.

1. What failures in decisionmaking were discussed in the article?

2. What types of decisionmaking occurred?

3. What is sensemaking?

4. According to Weick, what role did sensemaking have at Mann Gulch?

____

5. Can any of the decisionmaking theories you have studied help you to better understand the events that occurred at Mann Gulch?

Homework

Data Analysis Problem I

Descriptive Statistics

The following data show travel time, onscene time, and dollar loss for 27 hotel and motel fires.

Travel Time (min.)	Onscene Time (min.)	Dollar Loss ($)
4	26	1,500
3	27	100
6	327	1,000
3	94	300
6	98	150
4	74	15,000
4	23	189
1	85	5,000
4	22	100
4	83	5,000
5	9	50
3	33	1,000
4	92	500
3	48	23,000
4	10	1,000
5	11	300
4	74	20,000
3	35	2,000
5	88	30,000
4	112	3,000
4	113	500
4	10	2,000
4	69	250
5	33	7,000
5	7	1000
1	20	3,000
3	62	110,000

1. Calculate the mean, medium, and mode for travel time, onscene time, and dollar loss.

2. Comment on the effect of large dollar losses on mean, median, and mode. How could you verify this? Try it.

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3. Calculate the range and standard deviation for travel time, onscene time, and dollar loss.

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APPENDIX

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Excel Demonstration

Introduction

A theory must be able to do two things:

1. Explain known facts and observations.

2. Predict future occurrences.

The Role of Statistics in Developing a Theory

- Descriptive statistics are used to help describe facts and observations that are expressed in numerical terms.

- Correlation and regression analysis are used to make predictions expressed in numerical terms.

Analysis ToolPak

You will need to verify that the Analysis ToolPak add-in in Excel is activated. To do this, start Excel. Click Tools on the Menu bar. You should find a choice, Data Analysis. If this is present, the Analysis ToolPak is activated. If not, click Add-Ins on the Tools menu. The Add-Ins dialog box, containing a list of available add-ins, will appear. Click the check box to the left of Analysis ToolPak. A check mark will appear in the box. Click OK. Return to the Tools menu and verify that the Data Analysis choice is on the menu.

Using the Analysis ToolPak

1. Create or open a worksheet containing data that you want to analyze.

2. Click Tools on the Menu bar, and then click Data Analysis. The Data Analysis dialog box will appear on the screen.

3. Select the analysis you want to perform by clicking it. The dialog for that analysis tool will appear on the screen.

4. Enter the range of data to be analyzed in the Input Range box. If you want your results table to have the same heading as the data column, include the heading in the range you have selected and make sure Label is checked in the dialog box.

5. In the Output Range box, enter the location where you want Excel to display the results of the analysis. (You can enter a single cell to specify the upper left corner of the output range.)

6. Respond to the other options in the dialog box. They are different for each analysis tool.

7. Click Help if you need more information about a particular analysis tool.

8. Click OK to perform the analysis.

   The tools that you will find most useful are

   a. **Descriptive statistics**--supplies a table of statistical values including mean, mode, median, minimum and maximum values, standard deviation, and other statistics that will probably not be useful to you at this point.

   b. **Correlation**--calculates the statistical correlation between two sets of data.

   c. **Regression**--performs linear regression analysis, calculating the best straight-line fit through sample data.

   d. **Histogram--**calculates frequency distribution, given an input range of numerical data and a range of bins in which to perform the distribution.

Descriptive Statistics Analysis Tool

The Descriptive Statistics analysis tool provides measures of central tendency, variability, and skewness.

1. Open a new worksheet and enter your data. The values should be entered in a single column with the label just above the first data value. The label is used in the report of summary values.

2. Click the Data Analysis command on the Tools menu.

3. Double click Descriptive Statistics and the dialog box will appear on the screen.

4. Fill in the prompts as follows:

   a. **Input Range--**Enter the range of cells containing the data, including the label. Either type in the range or highlight it by clicking and holding the mouse button on the first cell and dragging to the last cell. Press the Tab key to move to the next field.

b. **Grouped by**--Click Column if your data is in a column, or Row if your data is in a row.

c. **Labels in First Row**--Select this check box if the Label is included in the Input Range.

d. **Confidence Level of Mean**--Leave blank.

e. **Kth Largest**--Check the box and put 1 in the data box.

f. **Kth Smallest**--Check the box and put 1 in the data box.

g. **Output Range**--Enter the reference for the upper left cell of the range where the output should appear. Output data requires two columns and usually should be placed to the right of the input data. You can adjust the width of the output columns by double clicking the column border between the two columns.

h. **New Worksheet Ply**--Leave blank.

i. **New Workbook**--Leave blank.

j. **Summary statistics**--Check box.

5. When you have completed the dialog box, click OK.

Demonstration Data Set

Grades on Pretest

15
32
25
7
14
42
27
25
15
19

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UNIT 8:
STRATEGIC ISSUES

TERMINAL OBJECTIVE

The students will be able to perform an organizational analysis by evaluating an organization's culture and the environment in which it operates.

ENABLING OBJECTIVES

The students will:

1. *Identify organizational trends and the long-term impact of each on an organization.*

2. *Identify three internal and three external factors that shape an organization and its culture.*

3. *List the techniques used in environmental scanning.*

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WHAT IS PLANNING?

Definition

Planning is the process of setting objectives and determining in advance who, what, when, where, and how the objectives will be met.

Planning is a dynamic, rather than static, activity because there is ongoing change and adjustment. As a result, plans must be flexible and adapt to changes in the environment.

The Role of Planning in an Organization

Planning is crucial to an organization for the following reasons:

- to achieve mission;
- to give the organization direction;
- to provide a blueprint for management; and
- to provide measures of progress.

Impact of Planning

Planning affects budget and resource allocation and helps to integrate the fire department with other municipal departments. In any emergency, the fire department must work closely with agencies such as the police, EMS, emergency management agency, and many others. Advance planning can make those working relationships much smoother. Planning also:

- gives "ownership" of the future to the planners;
- provides a shared goal, which can increase cohesion within the department;
- demonstrates progress; and
- provides a realistic picture by identifying parameters.

Constraints on Planning

<u>External--Henry Mintzberg</u>

Mintzberg sees external influences on the organization as the major factors in planning. There is constant change and the manager **must** evaluate and respond to those changes.

- major disaster--war, tornado, flood;
- economic conditions; and
- conditions of the organization's environment--community socioeconomic status (SES), laws and regulations, etc.

Internal--Herbert Simon

Simon looks at planning from the internal perspective. A major role of the manager is to evaluate internal factors, then develop and implement plans responding to them.

Internal factors include items such as personnel, budget, labor/management issues, and municipal/local laws and ordinances.

Future Assumptions

Since planning prepares the organization for the future, many decisions are based on future assumptions. The future is uncertain. Certain techniques, such as trend analysis and environmental scanning, provide indications of likely future conditions. These assumptions are used to determine which direction to take in planning. As the future begins to take shape, some of these assumptions may prove inaccurate. At that point, it is necessary to adjust the plans. If the assumptions are clear and their impact on the planned activities is correlated directly, it is easier to adjust the plan as necessary.

PLANNING THEORIES

Remember the lesson from the last two activities. Theories tend to develop in patterns, and schools of theories based on management functions draw from all three areas. The following discussion on planning theories will emphasize this fact.

The Tennessee Valley Authority (TVA) Project was the first major government planning endeavor to involve large-scale, long-range planning incorporating professional land-use planners, social planners, and citizen input into the planning process. David Lilienthal--"Planning and Planners," Chapter 18 from *TVA*: *Democracy on the March.* Harper and Row, Publishers, 1944.

Major questions to consider when planning:

- What kind of plans should we make? (Short and long range, strategic, organizational, station, division, department, physical, personnel development, community.)

- What kind of planners are needed? (In-house, consultant, professional, social, physical, citizen input.)

- How can we enforce and evaluate the plans? (Documentation, timely review of progress, compatibility with other agencies, recognition of limitations of parameters, objective and goal attainment.)

Private versus Public Sector Implementation of Planning

In the private sector, planning is based upon the premise that the individual's interest and the interest of private undertakings can be made one with the interest of all, i.e., the community interest. What is good for the organization is good for the individual, (e.g., company makes profit, worker get bonus).

In the private sector, planning can be assessed through success in producing profits. However, business planners rarely take into account the results of such profit making, (i.e., injury to other enterprises and, hence, to the public welfare).

In the public sector, it is difficult to assess planning due to problems in measuring social condition and to nebulous or unattainable goals. For example:

- In order to answer the question "How many people are undereducated?" The community must first define and measure "undereducated."

- If the community has as its goal to increase the quality of community health, "community health" must be defined. Where is the line between good and bad community health?

Luther Gulick

The following information is based on "Notes on the Theory of Organization" from Luther Gulick and Lyndall Urwick, eds., *Papers on the Science of Administration.* New York: Institute of Public Administration, 1937.

Urwick was Gulick's British counterpart who conducted much of his work in England and Europe. Gulick was a city planner who did numerous consulting jobs for American cities, such as Fort Worth, TX. Known for their work in organizational structure, Gulicks's strong perception that planning was the key to successful management is sometimes lost in cursory reading.

Gulick and Urwick stated that planning is a managerial element that blends the other components and ties them together productively.

The problem of organization must be approached from both top and bottom. An effective method would be to plan both from the top down and from the bottom up, reconciling the two at the center. This is necessary because different principles come into play at different levels.

In planning the first level under the chief executive, the principles of limitation of the span of control would apply. In planning the first aggregates of specialized functions, the principles of homogeneity must apply. Additional divisions and aggregates would then be introduced until the two can join.

Gulick coined the acronym PODSCORB to define the primary duties of a manager:

Planning
Organizing
Distributing
Staffing
COordinating
Recording
Budgeting

Evolution of Modern Planning Theories

Challenges to the simplistic division of administrative functions came in discussions of the operation and implementation of planning from authors such as **Simon** and **Mintzberg** with their consideration of internal and external planning factors. This discussion took place as the technical development of planning was refined.

Once planning was established as a major administrative function, attention turned to the technical aspect of how to plan. A number of subfields which deal with specific approaches were developed. Included among these are:

- land use planning;
- social planning;
- forecasting techniques;
- facilities planning; and
- computer simulation.

Other theorists incorporated planning into other management functions with theories such as:

- Planning-Programming- and Budgeting System (PPBS); and
- Management by Objectives (MBO).

Strategic planning, when used appropriately, elevated planning to a position of supreme importance in guiding the organization.

What was missed in many of these planning techniques, and lost sight of in many strategic plans, was the link of planning to policy--to the overall mission of the organization.

Planning needs to be concerned with the methods of accomplishing the mission, the final goal must be maintained. That is the current perspective of "interconnectedness" which emerged from Minnowbrook II. Planning is a linking function, an enabling function, but it must be tied to the mission.

NEEDS ASSESSMENT

A needs assessment is used to identify and define the problems or needs that must be addressed. It aids in setting priorities by documenting the worst or most pressing needs of the entity being assessed. A needs assessment can be performed on an organization, a community, management, equipment, or yourself. Needs assessment is a way of refining gap analysis and force-field analysis.

One of the primary challenges to a successful needs assessment is to differentiate between **root problems** and **symptomatic problems.**

Root problems are the origin of the dysfunction of an organization.

Symptomatic problems are the indication of the existence of an underlying problem.

For example, a fever is a **symptomatic problem** indicating the presence of disease or illness--the **root problem**. Similarly, tardiness in an organization is often the **symptom** of the **root problem**--a lack of motivation.

Eight Steps to Take in a Needs Assessment

1. Define the focus of the study.

   This sets the parameters of the study. Example: Is it the entire organization or a unit within the organization?

2. Collect all existing data and information.

   Gather **all** existing data and information on the subject of the study. This includes biased as well as objective data and individual opinion as well as documented fact. (These may be indicators of root versus symptomatic problems.)

3. Generate data.

   If data or information are not available, it may be necessary to collect primary data through research techniques such as surveys and focused interviews. This is especially important as a way to get public input, which is critical.

4. Organize data.

   The data must be organized in logical groupings and formatted so that they can be used constructively.

5. Analyze information--compare and contrast data.

   Data analysis can be very sophisticated; however, it is not necessary for the purpose of a valid study. What is important is that the data be analyzed **appropriately**. To compare and contrast data is a fundamental analytical technique. Basically this is a system of identifying similarities and differences, trends, or patterns in information.

   For example, in a management needs assessment of a combination fire department/EMS, the issue of training opportunities is addressed. The volunteer officers identify communication as the basic problem, whereas the career officers identify favoritism as the problem. This example compares officer identification of problems and contrasts the responses of volunteer versus career officers.

   Before going to the next step and interpreting what this means, you need to incorporate additional information into your analysis. Adding information on communication patterns reveals that volunteer officers are often not informed of training opportunities until deadlines have passed. An examination of applications for training opportunities reveals that only a very few career officers have applied.

6. Interpret data.

   Once the data have been analyzed, the results must be translated into a form useful to the organization. It must relate to the needs of the subject of the study.

   Interpretation of findings from our example reveals that a communication problem existing with volunteer officers needs to be addressed. The belief that favoritism exists discourages career officers from applying for training opportunities, which perpetuates the perception. In this example, communication was the root problem. The problem of favoritism was a symptom.

7. Determine needs.

   Once the data have been interpreted and the problems identified, it is necessary to plan what needs to be done to rectify the problems.

8. Set priorities.

   Decide which need is most critical. Schedule the steps to take to address the most critical problems first.

ORGANIZATIONAL CULTURE

The definition of culture is a set of important assumptions (often unstated) that members of a community (organization) have in common.

Assumptions of culture are of two basic types:

1. **Beliefs**--basic assumptions about the world and how it works.

2. **Values**--basic assumptions about what ideals are desirable and worth striving for.

Organizational culture is the culture of the organization as a whole.

Knowledge of a culture is critical since it is always present in some form. Because organizational culture is hard to change overnight, effective managers must work within it.

Organizational Trends and Impact on Culture (General)

- Corporate takeovers/leveraged buyouts--building heavy corporate debt. (We have to pay for it.)

- Contracting traditional/public service functions.

- Flattening of structure--eliminating middle management. Organizations that are structurally "flat" are often characterized by:

  - less opportunity for advancement,
  - fewer jobs,
  - lower paying jobs,
  - lower cost, and
  - empowering employees;

- Foreign trade--global corporations.

- Migration of manufacturing to areas with cheap labor.

- Affirmative Action (AA)/Equal Employment Opportunity (EEO).

- Politically correct language mandated by exaggerated sensitivity to issues of cultural diversity (form of censorship).

These trends are not inherently bad, but managers need to be aware of their impact on the organization.

INTERNAL AND EXTERNAL IMPACTS ON ORGANIZATIONAL CULTURE

An organization is like a one-celled animal, passing tradition and attitudes to the community and being influenced, in turn, by the tradition and attitudes in the community.

Internal Impacts

Internal impacts on organizational culture include mission statement/function, environment, structure or history of organization, traditions, and structural and historical features.

Examples of structural and historical features are:

- Organizational chart.
- Self-perception.
- Labor/Management relations--what happens to the community and the fire department/EMS when a strike occurs?
- Recruitment.
- Promotion methods.
- Training--personal/professional development.
- Job descriptions.
- Evaluation/Control points:

  - personnel evaluations,
  - budget, and
  - customer/employee input;
- Priorities:

  - resource allocation, and
  - equipment/purpose design;
- Management style of Chief Executive Officer (CEO).

External Impacts

External impacts on organizational culture include community, culture--ethnic makeup of population, economic condition (growth, stagnant, declining), and major transportation facilities (airports, rail service, major highway/freeway systems, intra-city bus, taxi, etc.).

- Expanding/Declining:

  - Public agencies shrink during economic decline and expand during prosperity.

  - They must adapt to economic shifts over which they have no control.

- Tax base--residential/commercial.

- Major industries.

- Technological changes:

  - use of fax machines to transmit information,
  - increased information processing capabilities of computers, and
  - process of teleconferencing;

- Form of government.

- General labor climate/makeup.

Other Government Laws and Regulations

1. Federal.

   a. Fair Labor Standards Act (FLSA).

   b. Superfund Amendments and Reauthorization Act (SARA)--training requirements, reporting requirements, information.

   c. Department of Transportation (DOT) handling and transportation of hazmat.

   d. Due process--guidelines for dealing with troubled employees.

   e. EEO.

2. State.

   a. Certification.

   b. Training requirements.

   c. Safety/Workers' Compensation.

   d. Civil Service: hiring, promotion.

3. County.

   a. Mutual aid.

   b. Jurisdiction.

Influencing Organizational Culture

Effective managers can influence organizational culture by using commonly held values of the work group, using the best traditions of the group, and focusing on common goals.

ENVIRONMENTAL SCANNING

Your city council has just adopted a budget for the new fiscal year. The fire department's/EMS's budget was cut 25 percent, while the new budget included adding 20 new police officers, increased funding for shelters, and assistance to the homeless.

Why did this happen? Societal problems, such as crime, drugs, citizen fears, and the homeless influence and impact on fire service/EMS organizations.

The definition of environmental scanning is identifying, collecting, and analyzing information to determine future events and their impact on the organization. The techniques of environmental scanning are to read, listen, observe, analyze, and predict. Environmental scanning should be done both internally and externally to the organization. In order to predict, assumptions about the future must be made based on information collected during your environmental scanning.

Organizations, like individuals, are in a constant state of change. Through environmental scanning a leader/manager can begin to see the pressures that contribute to change. Public employee retirement systems own most of the companies in the United States, but the proxy votes usually are given to financial people. Therefore, public employees are not taking advantage of this tremendous powerbase to bring about changes in the way business is done. By taking a proactive approach, the leader/manager can anticipate adjustments that need to be made for the organization to assist itself and the people who make it up in carrying out its mission statement.

PREDICTING THE FUTURE

Data elements and variable information that are needed for managers to make predictions include

- recurring ideas;
- organizational history;
- major events;
- state of the economy;
- customer/citizen demands; and
- organizational mission.

Planning assumptions about the future include ideas such as:

- Communities will grow or shrink by 15 percent.

- Budgetary restrictions will severely impede efforts to maintain services.

- Countywide EMS dispatch may require additional resources.

- Departmental personnel will need to become better acquainted with applicable personnel laws.

Examples of Planning Assumptions are found in the Appendix, p. 8-21.

The benefits of doing predictions are that predictions enable you to improve procedures and services. Predictions also can help you anticipate station location requirements; improve ability to anticipate events/problems and act in a proactive mode; improve morale, job satisfaction, etc.; and anticipate impact of national or international changes on local environment.

A department's failure to predict can result in crisis management. It is important to share your predictions with your employees in order to improve morale.

Staffing

What are the external factors that affect how you staff your organization and with whom you staff it?

External factors that affect how you staff your organization and with whom you staff it:

- Local environment--what level of staffing do you need, and what can your community afford?

- Community issues--economy, priorities. (Since fire departments/EMS generally are seen as effective, they may not be seen as a high priority at budget time.)

- Community demographics--ethnic makeup of community, age of citizens, income of citizens, size of community.

  - legal:

    -- EEO/AA--requirements and local needs,
    -- city hiring policies,
    -- due process, and
    -- unions;

  - laws affecting training regulations:

    -- State,
    -- local, and
    -- Federal;

- resource allocations; and

- trends in organizational structure.

What are the internal factors that affect how you staff your organization and with whom you staff it?

Internal factors that affect how you staff your organization and with whom you staff it:

- culture and structure;
- promotion standards;
- job descriptions;
- training requirements and priorities (based on community needs);
- training facilities in-house;
- unions;
- external training sources and contracting methods;
- recruiting;
- resource usage;
- time usage; and
- company staffing policy and priorities.

What are we hiring people to do today and tomorrow? What knowledge, skills, and abilities (KSAs) will be needed to perform the functions? Are fire service/EMS organizations unique? In what ways?

Throughout this unit, we have emphasized what fire service/EMS organizations have in common with other organizations. Too often, our status as a public service organization has been used as an excuse for not accomplishing a goal.

The same influences affect fire service/EMS organizations as other types of organizations and the same forces for change (customer/citizen satisfaction or demand) are in play to support fire service/EMS organizations.

If the community has these kinds of fears and concerns, the fire department/EMS has the chance to be creative in the services it provides.

All this information relates to organizational functions. You work with the issues we have covered in the course so far on an everyday basis: environmental scanning, mission, organizational structure, and the internal and external influences that affect your organization and its people.

Activity 8.1

The Importance of Planning

Purpose

To understand how planning can make your department competitive against the threat of privatization.

Directions

1. Do not focus on tactics and strategies that you see in the video--focus on planning.

2. Review the questions below. They will guide you in terms of what to look for and how to evaluate the video "Rural Metro: Privatizing The Public Sector."

   a. What is the primary goal of Rural Metro?

   ____

   ____

   ____

   ____

   b. What other goals are mentioned in the video?

   ____

   ____

   ____

   ____

   c. What are some of the components of the plan to achieve their goals?

   ____

   ____

   ____

   ____

d. What are some of the items/activities mentioned in the video that show Rural Metro is capable of providing the service it sells?

____

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3. After watching the video, we will discuss the following questions:

a. Why did Rural Metro produce this promotional video?

____

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____

b. How can your fire department/EMS be proactive?

____

____

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____

Activity 8.2

Keeping Current: Impact of External Events on Fire Department/Emergency Medical Services

Purpose

To identify short- and long-term impacts on you and your organizations.

Directions

1. Work with the members of your small group to read and analyze the article(s) you brought from today's newspaper and answer the questions listed below.

2. Your group will present a 5-minute report giving an overview of the article and describing the potential impacts of the situation discussed in the article.

3. What are the possible short-term and long-term impacts, both on your organization and on you personally, that the situation described in the article may have?

4. Use the following questions to help your group think about the answer to the question above.

    a. Will it affect the cost of providing services?

    b. Will it affect the ability of the organization to attract top quality professionals?

    c. Will it affect the community's economic health (tax base)?

5. Discuss current events in terms of your local community/organizations.

6. Scan the environment in terms of its effect on the fire service/EMS. Answer the following questions.

    a. What is going on in your community and/or State that may have an effect on what and how your fire department/EMS operates currently?

    b. What is the effect of bank and savings and loan failures?

    c. What effect will the current trend toward downsizing have on your organization?

    d. What effect might the trend to contract out services have on your organization?

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Activity 8.3

Critical Needs

Purpose

To introduce you to the concepts of identifying critical needs within a community.

Directions

1. You will use information/data about a community to develop a list of critical issues/risks facing the fire service/EMS in that community.

2. If your instructor has not assigned one of the options listed below, each table group will choose one of the following options to provide data about a community for which you will develop a list of critical issues/risks:

   a. **Option #1:** Use the Central City Overview example provided in the Appendix in your SM.

   b. **Option #2:** Work together to create a "consensus community" profile for your group.

   c. **Option #3:** Use the community of one of the group members for which adequate data is available.

3. Using data from one of the options listed above, develop a list of the critical issues (risks) in the chosen community. These issues should be written on an easel pad. You will have 30 minutes for this portion of the activity.

4. You will reconvene as a large group to report your table's findings.

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APPENDIX

Excerpt from "Environmental Scanning: The First Step in Strategic Planning, Thinking, and Managing"

Examples of Planning Assumptions

Central City Overview

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Excerpt from

Environmental Scanning:

The First Step In

Strategic Planning, Thinking, and Managing

By

Burton A. Clark, M.A.

National Fire Academy

NOVA UNIVERSITY

RESEARCH SYMPOSIUM

PHILADELPHIA

OCTOBER 1987

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The Process

Environmental scanning looks at economic, technological, social, and political information inside and outside the organization. The extremes can include data on one individual to world data. The information is intended to help the organization and the people in it to picture the future, so they can make decisions on where they want to go and how to get there.

How to Do It

The gathering, storing, processing, and dissemination of environmental intelligence are essential aspects of the environmental scanning process (Pfeiffer, 1986). Of all the literature reviewed Aaker's (1983) Strategic Information Scanning System (SISS) presented the most complete How To method for conducting environmental scanning. His method consists of six steps. First is the identification of information needs. To help weed out the information three questions are applied to the data: What is the likely impact? What is the probability the prediction will occur, and how much response time does the organization have to respond? The more time the less important the data. The second step involves identification of the data sources. The sources can be anything from trade journals to conferences; from customers to competitors and anything in between. But a specific list of the sources should be made and each source categorized as either being most useful or useful.

Steps three and four address the people involved in the SISS. Naturally, top executives and staff will be involved but anyone "...exposed to useful information sources should also be included." (Aaker, 1983:78) Specific people are assigned to actually scan the data sources. For a most useful source more than one person may be assigned. Different individuals may also scan the same sources for different types of data.

Data storage is addressed in step 5. The storage system can be as simple as a filing cabinet or as complex as a computer based information network. The important point is for the scanners to know where to put their data.

The final step concerns dissemination. The questions to be answered are: who should get the data, who should have access to the data and when should the data be reviewed?

Olsen and Eadie (1982) present a three step approach to environmental scanning. First, identify relevant factors, second, forecast how the factors will change, the third, assess the impact of the change. The last step is the most difficult. The authors give some relief from the overwhelming amount of work involved in assessing impact, when they point out that the more stable the environment is and the fewer relevant variables there are; the simpler and more informal the environmental scanning system needs to be. Mendell (1985) sees the level of simplicity in relation to the size of the organization. The smaller the organization the better they can prepare for the future because they can be more flexible.

All the authors that address the forecasting or predictive step in the environmental scanning process agree that it is the most difficult and that there needs to be a balance between quantitative and qualitative methodologies (Mendell, 1985; Bourgeois, 1980; Olsen, 1982; Eadie, 1983). The following quotes help give insight to the human aspect of the environmental scanning process. "The point, so easily forgotten, is that technology cannot substitute in this complex process for the trained mind and alert eye." (Olsen, 1982:29) "People are capable of making leaps of the imagination that defy our notions of what is possible and impossible." (Mendell, 1985:4) When the perception is held by top management they are crucial inputs to the strategy making process." (Bourgeois, 1980:35) "People perceive the environment and make judgments about the significance of events..." (Eadie, 1983:448)

Mendell (1985) explains the difficulty of the predictive step as people having three blockages to seeing the environment and imagining possible futures. People see the future much like the present. People are stuck with inflexible ideas about how the world works, and people's rational minds repress their creative minds.

In addition to being the most difficult part of environmental scanning the predictive aspect is also the essence of environmental scanning. Because minimally prediction generates ideas and possibilities about the future (Mendell, 1985). At its ultimate, prediction helps organizations create their own future (Korten, 1984).

Conclusion

Environmental scanning is a natural human process. Our senses continually take in data on what is taking place around us. We use this present information and our historical information to make assumptions about what the future will be like. All of our actions are based on these assumptions about the future. No one's crystal ball is 100% accurate; by combining our pictures of the future we achieve a clearer vision of what lies ahead. This helps us to understand our actions and adjust them as our assumptions come to pass or change.

Environmental scanning brings us one step closer to controlling our own destiny.

Examples of Planning Assumptions

1. Community will grow/decrease by 15 percent.
2. Multifamily construction (over three stories) will increase more rapidly.
3. There will be significant decentralization of high-rise construction to outlying areas.
4. Changing traffic patterns will impede service delivery.
5. There will be greater potential for hazardous materials problems.
6. Greater utility costs will lead to increased alternative heating uses that will increase fire risks.
7. Requests for service will increase as follows: EMS--10 percent; fire--5 percent; service calls--stable.
8. Implementation of current capital improvement plan will or will not provide adequate resources to address growth in city.
9. The operating budget must increase by an estimated 5.12 percent per annum to maintain the status quo.
10. Budgetary restrictions will impede efforts to maintain services severely.
11. Delays in repairing equipment will continue to impede service delivery.
12. Potential shortage of water may impede fire suppression.
13. Continued and increased support will be required from data processing to meet service requirements.
14. Increased support will be required from electronic, building, and equipment maintenance departments to meet increased service improvements.
15. Continued support will be required from budget and department of management services to perform management functions.
16. Civil Service laws will need to be changed to allow more management flexibility.
17. Regulations concerning safety equipment will increase operating costs.
18. State and national training requirements will increase.
19. New reserve program will be added, requiring additional resources.

20. Countywide EMS dispatch may require additional resources.

21. Contingency plan will be required in case of ambulance contract default.

22. Major disaster plan will be required for all areas in county.

23. Additional mutual- and automatic-aid plans will need to be developed.

24. Continued fragmentation of control over support functions will impede delivery of services.

25. Continued effort to develop broad-based community support will be necessary to improve council response to department needs.

26. Contingency plans will be required to deal with adverse weather occurrences.

27. New equipment will be more advanced and will require higher level of training.

28. Additional demands on departmental personnel will require more training at all levels.

29. Turnover will not be a major problem.

30. Departmental personnel will need to become better acquainted with applicable personnel laws.

31. Continued inadequate staff personnel will be an impediment to effective delivery of services.

32. Continued physical fitness program will improve employee performance.

33. Support areas staffed by civilian personnel will have a positive impact on overall city budget.

34. Efforts will be made to upgrade promotion criteria.

35. Failure to gain an adequate pay increase (10 percent per annum) will result in significantly reduced support from fire service/EMS personnel.

36. Failure to gain an adequate pay increase (10 percent) will result in increased Firefighters Association activity.

37. Continued lack of success of Firefighters Association in dealing with city manager and city council will affect department adversely.

38. Failure to improve internal flow of management information will hinder operations.

39. Positive relationships with the city manager's office and fire/EMS administration will continue.

40. The Peveto Bill and similar legislation will restrict money supply for local government.

41. Efforts will be undertaken to improve the construction code and enforcement as it relates to fire safety.

42. Improved safety equipment will reduce job-related injuries.

43. Increased emphasis on job safety will reduce injuries.

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CENTRAL CITY OVERVIEW

Slide 8-2-1

**UNIT 8: (PART 2)
WELCOME TO THE
MODEL COMMUNITY…
A DISASTER-PRONE
JURISDICTION**

Slide 8-2-1

Slide 8-2-2

**STATE OF COLUMBIA--
51st U.S. STATE**

Slide 8-2-2

Slide 8-2-3

LOCATION

The State of Columbia is located along the Atlantic Coast between North and South Carolina.

Slide 8-2-3

Slide 8-2-4

**LIBERTY COUNTY
GOVERNMENT**

- **County Courthouse**
- **Palmer Building--
X and 19th Streets
in Central City**

Slide 8-2-4

Slide 8-2-5

**LIBERTY COUNTY
GOVERNMENT (cont'd)**

- **Five County Supervisors elected at large**
- **County Manager selected by County Board**
- **Six other county elected officials, including the Sheriff**

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Slide 8-2-6

**LIBERTY COUNTY
GOVERNMENT (cont'd)**

- **Population 300,000 +**
- **Ten incorporated communities**
- **County Seat--Central City**

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Slide 8-2-7

LIBERTY COUNTY GOVERNMENT (cont'd)

- **Health Department serves entire county**
- **Emergency Management Agency serves entire county**

Slide 8-2-7

Slide 8-2-8

LIBERTY COUNTY SHERIFF'S DEPARTMENT

Four county patrol areas:

- **North, East, South, West**
- **Provide general law enforcement in all unincorporated areas of Liberty County**

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Slide 8-2-9

LIBERTY COUNTY SHERIFF'S DEPARTMENT (cont'd)

- **Headquarters**
- **Four substations**
- **One satellite Station**
- **Reserve Organization**
- **Special weapons and tactics (SWAT) team**

Slide 8-2-9

Slide 8-2-10

LIBERTY COUNTY SHERIFF'S DEPARTMENT (cont'd)

- **Liberty County Jail**
- **A and 23rd Streets in Central City**
- **Five hundred-person capacity**

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Slide 8-2-11

LIBERTY COUNTY STATISTICS

- **Van Deusen Park**
- **Route 3 in Liberty County**

Slide 8-2-11

Slide 8-2-12

LIBERTY COUNTY STATISTICS (cont'd)

- **Ocean front city of Bayport**
- **Along the Atlantic Ocean and the Columbia Bay**
- **Barrier Island**
- **Large community tourism population**

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Slide 8-2-13

LIBERTY COUNTY STATISTICS (cont'd)

- **Turtle River in Liberty County**
- **Runs south from I-102 into the Columbia Bay**

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Slide 8-2-14

LIBERTY COUNTY STATISTICS (cont'd)

- **I-102 runs east/west through the county**
- **I-107 runs north/ south through the county**

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Slide 8-2-15

LIBERTY COUNTY STATISTICS (cont'd)

- **East Lake Dam**
- **Northern Liberty County**
- **Recreation on the East Lake**

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CENTRAL CITY GOVERNMENT

Slide 8-2-16

Slide 8-2-17

CENTRAL CITY GOVERNMENT (cont'd)

- **Council manager form of government with seven elected council members.**
- **The mayor is elected by council and presides over meetings.**
- **The city manager is selected by council and carries out the ordinances of the council.**

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Slide 8-2-18

CENTRAL CITY STATISTICS

- **Population: 149,000**
- **GA and P Railroad runs through city**
- **Major roads: I-107, SR 5, 15th, 20th, 30th, X, and DD Streets.**
- **Columbia State University at LL and 29th Streets**

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Slide 8-2-19

CENTRAL CITY STATISTICS (cont'd)

- **Roaring River runs north/south through the city.**
- **Swatera Creek enters the city from the northwest.**

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Slide 8-2-20

CENTRAL CITY STATISTICS (cont'd)

- **Northside Park--P and 10th Streets**
- **Southside Park--S and 32nd Streets**

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Slide 8-2-21

CENTRAL CITY STATISTICS (cont'd)

Business/Industry
- **DuPont Chemical**
- **Criswell Chemical**
- **Palumbo Plastics**
- **Pickett Paint**
- **Eiker Electronics**

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Slide 8-2-22

CENTRAL CITY STATISTICS (cont'd)

CCPS
Reaching Tomorrow Together

Central City Public School District
- **Four high schools**
- **Three junior high schools**
- **Nine elementary schools**
- **Twelve thousand students**

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Slide 8-2-23

CENTRAL CITY FIRE DEPARTMENT

Slide 8-2-23

Slide 8-2-24

CENTRAL CITY FIRE DEPARTMENT (cont'd)

- **Eleven city fire stations**
- **Fourteen engines**
- **Four trucks**
- **Three heavy rescue**

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Slide 8-2-25

CENTRAL CITY FIRE DEPARTMENT (cont'd)

- Fire Chief
- Assistant Chief
- Three Deputy Chiefs
- Six Battalion Chiefs
- Training Officer
- Fire Marshal

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Slide 8-2-26

CENTRAL CITY POLICE DEPARTMENT

Slide 8-2-26

Slide 8-2-27

CENTRAL CITY POLICE DEPARTMENT (cont'd)

- Two hundred personnel department
- Chief
- Assistant Chief
- Three Captains
- Four Field Lieutenants
- Eight Field Sergeants

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Slide 8-2-28

CENTRAL CITY POLICE DEPARTMENT (cont'd)

Four Beats/Sectors
- Administration
- Field services
- Investigation
- Support
- Motto: Arrest tomorrow's criminals today!

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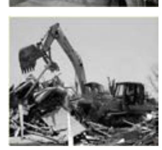
CENTRAL CITY PUBLIC WORKS DEPARTMENT

Slide 8-2-29

Slide 8-2-30

CENTRAL CITY PUBLIC WORKS DEPARTMENT (cont'd)



Water and Sewer Division
- Two equipment yards
  - K and 23rd Streets
  - X and 13th Streets

Street Maintenance Division
- Building Safety Division
- Engineering Division

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Slide 8-2-31

CENTRAL CITY PUBLIC WORKS DEPARTMENT (cont'd)

- **Municipal PW**
- **Private equipment companies**
- **Engineering firms for inspection services**

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Slide 8-2-32

PUBLIC WORKS AND UTILITIES

- **Edison Electric**
- **Columbia Gas**
- **Columbia Telephone**
- **County Public Works**
- **State DOT**

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EMERGENCY MEDICAL SERVICES

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EMERGENCY MEDICAL SERVICES (cont'd)

Ambulance

- **Under the direction of the Health Department**
- **Five advanced life support (ALS) units**
- **Five basic life support (BLS) units**
- **Housed in fire stations**

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Slide 8-2-35

EMERGENCY MEDICAL SERVICES (cont'd)

Central City Hospital

- **D and 31st Streets**
- **Central City**
- **Beds--199**

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EMERGENCY MEDICAL SERVICES (cont'd)

Faith Hospital

- **S and 14th Streets**
- **Central City**
- **Beds--110**

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EMERGENCY MEDICAL SERVICES (cont'd)

Levine Hospital

- **MM and 17th Streets**
- **Central City**
- **Beds--43**

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Slide 8-2-38

COMMUNITY SERVICES

American Red Cross

- **Chapter House at "I" and 14th Streets**
- **One hundred volunteers**
- **Regional blood center**

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Slide 8-2-39

COMMUNITY SERVICES (cont'd)

Salvation Army

- **W and 22nd Streets**
- **Emergency shelter and emergency feeding**
- **Mobile canteen**

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COMMUNITY SERVICES (cont'd)

- **Day care centers**
- **Mobile homes parks**
- **Nursing homes**
- **Highrise buildings**
- **Senior citizen centers**
- **Private resource listings**

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UNIT 9: PLANNING

TERMINAL OBJECTIVE

Using a simulated community, the students will be able to develop a plan including goals and impact and program objectives, which will address critical community needs.

ENABLING OBJECTIVES

The students will:

1. *Identify seven criteria for a mission statement.*
2. *Explain the concept of mission and explain its importance to an organization.*
3. *Understand various planning techniques.*
4. *Write a goal statement.*
5. *Write correct impact objectives.*
6. *Write correct program objectives.*

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OVERVIEW OF THE PLANNING PROCESS

Short-Range Planning

Short-range planning covers 1 year, and is focused on the present. It sets the immediate activities to be completed during the current year. These plans are built around the objectives and are distinct action plans. An operating plan is a short-range plan.

Writing the action plan is the phase in the planning process where the method of achieving the objectives is decided on and put into action.

Long-Range Planning

Long-range planning covers a time period from two to five years. It rests on long-range predictions and can be defined as probable statements of achieving certain goals or objectives. This process designs the implementation of a priority program.

Long-range planning is somewhat like shooting at a moving target. The manager must stay out in front and must adjust continually the plan to meet or compensate for internal and external changes. If the levy doesn't pass there will be a decrease in funding. If 10 percent of your firefighters/EMTs quit tojoin another department that has just converted from volunteer to career, you have to adjust plans for personnel changes.

Strategic Planning

Strategic planning maps out the overall direction of the organization for the next 5 to 20 years, focusing on goals and contingencies. It deals with growth and improved quality within a constantly changing environment. Good strategic planning relies on accurate information and acceptable levels of risk (uncertainty). It encourages consideration of as many future possibilities as is feasible and attempts to identify those most likely to emerge.

After setting the goals in priority, the next step is to classify programs within the context of agency goals. Each program is targeted to be:

- reduced;
- retained;
- modified;
- eliminated;
- increased; and
- begun (new programs)

The third step then is to evaluate the programs and rank them on a cost/benefit basis to estimate their contribution in meeting the priority goals.

WHAT IS A MISSION?

A mission provides a focus for the organization's activities and embodies the goal that the organization strives to achieve. This can be as simple as a military platoon's goal to "close with and kill the enemy."

Definition of Mission Statement

The mission statement is a brief but meaningful statement of the reasons for the department's existence, the ways in which it accomplishes its purposes, and the values that drive the organization.

Seven Criteria for a Mission Statement

1. The mission statement should specify clearly what the purpose of the department is, including:

    a. What needs the department is attempting to fill.

    b. How the department will fill those needs.

2. The mission statement should reflect the values, beliefs, philosophy, and the organizational culture of the department.

3. The mission statement should be broad enough to allow flexibility in implementation, but not so broad as to lose the focus of the mission.

4. The mission statement should reflect the aspirations of the department and its members, but should have a reasonable chance of achievement.

5. The mission statement should be clear and understandable to all department personnel.

6. The mission statement should be brief enough for most people in the department to remember (100 words or less).

7. The mission statement should serve as the basis for daily decisions and actions by all members of the department.

Concept of Mission Statement

The mission statement is critical because if the department does not have a clear understanding of what it is and what it does (the strategic issues), it cannot plan effectively for the future. You cannot expect people to get on the wagon if they don't know where it's going.

Sample of a Mission Statement

To provide fire education, inspection, suppression, investigation, and hazardous materials mitigation for the community. To provide the highest level of service possible for the level of resources provided to the department.

Tie Mission Statement to Function

Most organizations are purpose driven. For example:

- Fire--prevent/extinguish fires and provide other emergency services, emergency medical services (EMS), and hazardous materials (hazmat). Are the words "fire department" becoming obsolete? Are fire department organizations more EMS, haz mat, or code enforcement based?

- Police--crime prevention and control, enforce the law.

Some organizations are process driven. For example:

- Personnel--hiring, promotion, employee orientation, laws (e.g., Equal Employment Opportunity (EEO) and Civil Service).

- Legal--provides advice on legal matters, defends city and departments in court.

OVERVIEW OF GOALS AND OBJECTIVES

Goals

Goals are **clear** yet **broad** statements about where the organization is to go and what it is to accomplish. Goals describe general outcomes. They are tied closely to the mission statement. In fact, goals are specific subsets of the mission statement.

Goals generally emanate from the top down in an organization.

Objectives

Objectives are statements that give clear direction to your project or efforts, are statements of guidance that form the process to be followed. Objectives should meet the **SMART criteria**. Specific, measurable, achievable, relevant, and timeframed (SMART) objectives refer to an acronym designed around the five leading indicators of a solid program.

1. The first is **specific**. What precisely is going to be done, with or for whom? The program states a specific outcome, or a precise objective to be accomplished in concrete terms. The outcome is stated in numbers, percentages, frequency, etc. The objective is defined clearly.

2. The second objective is **measurable.** Is it quantifiable and can it be measured? The objective can be measured and the measurement source is identified. Collection of these data is feasible for your program or partners. Baseline data are basic information before a program. A baseline measurement is required to document change (e.g., to measure percentage increase or decrease). If the baseline is unknown, indicate in the objective as baseline to be determined with the source and year. All activities should be measurable at some level.

3. The third is **achievable.** The verb is important, especially in process. Verbs such as provide, train, publish, purchase, or schedule indicate clearly what will be done. Verbs like partner, support, facilitate, and enhance are vague. Achievable may be described by something completed such as a code adopted or by the amount of injuries or fires reduced, for example 50 percent.

4. The fourth is **relevant.** Can we get it done in the proposed timeframe/in this political climate/for this amount of money/with the resources and support available? The objective or expectation of what will be accomplished must be relevant given the time period, resources allocated, and political and economic conditions. The objective should not only be achievable but challenging.

5. Finally, the objective must be **timeframed:** When will the objective be achieved? A specified and reasonable timeframe should be incorporated into the objective statement. It takes into consideration the environment in which the change is expected, the scope of the change, and how it fits into work plan.

The process of setting objectives must involve those responsible for achieving the objectives. Thus, it takes place at all levels of the organization.

Good objectives are written, challenging but realistic, regularly updated, prioritized, and evaluated. See Table 9-1: Sample Mission, Goal, Impact Objectives, and Program Objectives on next page.

Table 9-1
Sample Mission, Goal, impact Objectives, and Program Objectives

Mission

To preserve lives and property.

Goal

To reduce fire loss.

Impact Objectives

- To reduce fire loss by 8 to 12 percent by June 30, 2012.
- To reduce fire loss in single-family residences by 7 to 10 percent by June 30, 2012.
- To reduce fire loss in the three highest loss occupancy classes by 10 to 15 percent by June 30, 2012.
- To reduce fire loss in multifamily dwellings by 5 to 10 percent by December 31, 2012.

Program Objectives

- To install smoke detectors in 80 to 90 percent of all multifamily dwellings by June 30, 2012.
- To increase inspections by 300 percent in 95 to 100 percent of all buildings in the three highest loss occupancy classes by June 30, 2012.

IMPACT OBJECTIVES AS THE BOTTOM LINE

The fire department/EMS must begin with a mission statement to define its purpose and role. It writes goal statements to clarify the specific functions required to accomplish the mission. Then it writes objectives to specify the measurable results that will accomplish the mission. These major objectives are **impact objectives**, objectives that support and carry out the mission of the department. They are the bottom line of the fire department/EMS; the quantitative measures that have the most impact on the community, hence, the name impact objectives.

Impact objectives are the major criteria by which the community should judge the fire department/EMS. They most frequently deal with the following subjects:

- deaths (fire and EMS);
- injuries (fire and EMS);
- number of fires;
- number of EMS calls;
- dollar amount of fire losses;
- dollar amount of injury/illness loss;
- dollar cost of providing services;
- level of fire risk in the community;
- level of injury risk in the community due to accidents or illness; and
- level of risk to critical economic or historical occupancies in the community.

In order to meet the impact objectives, the department develops various programs, such as company inspections, and writes program objectives for them. A program objective relates to the number of activities that the department believes will bring about the desired results on the impact objectives. They will be discussed in more detail in a following section.

The impact objective presents the focus for the planning process, allowing the department to consider every possible option for achieving the objective. For example, the department establishes the impact objective: to reduce the number of fires by 15 to 20 percent during July 1, 2010 to June 30, 2011. It then carefully considers all the possible approaches to achieving this objective, such as targeting juvenile firesetters, increasing the number of educational programs, and increasing the number of inspections. It chooses increasing the number of educational programs, and determines the level of activity necessary to achieve the impact objective of a fifteen to twenty percent reduction in fires. Finally, the department establishes the program objective--to conduct 80 educational programs in high-risk neighborhoods by June 30, 2011.

Many departments ignore impact objectives and instead focus on program objectives. Some departments use program objectives because they do not want to be held accountable for any of the impact objectives, claiming that such results are beyond their control. Some departments fail to establish impact objectives and skip right to program objectives because they have never used them in the past. Other departments simply do not recognize the difference between impact and program objectives. They confuse activities with results. Departments have not been held accountable in the past for failing to achieve impact objectives. If fire departments/EMS fail to recognize the importance of using impact objectives as the bottom line for evaluating the department, and individual effectiveness, they will be unable to adapt to the changes the fire service/EMS faces in 2000 and beyond.

Examples of Impact Objectives

- Reduce fire losses by 20 to 25 percent by June 30, 2010.

- Reduce deaths in residential occupancies by 40 to 50 percent by December 31, 2011.

- Provide required fire flow capacity to 90 to 95 percent of the commercial occupancies in the jurisdiction by June 30, 2012.

- Reduce fire suppression costs by 10 to 15 percent by June 30, 2009.

PROGRAM OBJECTIVES

Program objectives share the three critical qualities of all objectives but they deal with a radically different purpose. They are designed to **measure the activities that are used to generate the impact objectives.** If the impact objective is "to reduce fire loss by 20 to 25 percent by June 30, 2010, there are a number of alternative programs which might achieve that objective. Among the possibilities are: instituting increases in code regulations, increasing inspections, increasing education programs, building additional stations and staffing them, etc. Managers must decide what level of these activities would be appropriate to reach the stated impact objective. A program objective is a clear statement of what range of activities will yield the target results. Its first purpose is conducting a cost benefit analysis of the various activities. Its second purpose is to serve as the control and evaluation standard for managing the program during and after implementation. It provides performance standards for the maintenance and management of the program.

Some impact objectives may require only one program objective to achieve the desired results, while other impact objectives will require a package of several programs, each with its own program objective for achievement.

The key is to remember that program objectives cause the results to happen; they never deal with the results themselves.

Examples of Program Objectives

1. Engine company personnel will inspect 90 to 95 percent of commercial occupancies by June 30, 2010.

2. The fire inspector will inspect 95 to 100 percent of fire risk occupancies during each six-month period, beginning with the period July 1 to December 30, 2010.

3. The fire inspector will inspect all hospitals and rest homes within each quarter, starting from July 1 to September 30, 2010.

4. All sprinkler systems will be inspected and tested annually by a certified private agency, to be completed by June 30 each year, beginning in 2010.

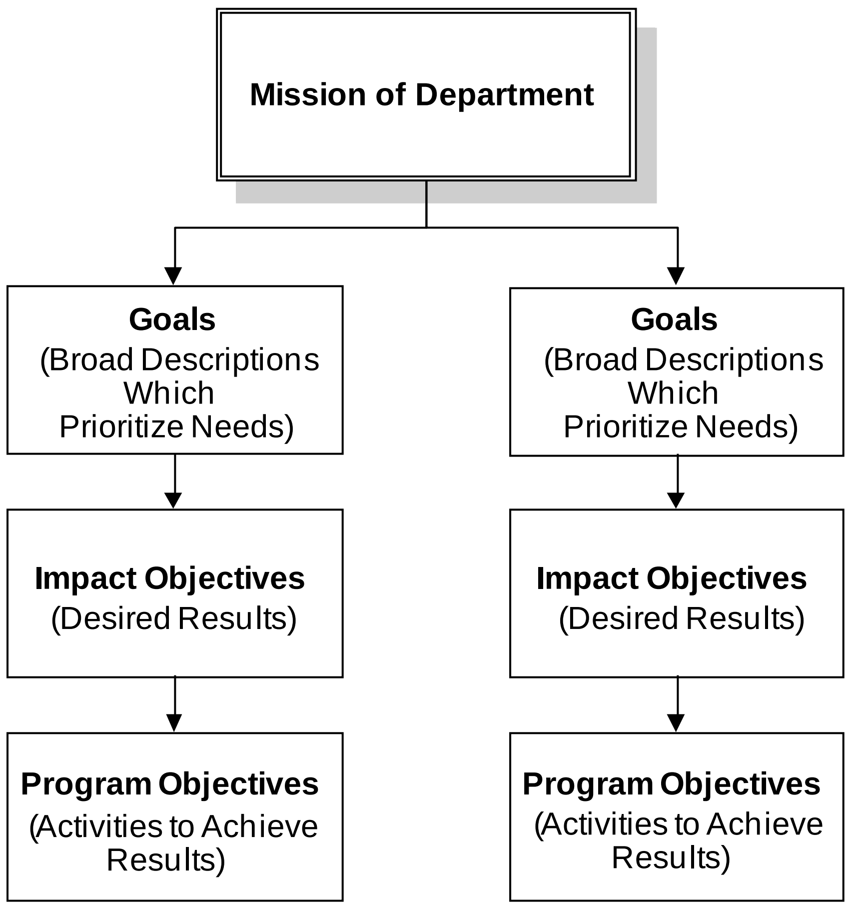
5. A home inspection program will be conducted for 20 to 30 percent of all residences by the public education division by June 30 of each year, beginning in 2010.

WRITE THE ACTION PLAN

The action plan is linked to the mission, goals, and objectives, and cannot be completed without these components. This is the phase in the planning process where the method of achieving the objectives is decided on and put into action.

Writing an action plan involves decisionmaking. You must specify actions to be taken in order to accomplish the objective, identify resources necessary, and identify what factors will affect the ability to implement the plan.

Table 9-2
Relationship Between Mission, Goals, and Objectives



Activity 9.1

Critiquing Mission Statements

Purpose

To share and critique each other's mission statements on the basis of the seven criteria.

Directions

1. Break into small groups.

2. Share and critique each other's mission statements using the Seven Criteria for Critiquing Mission Statements form.

3. Based on the feedback from the small group about your mission statement, rewrite or improve your mission statement. Although it may not be possible for you to change the mission statement now, we are preparing you for the future.

4. You will be asked to share your new mission statement and organizational structure.

Question

Does the mission statement fit the suggestions on the checklist? If not, explain why.

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Activity 9.1 (cont'd)

Seven Criteria for Critiquing Mission Statements

The **lowest** score is 1 and the **highest** score is 5.

		Barely Meets Criteria 1	2	3	4	Totally Meets Criteria 5
1.	Clearly specifies the purpose of the department, including					
	a. What needs the department is attempting to fill.	1	2	3	4	5
	b. How the department will fill those needs.	1	2	3	4	5
2.	Reflects the values, beliefs, philosophy, and organizational culture of the department.	1	2	3	4	5
3.	Broad enough to allow flexibility in implementation, but focuses the mission.	1	2	3	4	5
4.	Reflects the aspirations of the department and its members but is reasonable.	1	2	3	4	5
5.	Clear and understandable to all department personnel.	1	2	3	4	5
6.	Brief enough for most to remember.	1	2	3	4	5
7.	Serves as the basis for daily decisions and actions by all members of the department.	1	2	3	4	5

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Activity 9.2

Writing Impact Objectives

Purpose

To develop the ability to write clear and accurate impact objectives.

Directions

1. In your small group, write five different impact objectives that would represent a typical range of services rendered by the departments represented in each group.

2. You have 25 minutes to develop the impact objectives and record them on an easel pad.

3. Evaluate the groups' objectives using the following Checklist for Evaluating Goals and Objectives.

4. Select a spokesperson to present the impact objectives to the class.

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Activity 9.2 (cont'd)

Checklist for Evaluating Goals and Objectives

Rate the objectives on each of the characteristics given. The **lowest** score is 1 and the **highest** score is 5.

Objective	**Barely Meets Criteria** **1**	**2**	**3**	**4**	**Totally Meets Criteria** **5**
The meaning of the objective is clear.	1	2	3	4	5
The objective is concise, not wordy.	1	2	3	4	5
The objective is time specific.	1	2	3	4	5
The success of the objective can be measured.	1	2	3	4	5
The evaluation of the objective can be documented.	1	2	3	4	5
The objective is challenging.	1	2	3	4	5
The objective is realistic.	1	2	3	4	5
The objective will help achieve the goal.	1	2	3	4	5

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Activity 9.3

Writing Program Objectives

Purpose

To develop the ability to write clear and accurate program objectives.

Directions

1. In your small group, write five different program objectives based on one of the impact objectives that your group wrote in the last activity.

2. You have 25 minutes to develop the program objectives and record them on an easel pad.

3. Evaluate the groups' objectives using the following Checklist for Evaluating SMART Objectives.

4. Select a spokesperson to present the program objectives to the class.

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Activity 9.3 (cont'd)

Checklist for Evaluating SMART Objectives

List the one of the impact objectives from Activity 9.2 below, then write five program objectives and rate them based on the SMART criteria.

Impact Objective:

____

____

Program Objective #1:

____

____

The objective is specific. _____ Yes _____ No

The objective is measurable. _____ Yes _____ No

The objective is action-oriented. _____ Yes _____ No

The objective is realistic. _____ Yes _____ No

The objective is **time-framed.** _____ Yes _____ No

Program Objective #2:

____

____

The objective is specific. _____ Yes _____ No

The objective is measurable. _____ Yes _____ No

The objective is action-oriented. _____ Yes _____ No

The objective is realistic. _____ Yes _____ No

The objective is **time-framed.** _____ Yes _____ No

Program Objective #3:

____

____

The objective is specific. _____ Yes _____ No

The objective is measurable. _____ Yes _____ No

The objective is action-oriented. _____ Yes _____ No

The objective is realistic. _____ Yes _____ No

The objective is **time-framed.** _____ Yes _____ No

Program Objective #4:

____

____

The objective is specific. _____ Yes _____ No

The objective is measurable. _____ Yes _____ No

The objective is action-oriented. _____ Yes _____ No

The objective is realistic. _____ Yes _____ No

The objective is **time-framed.** _____ Yes _____ No

Program Objective #5:

____

____

The objective is specific. _____ Yes _____ No

The objective is measurable. _____ Yes _____ No

The objective is action-oriented. _____ Yes _____ No

The objective is realistic. _____ Yes _____ No

The objective is **time-framed.** _____ Yes _____ No

Activity 9.4

Central City Planning

Purpose

To identify critical needs, develop impact and program objectives, and develop an action plan, using a simulated community.

Directions

Each group will use the information on Central City. Select one of the "critical needs" or risks. For the critical need selected:

1. Identify and describe the root problem.
2. Specify measurable results in terms of impact objectives that could be used to measure the reduction of risk.

   Impact Objective 1:

   Impact Objective 2:

   Impact Objective 3:

3. Develop program objectives for at least one impact objective that define what you intend to do to achieve the impact desired.

Impact Objective Chosen: # ______

Program Objective 1:

____

____

____

____

Program Objective 2:

____

____

____

____

Program Objective 3:

____

____

____

____

4. Develop an action plan for one of the program objectives.

   a. Program Objective:

   ____

   ____

   ____

   ____

Action Plan	
Task	**Needed Resources?**

b. Can these objectives be realistically accomplished?

____

____

____

____

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Activity 9.5

Mann Gulch Case Study, Part 3

Purpose

To analyze a fire service/EMS case study in terms of planning theories.

Directions

1. In your assigned group, discuss the following questions.
2. Be prepared to present your group's work to the remainder of the class.

Questions

1. What communication issues existed?
2. Was there provision for two-way communication?
3. Is it possible that two-way communication might have aided in the situation? How?
4. What training issues existed?
5. Did the fact that the group had not trained together contribute to the outcome? How?
6. How could the application of the planning theories you have studied have reduced the communication and training problems that occurred?
7. Reflecting on all of the lessons discussed, are there any implications for structural firefighting in the topics that we have discussed?

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APPENDIX

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ORANGE COUNTY (CA) FIRE DEPARTMENT

OPERATIONS BUREAU
MISSION AND VALUES STATEMENT

The Mission of the Operations Bureau Leadership Team is to:

Continually evaluate the quality of our service delivery system and ensure that public safety and emergency services are provided in a caring and effective manner;

Maintain the highest standard of service delivery while exercising fiscal responsibility;

Provide leadership in the development of our people by creating a supportive atmosphere that encourages growth and creates challenges;

Develop and communicate a clear vision for meeting the mission of the Orange County Fire Department in order to meet community needs and reinforce our public trust responsibilities.

In meeting the Mission of the Operations Bureau Leadership Team we are committed to:

Quality in our performance and the performance of our people;

Loyalty and dedication to the organization and our people;

Conducting our activities in a professional manner while maintaining the highest degree of ethical standards;

Treating others with a commitment to openness, fairness and honesty;

Maintaining a sense of consistency, integrity and responsibility in our actions;

Minimizing stress in the work place, by providing clearly defined goals and expectations;

Communicating a clear vision by discussing expectations and providing necessary direction to enhance the success of the organization and our people.

Mission Statement reprinted with permission from members of the Leadership Team of the Operations Bureau, Orange County (CA) Fire Department.

The Values of the Operations Bureau Leadership Team are:

We will strive to see that humane service begins with our employees, who are really our very first customers;

Believing in and respecting the dignity of every human being by treating others with respect, showing care and compassion, listening with empathy, developing relationships based on trust and respect, and recognizing the value of diversity in others;

Taking our commitment to work very seriously, but not taking ourselves very seriously; we believe that work has meaning and purpose and should be a source of enjoyment for our people;

To provide a supportive environment where work can be experienced with a sense of humor and fun but will not be at the expense of others, an environment where a sense of accomplishment and personal fulfillment are encouraged;

Maintaining a sense of pride where professionalism is important. People are treated like and act like professionals;

To encourage accessibility at all levels by maintaining an organization that is personable and approachable, but is still dedicated to hard work and productivity;

Providing a creative environment for diverse people that generates many ideas and becomes the real strength of the Operations Bureau;

To maintain a strong desire to serve with the courage to act.

Goals for Future Development of this Process

- Conduct a workshop with Battalion Chiefs in order to encourage understanding and acceptance of our defined purpose, commitments and values.

- Conduct a similar participative process with Battalion Chiefs that encourages buy in to the results.

- Conduct an evaluation process that will measure the effectiveness of our service delivery to our employees and the populace we serve.

- Improve participation, communications and understanding of the organization and Bureau vision.

- Increase awareness of the dichotomy that exists in our professional environment.

- Make scheduling adjustments to our program goals process that will benefit from being more closely tied to the Department's budget process. Establish criteria which will assist in establishing a relative importance and priority to each Operations Bureau goal. Each goal will be measured in terms of; safety, service improvement, cost, employee development, and their relative benefit to the organization.

UNIT 10: ORGANIZING

TERMINAL OBJECTIVE

The students will be able to perform an organizational analysis by evaluating an organization's mission and structural form.

ENABLING OBJECTIVES

The students will:

1. *Explain how an organizational structure affects individuals.*

2. *Identify two advantages and two disadvantages for the individual and the organization for the four organizational structures (hierarchy/pyramid, bureaucracy, matrix, and flat).*

3. *Identify the major economic, political, and social factors that have influenced structural changes in organizations.*

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INTRODUCTION TO ORGANIZATIONS

An organization exists to do work related to its mission. It creates structure, indicating the way things are put together. An organization establishes formal lines of authority and responsibility and delineates lines of formal communication through an organizational chart. An organization also provides for accountability.

The elements of an organization include

- Ethics: There is currently a national focus on ethics--government officials, elected officials, corporate executives, savings and loan/banking, and the insurance industry. Acceptable behavior may differ from organization to organization.

- Attitudes: How do they affect the organization and the individual? Who is in charge of attitudes? Attitudes address how we think about our jobs, our mission, and ourselves.

- Perceptions: How do we view the organization, its people, and its processes? Perception versus reality--why do we see things as we do? How many of our perceptions are reflective of our viewpoint?

- Tradition: The tendency to destroy the traditions of an organization when attempting to make a major change may not be prudent. A better way might be to use the best traditions to shape desired change.

- Values: Family, spiritual, corporate, government (greed, power, caring).

- Cultures: Ethnic, male, and female.

- Process: How things are done.

- Organizational culture: An organization's culture is different from the cultures of the individuals in the organization. What is a typical fire department/emergency medical services (EMS) culture?

- Product: What do we produce?

- Things: Stations, trucks, and equipment.

- Places: Where do we function? Neighborhood, community, city, State, etc.

- People: Knowledge, skills, and abilities.

- Purpose: Why do we exist?

- Norms: Acceptable behavior.

Tribes, clans, and settlements were the earliest organizations. People gathered in organizations to provide safety and security to each other. People wanted to gather with others of similar beliefs, such as the Catholic, Quaker, Mennonite, Amish, and Baptist religions.

One of the earliest types of formal organizations was the church. It developed written documents that governed behavior.

The military was another early formal organization. It developed values, such as loyalty and camaraderie and provided protection for the citizens.

Government, another early formal organization, established norms for people's behavior.

An organization's structure affects you, as an individual, in the following ways:

- depicts career path and advancement opportunities;
- depicts your place in the overall scheme;
- gives stability;
- indicates status and authority;
- provides purpose;
- embodies tradition--old and new;
- creates culture; and
- establishes norms of behavior through rules and regulations.

TYPES OF ORGANIZATIONAL STRUCTURE

Formal Versus Informal Organizations

Each organization has both a formal and informal organization. The formal organization, as shown typically in organizational charts, includes the chief and fire department/EMS staff, divisions/districts/battalions, and stations and other facilities. Formal employee organizations include unions, associations, and special interest groups, such as firefighters/emergency medical technicians (EMTs), and fire service/EMS.

The informal organization, which can be just as important, includes nondesignated leaders and the grapevine. The grapevine amounts to almost 50 percent of the average worker's communication in a company. Tapping the grapevine is vital to understanding the organization. In order to tap the grapevine, be accessible, build trust and credibility by sharing what information you can, and squelch false rumors as soon as possible.

Evolution of Organization Form

Hierarchy/Pyramid is the original and traditional form of organization. The Chief Executive Officer (CEO) is at the top with descending levels of authority depicted in ever-broadening layers down to the workers at the bottom.

Historical events influence the forms that organizations take. For example, the Industrial Revolution created tremendous social upheaval by taking people out of the fields and placing them in factories. The Industrial Revolution entrenched hierarchy and bureaucracy in organizations. During World War I, the country lost many youths. This had the effect of destroying many organizations. The Great Depression led to more rules and regulations on organizations. World War II ushered in the need to have women in the workforce in numbers far greater than before. This led to changes in the family structure and family values. In recent years, corporate takeovers have led to flattening of the organizations. Also, recent savings and loan/bank failures have put people out of work and have led to a lack of trust in government.

Bureaucracy

Bureaucracy is an organization characterized by specialization of function, adherence to fixed rules, hierarchy of authority, red tape, and rigid formal routine. A bureaucracy does not always indicate a government organization, and the term is not always bad. Bureaucracy is, in reality, a method of operating within the hierarchical form of organization. However, common usage of the term implies that it is a separate and distinct form.

Major political or social factors that create pressure to change this organizational form include demands for immediate action, impatience with red tape, delays, indecision, poor communications, and citizen and customer demands for efficiency and a voice in decisionmaking.

Matrix

A matrix is used by organizations or groups for project management. It is usually temporary. As a project is completed, the group disbands or takes on new projects. Its chart usually depicts purpose departments horizontally and process or service departments vertically. The typical fire department/EMS use is in hazardous materials teams.

Matrix was used for the Manhattan Project (atom bomb) and for development of the Strategic Defense Initiative (SDI/"Star Wars").

Flat

A flat organizational form is usually a pyramid, but has fewer layers of management and supervision. It began to receive wide attention in the early 1980s.

Major political and social factors that precipitated the change to a flat organization are the need for lower costs to meet global competition, need for creativity in the workforce, need for better quality products, need to show higher profits, need to decrease bureaucracy (middle management and supervisory positions eliminated), need to enhance self-discipline in the workforce, and customer/citizen dissatisfaction with services or products.

This flat organizational form may create a clash between rising expectations and the reality of fewer opportunities for advancement. Our children can no longer expect to have a better life than we did. Through mergers and takeovers, we have weakened our industrial base and have lost manufacturing jobs, which tended to be higher paid than service jobs. A college degree no longer guarantees a good job.

The form of organizations has evolved in response to world events and trends. However, managers sometimes reorganize (change the form totally, or just move people around within the same form).

Managers reorganize to solve problems. The public sector may have to reorganize if it does not have the authority to take care of "people" problems. Managers may reassign people or change reporting patterns and responsibilities.

Managers sometimes fail to realize that the structure is not always the problem; it may be the people themselves. It's not always the boxes on the organizational chart that are the problem. It may be the people in the boxes.

If you reorganize, ask individuals how the organization has failed, and then tell your employees:

- why you are doing it;
- what the performance problems were; and
- what your expectations are for the reorganization and for individual work behavior--offer training and assistance if necessary.

ORGANIZING

One of the most important parts of management is organizing to meet department objectives. All of you have faced the problems that occur when firefighting is done on a "crisis" basis. Confusion reigns supreme. If a plan is to be successful, then every element of the plan must be organized.

There are two parts to organizing. One part deals with assigning and delegating people to do tasks. You have probably responded to fires with an undetermined number of people each of whom is doing his/her own thing. How often have you said or thought, "We've got to get this department organized?"

The other part of organizing deals with organizing materials and equipment so that tasks can be done efficiently and effectively. You have all opened your own garage door and made the statement "I've got to get this place organized." You have probably thought the same thing when looking at your department.

Well-organized units seem to move efficiently into the fireground and work together smoothly. They are organized: all members know their responsibility and the responsibility of others.

Organizing and Organization

There is a difference between organizing and organization.

The organization can be the community with its various departments, including the fire department/EMS. Each has its own mission. The mayor is the head of the community organization and the fire/EMT chief is the head of the fire department/EMS organization.

We organize the various units in the community. We also organize the functions of the fire department/EMS. We organize the people in fire suppression into pumper companies, ladder companies, and sometimes, rescue companies. Each has a leader with people assigned to specific tasks within the company. Working together in well-organized units, the department organization meets the community's needs.

We organize the units of the fire department/EMS to meet the organization's mission. We do this whether the mission is a long-standing one, such as development of a hazardous materials transportation strategy plan, or a short-term one for the one-time purchase of a new fire pumper.

To maintain department vitality, the mission must be reassessed constantly.

Yesterday's mission can change as the community changes. The need for EMS can change the mission. Installation of water mains with hydrants could change the need for tankers. These periodic changes in the community will change the department's mission.

As missions change, the objectives that support the mission change. Some disappear entirely while others need to be changed to meet new requirements. (The mission objective for the purchase of a new pumper used 15 years ago would not meet present needs.)

You organize to identify the equal division of work within the department.

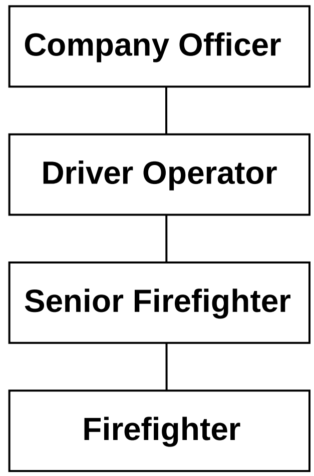
The mission of the department may be small, yet many may be required to realize its fulfillment to:

- identify the major functions of the department required to meet the objectives;
- identify the tasks necessary to complete the function; and
- identify the activities for each task.

All people are different. In organizing people to do the tasks required, you need to remember that people doing the same task will contribute differently toward the attainment of that objective. Consider these differences when organizing task assignments and delegating work.

We organize to create a structure of authority.

When tasks have been divided within the department, we find many people doing small and often unrelated parts of the task. For example, within a pumper company you have an officer, pumper driver operator, and firefighters in the delivery of water to the fire. Each has a different set of tasks and responsibilities to perform. Together these tasks become an integrated pattern by which all the individual efforts can be meshed together. This integration is served by creating a structure of authority among the participating individuals. This is accomplished through creation of various areas of responsibility with ascending echelons of supervision. Even the fire company has its structure of authority starting with the company officer. Next in line is the driver operator usually followed by the most senior firefighter.



Structure of Authority

In the final analysis, some individual or group will be responsible for the accomplishment of the total objectives of the organization.

People want to know their assignments, what they are responsible for, and how they relate to the organization. Responsible managers organize their people so that each knows his or her responsibilities.

What is Meant by Organization?

"An organization is a structure in which work can be accomplished, allowing people to function as efficiently in a group as they function individually."

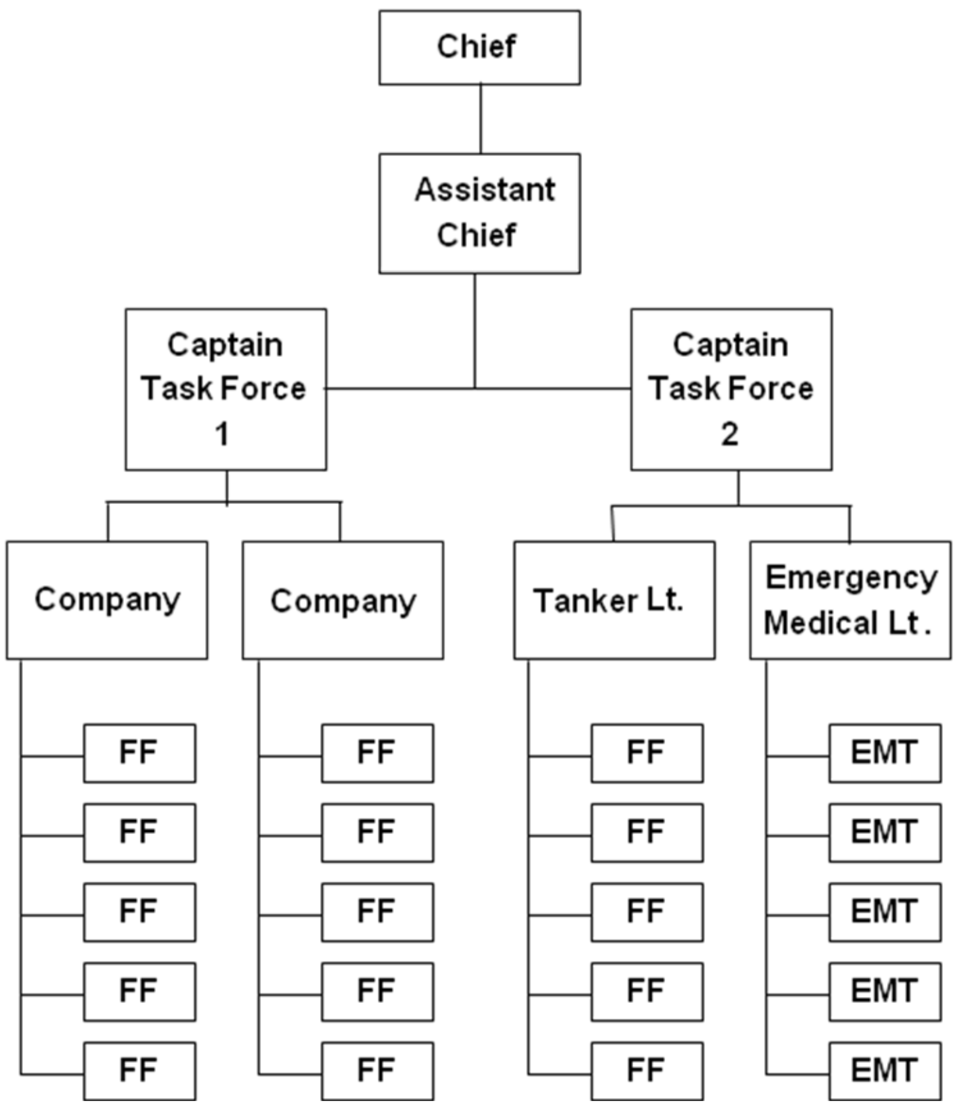
In the fire department there are several major functions within the organization, including

- **fire suppression:** fire pumpers, ladder trucks, tankers, rescue, and fire investigation;
- **fire prevention:** fire inspection, building code enforcement, fire prevention activities, public education, etc.;
- **emergency medical services:** ambulance, first aid and rescue, EMT, paramedics, public education, and training;

- **support services:** departmental training, as well as and maintenance and repair of apparatus, equipment and station; and
- **administration:** fundraising, budgeting and accounting, rules and regulations enforcement, discipline, public relations, etc.

What Does an Organization Look Like?

The following chart below depicts how most fire departments are organized. It's a graphic illustration of the relationship between positions. The tasks are grouped and allow people to look for communication and instruction. An organizational chart improves the understanding of an organization.



Sample Fire Department Organization Chart

What is Organizing?

The management of an organization is responsible for organizing equipment, materials, and people to achieve an objective. When you organize, you are developing a structure to accomplish the planned work.

Use These Groupings in the Organizing Process

- **Purpose:** Divide the objective into its basic parts, which normally are referred to as the functions and tasks.
- **Process:** Classify with regard to the type of work needed to accomplish an objective.
- **Clientele:** Group work according to the individuals outside the organization to be served.
- **Time:** Grouping by time does not often apply to volunteer departments other than when volunteers have a duty night or weekend.

Eight Principles of Organization

1. **The principle of responsibility.** Officers are responsible for the actions of their subordinates. The subordinate's responsibility to officers is absolute.

2. **The principle of authority.** This is the line through which communication travels down. It's the authority to act and make decisions that affect others.

3. **The principle of accountability.** Holding someone accountable requires a clear explanation of his/her responsibilities and limits of his/her authority. Subordinates can be held accountable only for activities they can control fully.

4. **The principle of delegation.** This means that the responsibility for making decisions should be delegated as far down in the organization as they can be made effectively.

5. **The principle of span of control.** This does not necessarily mean the number of people reporting to an officer but the functions for which they are responsible.

6. **The principle of Unity of Command.** This means that a person cannot report to more than one superior in a key result area; conversely, it means one person can report to two people if they are responsible for different key areas.

7. **The principle of definition.** This principle says that every position should have a written position description. Every person should know his/her responsibilities and authority. This cannot occur verbally; it must be in writing.

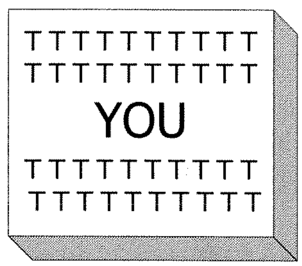
8. **The principle of coordination.** Tasks/Jobs within the organization should be coordinated by clear-cut channels of two-way communication.

How are Organizations Arranged?

Arrange and correlate the tasks outlined in a plan so that when people are assigned the tasks, they can do them efficiently and with a minimum of confusion.

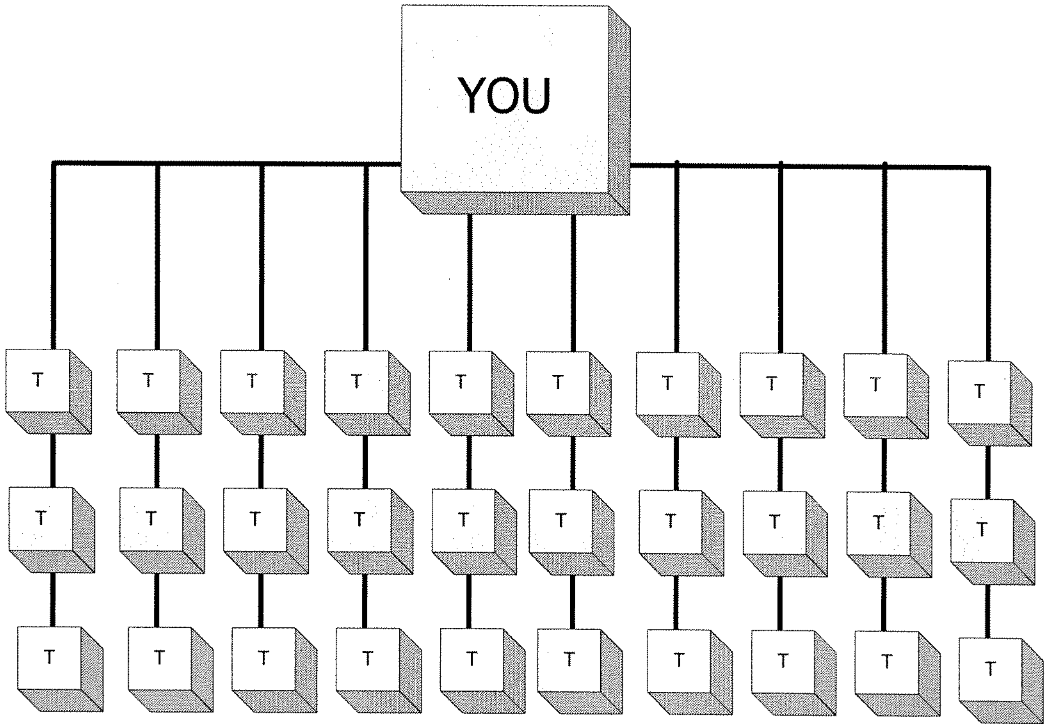
What must you consider in deciding how to organize?

Analyze the tasks and determine how you would group them together so that people can perform them. For example, suppose the function had 30 to 40 tasks to perform. Could you group them so that one person could do them all?



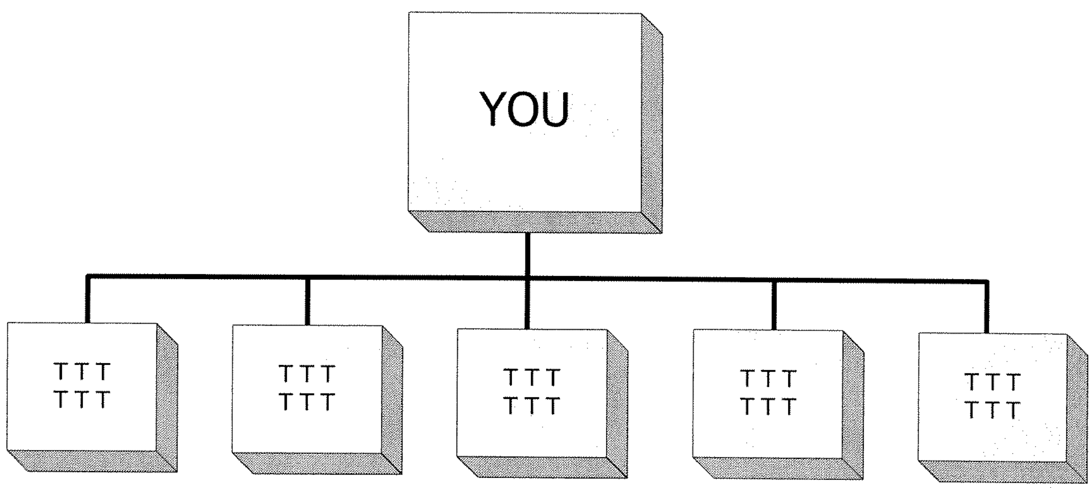
30 to 40 Tasks (T) for YOU to Perform

Now suppose you give each task to 30 people. This is the extreme in organizing.



Tasks (T) Assigned to 30 People

You should group the tasks so that a number of tasks can be handled successfully by one person.



Tasks (T) Assigned to 30 People

Consider the following when determining how to structure an organization:

- The amount of work required for each task.
- The skills required for the task.
- The number of people who can be managed in assigning jobs, answering questions, training, etc.
- The objectives for each position should be written so that people know their role.
- Defining responsibilities by giving the person the responsibility for completing the assigned task.

If you oversee the assignment too closely, you also may create a situation in which you will get malicious obedience.

How do you assign responsibilities?

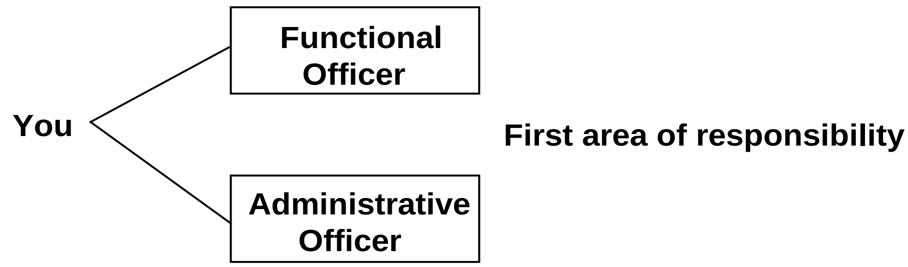
When you assign responsibility, you must give people the authority to complete the assignment. You also must hold the person accountable. This accountability is given on a one-to-one basis. Second, you must coordinate. The officer's job is to coordinate work and provide information for each position. Let people know where each task begins and ends. Let subordinates know with whom they must communicate and where orders and information orginate. Third, timing is important. Things won't always proceed perfectly, so you must maintain the correct timing among groups.

Suggestions for Organizing What You Do

- analyze and group tasks into logical position units;
- state specific objectives for the units;
- make certain that the position units have the necessary authority to meet their responsibilities; and
- state how each position is to be coordinated.

Unity of Command

The principle of "Unity of Command" is that one person in the organization should not be responsible to more than one officer. You can report to two officers as long as they are in different key result areas.



The following are some examples of where Unity of Command can be applied.

- when someone is given a temporary special assignment;
- where a person is functionally responsible to one person but administratively responsible to another; and
- when some line and staff functions have uncertain lines of authority.

What happens if a chief officer gives orders to a firefighterEMT, bypassing the officer to whom the firefighter/EMT reports?

- The firefighter/EMT will be getting a work load from two sources and will not know what to do.

- The firefighter/EMT will get conflicting or confusing instructions.

- Your work schedule will be upset.

What happens when a firefighter/EMT skips over his/her officer and goes to the chief?

- The officer loses contact with what is being done.

- The chief is not in a position to evaluate the firefighter's/EMT's work.

What happens when chief officers give independent directions to company officers not under their specific command?

- Instructions are confusing and conflicting to the company-level officers.

- Duplications and unnecessary work will result.

- The chief may lose control of the organization.

- Work load and schedules are disrupted.

- Company officers become frustrated, leading to confrontations.

Span of Control

The manager handles key result areas versus people. In other words he/she controls the vital few rather than the trivial many. You must be able to spend time on communicating, planning, training, and developing your people. You cannot do this if you have everyone reporting to you.

The manager can control only a limited number of people successfully. This is his/her span of control.

What happens if a manager tries to control too many people?

- He/She becomes too busy to do adequate planning, organizing, and controlling.
- Subordinates become confused by insufficient direction.
- The quality and quantity of work may be reduced before the manager can correct or make suggestions.
- Subordinates will become frustrated by improper supervision.

What happens when a manager has too few people to supervise?

- He/She tries to do the subordinate's work or, even worse, another manager's work.
- He/She provides too much supervision, creating frustration in his/her subordinates.

Effective Delegation

The Successful Manager Delegates Responsibility

The positive approach to management that would approach Theory Y of managing by objectives pertains to delegating the workload of your department.

As we can see by McGregor's Theory X-Theory Y, two points are emphasized.

1. They represent the two extremes of the management philosophy continuum. In a given case a manager may fall somewhere in between these two extremes.
2. All managers have a philosophy, and their philosophy determines to a large extent how they manage.

The Theory Y person will tend to adopt an approach to management which:

- creates a climate in which people are mentally, emotionally, and physically involved in their jobs;

- gains the commitment of people by involving them in decisionmaking and planning;
- concentrates their own managerial efforts on overall goals and objectives and achieves them over a period of time rather than on a day-to-day basis; and
- frees them to help people achieve results through effective coaching rather than working alone.

Thus, we can see that delegating authority is an art. It requires a certain attitude toward people, and insight into people's feelings and judgment. The officer must yield authority without losing control, and train subordinates to handle delegated authority so that they are willing to take the risks that accompany delegation.

What is an Organization Chart?

The organization chart is a graphic illustration of the relationship among positions.

- Tasks are grouped and allow people to look for communication and instructions.
- The chart improves understanding of the organization.
- It identifies the **chain of command**.

Chart construction depends on two basic ingredients:

1. The use of rectangular boxes as indicators of units or individuals.
2. The use of lines to indicate relationships between units or individuals.

The lines symbolize the flow of authority and responsibility.

Basic rules for chart construction.

- Keep it simple.
- Rectangles should be connected to the hierarchy.
- Lines should enter only the top or bottom of the rectangle.

Activity 10.1

Using Different Types of Organizations

Purpose

To examine and discuss advantages and disadvantages of the four forms of organizations.

Directions

1. Work with other members of your small group to examine and discuss uses of the four forms of organizations.

2. List on an easel pad the advantages and disadvantages for the individual and the organization of each structure, and describe appropriate uses of each, given today's environment in the fire service/EMS.

3. You have 20 minutes to work in your small groups, followed by a group discussion on your findings.

Hierarchy/Pyramid

Advantages to the individual:

____

____

____

Advantages to the organization:

____

____

____

Disadvantages to the individual:

____

____

____

Disadvantages to the organization:

Bureaucracy

Advantages to the individual:

Advantages to the organization:

Disadvantages to the individual:

Disadvantages to the organization:

Matrix

Advantages to the individual:

Advantages to the organization:

Disadvantages to the individual:

Disadvantages to the organization:

Flat

Advantages to the individual:

Advantages to the organization:

Disadvantages to the individual:

Disadvantages to the organization:

Activity 10.2

Analyzing a Fire Department/Emergency Medical Services

Purpose

To develop a list of tasks in each of 10 functional areas involved in the management of a fire department/EMS.

Introduction

The basic premise of this exercise is that all tasks in all functional areas must be considered by the manager of all fire departments/EMS--large and small.

Directions

Part 1: Functions of a Fire Department/EMS

1. The instructor will divide you into 10 groups. Each group will be assigned a function.

2. Develop a list of tasks that you feel properly belong in your assigned function by using brainstorming techniques. The rules for brainstorming are simple.

    a. The broader the range of ideas, the better.

    b. Any contribution is welcome.

    c. Criticism or argument against ideas is not allowed.

    d. The greater the number of ideas generated the better.

    e. Combining and improving of ideas is sought. Questions for the purpose of understanding are in order.

    f. Encourage building on the ideas of others.

3. Combine and put together the ideas obtained by brainstorming. Do not attempt to list the functions in order of importance.

4. The small group activity should take about 30 minutes.

5. Elect or appoint a spokesperson.

6. As a large group, develop the whole list of tasks for all functions, and determine who has responsibility for each task in their department.

Part 2: Organizing--Organizational Structure

1. The instructor now will divide you into groups by size and type of department.

2. Each group should develop an organizational chart that will show the structure of the organization as a whole and the chain of command for the Stewart, USA Fire Department.

   The Problem: A new fire chief has been appointed by the governing body of Stewart, USA. As a progressive manager, the chief has asked us to develop a list of tasks that are applicable in each of 10 functions involved in the management of a fire department. He/She has determined that these 10 functions are important to his/her community.

   - Administration;
   - Emergency services/operations;
   - Water supply;
   - Training;
   - Fire prevention;
   - Personnel management;
   - Financial management;
   - Buildings;
   - Equipment; and
   - Planning/Research.

3. The instructor will lead a discussion of the organizational structure examples developed in this activity as time permits.

Activity 10.3

Mann Gulch Case Study, Part 4

Purpose

To analyze a fire service/EMS case study in terms of organizational structure.

Directions

In your assigned group, discuss the following questions and be prepared to present your group's work to the remainder of the class.

1. According to Weick, what are the characteristics of an organization?

2. Why did Weick feel that the smokejumper crew was an organization?

3. What is a minimal organization?

4. How did the Mann Gulch crew demonstrate the vulnerability of organizations?

5. What factors would have made the organization more resilient?

6. Discuss/Explain the impact of role structure on Mann Gulch. What problems in role structure occurred at Mann Gulch?

7. Is there a structure that enables people to meet sudden danger? What are its characteristics? Who builds and maintains it?

8. Can any of the organizational theories you have studied help you to better understand the events that occurred at Mann Gulch?

9. What was the influence of the smokejumper culture on the outcome?

10. Who had the power?

11. What influence did the informal structure have on the outcome?

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UNIT 11: CONTROL AND EVALUATION

TERMINAL OBJECTIVES

The students will be able to:

1. *Determine the most effective control systems for their departments.*
2. *Formulate performance-based evaluation criteria.*
3. *Understand the basic quantitative methods and concepts in order to interpret basic statistical data.*
4. *Conduct basic statistical analysis, including forecasting.*

ENABLING OBJECTIVES

The students will:

1. *Identify control systems currently in use within their departments.*
2. *Identify the five major types of performance evaluation systems in use.*
3. *Identify the four most common performance evaluation errors.*
4. *Calculate the correlation coefficient using Microsoft® Excel.*
5. *Describe how the correlation coefficient defines the strength of linear relationships.*
6. *Demonstrate the use of regression analysis to make forecasts of unknown values in a set of data.*
7. *Apply regression analysis to make predictions using data from their own organizations.*

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WHAT IS CONTROL?

The responsibility of controlling the activities of the department is the single most important function of all management. In the 19th century Henri Fayol identified it as one of management's primary responsibilities.

Control is the establishment of clear lines of authority. It is setting clear guidelines to ensure continuity and coordination within the department. It is the provision of clear reporting mechanisms that allow the manager to determine whether subordinates are accomplishing the mission. Through these actions it is possible for a manager to reap the benefits of control.

Control ensures that progress is being made toward the accomplishment of the mission. It provides the opportunity to diagnose problems and take corrective action. It provides known and predictable accountability that fosters a sense of responsibility in the organization. Yet, for all its benefits, control recently has acquired a negative connotation that hinders its effective use by managers today. The term frequently is confused with the notion of manipulation, or with depriving employees of freedom or participation in the management of the department. This has come about in part because of autocratic managers who historically have abused their power in the fire service/emergency medical services (EMS). It is viewed negatively, in part, because of the social values of today's workforce, whose members frequently resent accountability or constraints on their choices.

It is possible to use good methods of control to enhance the department's performance and improve the employees' sense of accomplishment. Employees value good controls because they provide a basis to document their achievements. Control makes problem identification and solution development possible. It is essential to the task of managing people's energies and abilities effectively.

The nature of control in the fire service/EMS has changed dramatically in the past decade. The rapid growth of many departments and the increased complexity of their mission have made it necessary to find new ways to control the expanded numbers of employees. The changing legal environment holds managers more accountable to justify and verify their decisions.

In years past a chief's statement that an employee, program, or department was either good or bad stood on its own, without need for documentation. Today, everyone from the city council to the district judge demands a standard of clear factual analysis of the performance of the department and its individual members. They hold all managers to a high standard of accountability for the evaluation of the performance of their subordinates. The use of effective control methods is more important now than ever for the modern manager.

There are a number of control systems currently used in all fire departments/EMS.

TRADITIONAL FIRE DEPARTMENT/EMERGENCY MEDICAL SERVICES CONTROL SYSTEMS

The Budget

The best known and most widely used control system is the budget. It is used to control and account for expenditures, to ensure that the fire department/EMS does not spend more funds than it has, and that all expenditures are proper and legal.

Standard Operating Procedures

Fire departments/EMS use standard operating procedures (SOPs). Even in departments where they are not written down, there are oral SOPs established by the managers in charge. SOPs must balance the need for uniformity against the need to provide the individual manager with the freedom to exercise creativity in confronting complex and rapidly changing conditions. This tension exists most dramatically on the fire scene, but it also presents managerial challenges in the station house and the office.

SOPs sometimes may have the following flaws. They sometimes can be so detailed that they become difficult to remember and execute properly on a moment's notice and under pressure.

There can be too many SOPs. They can multiply until they fill several notebooks, making them inaccessible or difficult to remember, leading to decision paralysis for fear of violating the SOP.

Their restrictiveness can rob the manager of all flexibility and restrict his/her initiative and creative problem-solving. On the other hand, if they are ambiguous, they can leave important issues unaddressed, making the manager subject to second-guessing after the fact. They also may be written in such confusing, legalistic, or bureaucratic language that it is difficult, if not impossible, to determine exactly what they mean.

Rules and Regulations

Rules and regulations establish clear behavioral guidelines for all members of the department. They function as clear notice of what is and is not acceptable for all members of the organization. They are also subject to many of the same problems that characterize SOPs in the fire department/EMS.

Activities Reports

Activities reports provide the information necessary for a manager to track and evaluate the productivity and results of the department. They are a key source of information in the department. It is essential to maintain their accuracy, and to ensure that everyone in the department regards them as vital records. Some typical activities reports:

- monthly, quarterly, and yearly activities reports;
- training reports;
- apparatus and equipment inspection and maintenance reports;
- performance standards or competency tests reports; and
- company inspection reports.

Personnel Reports

Personnel reports maintain critical records regarding individual performance and behavior. They help evaluate productivity and effectiveness. They also fulfill primary legal requirements regarding employment law or union contract matters. Some examples:

- vacation records;
- sick leave records;
- qualification or training status records; and
- physical fitness records.

PERFORMANCE APPRAISAL

Performance appraisal is the second most frequently used formal control system in the fire department/EMS. (Only the budget is used more often.) For many members of the fire service/EMS it is the only feedback management gives regarding their performance. It is the only formal record of their achievements for the department, even though it is frequently little more than a simple rating of satisfactory, good, or excellent. Performance evaluations come in a number of traditional formats in the fire service/EMS. A description of the most common systems follows.

1. Global trait rating.

   The most common evaluation category by far is the global trait analysis. It consists of a list of personality traits such as leadership, punctuality, decisionmaking, etc. The scale generally consists of unsatisfactory, satisfactory, good, and excellent, although it sometimes uses a numerical scale such as 1 to 10. The scores for each trait are added together to give the overall rating for the period. For example, if an officer has 16 traits rated excellent out of the 20 possible, he/she will receive an excellent overall.

2. Behaviorally anchored rating scales (BARS).

   This system provides specific examples of standards of behavior that would rate the individual on the scale of traits. For example, for punctuality, it would state that the behavior for an excellent rating is to have no late reports during the rating period, regardless of circumstances.

3. Forced choice evaluation.

   Popularized by the Ohio State Highway Patrol in the 1950s, it requires the manager to choose from two descriptors that best describe the officer in question. The manager has no clear idea exactly how he or she has rated the subordinate because the manager does not know the key to the rating scale.

4. Ranked evaluation.

   The manager must place everyone in rank order. The system frequently does this on the basis of paired comparisons, in which a manager compares each subordinate by pairs for each of the traits.

Personnel Evaluation Errors

There are a number of errors that occur in the rating process. They may be sorted into the following categories.

- Leniency: describes the tendency of the rater to overestimate the performance of a subordinate. This generally will appear across the board in a manager's ratings when compared to evaluations given by other managers.

- Severity: the tendency of the rater to underestimate the performance of a subordinate. Like leniency, this generally also will appear across the board in a manager's ratings when compared to evaluations given by other managers.

- Central tendency: the practice of grouping all subordinates rated primarily within the midrange evaluations. Managers commonly do this to make everyone happy because no one has a higher evaluation than his/her peers. This avoids accountability and prevents confrontation by the subordinate. Another reason is so the manager will avoid having to produce the documentation required on evaluations that are either high or low.

- Halo effect: describes the tendency of a manager to allow the perceptions of a subordinate's exceptional performance in one or two areas to affect a judgment in other, wholly unrelated items. For example, if a person is an exceptional firefighter/emergency medical technician (EMT), but is an underachiever in other responsibilities around the station, the captain may rate the firefighter/EMT high in those other areas.

Performance-Related Evaluation Systems

Management by Objectives

In a Management by Objectives (MBO) system, the manager passes the performance evaluation on how well the subordinate has achieved the objectives set the previous year. There is some degree of subjectivity in the weighing of the various objectives as they will vary in terms of their criticality and importance. Still, there is a high degree of objectivity in this system.

Performance Standards

A variation of the MBO evaluation process, the department generally establishes specific criteria for all personnel of a specific rank. There are many differences in the way various departments employ this system. Some departments set competency standards such as those found in Firefighter I, II, and III certification. They test these standards on an annual basis, along with physical fitness standards and other related criteria, to determine if the officer meets the performance standards, and by how much he or she exceeds them. Other departments extend the performance standards to include other activities, especially in the case of managerial personnel. This would include such activities as company inspections, multiple company drills, certification of subordinates, or other related criteria. Other departments set specific objectives using a traditional MBO system approach, but call them performance standards.

PERFORMANCE-BASED EVALUATIONS

Judging individual performance by the systems described above has two fatal flaws. The first flaw occurs in the extensive use of trait evaluation systems by fire departments/EMS. These systems support the belief that certain traits, such as punctuality or leadership, will lead to accomplishment of department objectives. This assumes a causal relationship, which often does not exist. A person rated high in positive attitude will not necessarily produce the specific results in reducing fires that the department desires. Even if it does, it is far more reasonable and reliable to measure the result in reduced fires directly. It would be similar to International Business Machines (IBM) evaluating a salesperson subjectively on his or her quality of friendliness, and hoping that it translates into increased sales, rather than measuring the sales themselves.

The second flaw is that the fire service/EMS bases evaluations on activities, not results. It evaluates activities such as the number of fire inspections rather than results of the fire inspections, which should be a reduction in the number of fires.

Because organizations in the private sector must make a profit to survive, their management always has used control systems that are driven by results.

The necessity of making a profit created a need to measure results in a meaningful way. This accountability controls the activities of the organization and its workers so that they stay on track to achieve the mission of the company. Managers must have rapid feedback about organizational effectiveness and efficiency so they can react quickly to changes in the marketplace.

Subordinates needed clear benchmarks by which to measure their progress and to determine the degree of effort required to achieve it. Companies developed clear, bottom-line criteria to measure the performance of managers and workers. Examples of these criteria:

- price/earnings ratio;
- current ratio;

- sales margin;
- return on net worth; and
- return on investment.

Divisions of businesses developed relevant measures to determine the contribution of each division to the firm's mission. These indicators established the performance benchmarks to judge each division and all of its personnel. The manager controlled the operation of the organization by tracking these performance indicators. They reflected the reality that otherwise was impossible to observe directly because of the limitations of what any individual can observe physically. Information, especially measurable information, became critical to the evaluation of both organizational and individual effectiveness.

Activities in themselves are of little concern or consequence to a manager in business; results are what count. Results constitute the criterion, which determines the degree of control the manager applies. A sales manager does not care how many sales calls a salesperson makes, only how many sales result. If the sales meet the forecast, no additional control is required. If a salesperson fails to meet quotas, the manager works on the problem to achieve the projected sales. They focus on a very clear and relevant performance standard for both the salesperson and the company.

Because survival depends on making a profit, businesses that can define specific results that lead to profits survive and grow. Businesses that confuse activities with results do not survive. The need for profitability as a primary mission of the business centers the control functions on profit results.

The need to make a profit keeps the focus on the mission and goals in specific and concrete terms of what is necessary to survive. Managers could not afford to make assumptions that activity (such as making sales calls or advertising) would automatically lead to desired results. They had to be able to confirm and measure the results themselves to justify the expense and effort of any activity. Because fire departments/EMS have never had to operate on this bottom-line basis to survive, there has been little incentive to develop these precise measurements of performance.

QUALITY CONTROL OF INFORMATION

Data used for controlling operations must be accurate and reliable. Many departments have inaccurate records. Departments place little emphasis on collecting accurate information. Fire losses seldom are verified through records of insurance claims paid, or estimated by professional insurance adjusters. Little comprehensive training is available for personnel who make fire cause determinations on nonarson investigations. Yet the results are made part of the official records and are accepted as accurate. Departments seldom establish quality controls to verify data. Little systematic sampling is done on quantitative or qualitative issues.

Quality control is a critical component in using performance measures as control factors. Sampling procedures should be used to verify all reported information. It is important to use statistically correct sampling techniques. Quality control programs must be fully defensible, as they are subject to grievances, union investigation or negotiation, or possible legal actions when the sampling results are used to correct the problems. Sampling procedures are part of the empirical/evaluative school bringing mathematical tools to bear on managerial applications.

Training in quality control procedures is widely available in college curriculum courses and in workshops and seminars offered by colleges and professional organizations that deal with manufacturing companies in local communities. All employees should be informed of the quality control sampling. The sampling system should be to reward employees for good performance as well as to correct their shortcomings. For example, recordings of all public phone conversations should be sampled to determine if employees are helpful and efficient in handling inquiries from the public.

DEVELOPING APPROPRIATE CONTROL CRITERIA

For managers to fulfill their responsibilities, they must control results and not just activities. Results, for example, the number of fires prevented, or injuries prevented by programs, are not always easy to determine. In some cases, it will be necessary to determine the results of a program by comparing the results to jurisdictions with similar demographic and occupancy profiles that do not have the programs. For example, a department that uses an educational program to address problems of fire hazards and the elderly could compare fire statistics involving occupants of the relevant age category with a community with a similar profile to determine the difference in fire rates.

In other cases it will be necessary to implement prototype programs to measure results on a limited scale and to provide data on the effectiveness of the program in achieving an impact objective before implementing a communitywide program. For example, if you wish to determine how many fires a particular program prevents, it may be necessary to run a prototype first and compare it to historical data as well as to comparable geographic areas or occupancy types.

While results drive the control function, activities must be tracked and evaluated as well. Information on activities is vital to determine why the results either are or are not occurring. Additional information on programs has to be evaluated to determine the factors that account for the success or failure of results.

Once programs are implemented, it is necessary to manage the activities successfully in order to achieve the results. Measurement and evaluation of the activities are essential for the operational control of the program. Qualitative factors must be analyzed carefully to determine impact on the results. Most qualitative factors can be quantified by degree or kind for more useful and meaningful analysis.

For a manager to execute responsibilities of control properly and develop control criteria, he/she must ask at least two questions:

1. Is this program or activity contributing to achieving the department mission?

2. Is this program or activity the optimal means of achieving the mission? That is, does this program produce the highest return on its investment of time and money?

The manager must determine the best means of measuring a given program for results. Meaningful measurements can be used to promote comparisons among programs. Cost per inspection may be a relevant piece of information when comparing alternative delivery systems such as a full-time inspector versus a company inspection, or evaluating the cost of one company doing an inspection versus another. Cost per inspection may be irrelevant, however, when comparing alternative programs such as inspections versus educational programs. The more relevant ratio would be the cost per fires reduced from the previous year's statistics for the geographical area, type of occupancy, or type of fire.

The manager must determine those measures that provide a relevant insight into the sound management of the assets, and in fulfillment of the mission, goals, and objectives of the department. Measures of effectiveness of operations:

- dollar loss per fire;
- dollar loss per minute of response time;
- reduction of deaths and injuries; and
- reduction of number of fires.

Reductions can be compared from district to district, occupancy to occupancy, types and causes of fires or from types of construction, and from properties with sprinklers and alarms. They also can be compared to previous years. Measures of efficiency of operations:

- Activities per dollar of wages. (This example recognizes that many activities will become relevant once managers focus on results.)

- Results per dollar of wages.

- Activities per employee or per staff hour.

- Results per employee or per staff hour.

Three major components of developing a control system:

1. Expectations must be spelled out clearly to those responsible for doing the job in terms of measurable objectives or performance standards.

2. Consequences of not meeting the expectations must be spelled out clearly.

3. Results must be monitored carefully and then acted upon.

The first line supervisor is the key figure in the control process. He/She has

- access to the people doing the job, and can make the control system work; and
- information about what really is happening and can pass that up.

PREDICTION

Use these data to answer the following questions:

X	Y
1	3
2	6
3	9

- What is the value of Y if X is 4?

- What is the value of X if Y is 18?

You have just done a regression problem and have made predictions of unknown values. How did you make the predictions? You can use proportions, equations, or graphs, e.g., scattergrams. There is an assumption that must be valid to use correlation and regression. These predictions are accurate only if the relationship between the variables is a straight line (a linear relationship).

A direct relationship exists when one variable increases in value while the other also increases. An indirect or inverse relationship exists when one variable increases in value while the other decreases.

CORRELATION AND REGRESSION

A correlation is a statistical measure which indicates the degree to which one variable changes with another variable. The correlation coefficient indicates the strength of association between two variables or how closely the set of values falls to a straight line. Not all data are perfect. In positive correlations the higher the r value, the closer the points align in a direction from the lower left to the upper right and the stronger the relationship. As the value decreases, the relationship becomes weaker. In a negative correlation the negative values for r indicate that the line goes from the upper left to the lower right. It is still true that the higher the r value, the closer the points align with an imaginary straight line and the stronger the relationship. The more data points and the larger (either positive or negative) the correlation coefficient, the more accurate the prediction.

Regression analysis is a numerical method for predicting one measured variable from another. Excel does the numerical calculation for you through the Forecast function. Regression analysis assumes a linear relationship between the variables. There may or may not be a cause-effect relationship between the variables.

Scattergram Demonstration Data

City	Population	Fires
Arlington TX	254,500	1,644
Wichita, KS	261,000	1,878
St. Paul, MN	264,800	2,041
Corpus Christi, TX	274,500	1,769
Newark, NJ	275,200	4,442
Norfolk, VA	280,000	2,140
Toledo, OH	354,600	3,597
Minneapolis, MN	356,700	2,897
Omaha, NE	360,000	2,336
Cincinnati, OH	364,000	2,645
Fort Worth, TX	450,100	5,075
Denver, CO	500,000	4,244
Cleveland, OH	505,600	6,324
Boston, MA	574,300	6,479
El Paso, TX	603,900	4,333
Columbus, OH	660,000	4,561
Dallas, TX	982,800	10,210
San Antonio, TX	956,200	8,957
Houston, TX	1,720,000	12,300
Detroit, MI	1,210,000	17,600

Activity 11.1

Evaluating Current Control Systems

Purpose

To identify and evaluate control systems currently used in your departments.

Directions

1. You will work in groups of six or fewer. Name formal control systems in your fire departments/EMS with which you are familiar. Record your answers on easel pads. You will have 30 minutes to discuss your own systems.

2. Your group should develop suggestions related to the following control systems:

   a. The budget.

   b. Standard operating procedures (SOPs).

   c. Rules and regulations.

   d. Activities reports.

   e. Personnel reports.

3. Each group should appoint a spokesperson to present its list to the class.

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Activity 11.2

Developing Evaluation Criteria

Purpose

To develop criteria for evaluating the performance of various programs.

Directions

1. The instructor will divide you into small groups.

2. Develop appropriate measures for evaluating the performance in bottom-line results of your programs, and list your criteria on easel pads.

3. You will have 30 minutes for group discussion.

4. Appoint a spokesperson to report on at least four measures of effectiveness with special emphasis on explaining why this would be an effective measurement.

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Activity 11.3

Correlation Coefficient

Purpose

To calculate the correlation coefficient and describe its use, given a set of sample data.

Directions

1. The instructor will walk through the steps of the procedure for calculating the correlation coefficient on his/her computer (using the procedure outlined in the Appendix) and project the results on the screen.

2. Follow along by carrying out each step as the instructor does it.

3. The instructor will circulate through the room to help you.

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Activity 11.4

Forecasting

Purpose

To demonstrate the use of regression analysis to make forecasts of unknown values, given a set of sample data.

Directions

1. The instructor will walk through the steps of the procedure for calculating the correlation coefficient on his/her computer (using the procedure outlined in the Appendix) and project the results on the screen.

2. Input the following data:

Year	**Fires**
2003	600
2004	621
2005	637
2006	665
2007	677
2008	695
2009	?
?	800

3. Follow along by carrying out each step as the instructor does it. Answer the following questions.

   a. How many fires would you predict for the year 2006?

   ____

   ____

   ____

   b. When would the total responses reach 800?

   ____

   ____

   ____

c. What is the correlation coefficient for the given data? How much confidence do you have in the result?

Activity 11.5

Applying Forecasting

Purpose

To make predictions about what is likely to occur in future years, using data from students' own departments.

Directions

1. Input your data or make some up if you didn't bring any along.

2. Plot the scattergram.

3. Calculate the correlation coefficient.

4. If you choose Year and Fires as your representative data, pick one of the following options:

    a. Years in the future, and predict how many fires you will have.

    b. Number of fires in the future, and predict what year you will reach that number.

Remember that the farther in the future you try to predict, the less accurate your predictions are likely to be.

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APPENDIX

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Using Chart Wizard

Select the cells that contain the data that you want to appear in the chart. If you want the column and row labels to appear in the chart, include the cells that contain them in the selection.

1. Click the Chart Wizard icon (the icon that has blue, yellow, and red vertical bars).

2. Follow the instructions in the Chart Wizard.

3. When the Chart Wizard Part 1 of 4 Chart Options dialog box appears, select XY (Scatter). If you want to view a sample of what the chart will look like, press and hold the view sample button bar. Click Next.

4. When the Chart Wizard Part 2 of 4 Chart Source Data dialog box appears, the Data range should be filled in if you highlighted the data before starting Chart Wizard. Click Next.

5. When the Chart Wizard Part 3 of 4 Chart Options dialog box appears, click Next if the chart in the dialog box appears as you want it. Click Next.

6. When the Chart Wizard Part 4 of 4 Chart Options dialog box appears, the button to the left of "As object in" should contain the filename for the sheet where you want the data.

7. Click on Finish and the scattergram will be created beside the data on your worksheet.

Calculating the Correlation Coefficient

The correlation analysis tool provides the correlation coefficient between two sets of data.

1. Open a new worksheet and enter your data. The values should be entered in a single column with the label just above the first data value. The label is used in the report of summary values.

2. Click on the Data Analysis command on the Tools menu.

3. Double click on Correlation and the dialog box will appear on the screen.

4. Fill in the prompts as follows:

   4.1 Input Range--Enter the range of cells containing both sets of data, including the labels. Either type in the range or highlight it by clicking and holding the mouse button on the first cell and dragging to the last cell. Press the Tab key to move to the next field.

   4.2 Grouped by--Click Column if your data are in a column, or row if your data are in a row.

   4.3 Labels in First Row--Select this check box if the Label is included in the Input Range.

   4.4 Output Range--Enter the reference for the upper left cell of the range where the output should appear. Output data require two columns and usually should be placed to the right of the input data. You can adjust the width of the output columns by double clicking on the column border between the two columns.

   4.5 New Worksheet Ply--leave blank.

   4.6 New Workbook--leave blank.

5. When you have completed the dialog box, click OK.

Using the Forecast Function

Open a new worksheet and enter your data in two columns, with the label just above the first data value in each column.

For the purposes of these instructions, the x-values are called the independent variables. The independent variable is the variable whose values you select. The y-values are called the dependent variables and their values are determined by the corresponding values you have selected for x.

1. At the bottom of the data table, put a value whose counterpart you want to find in the appropriate column and a question mark in the other column.

2. Highlight the cell with the question mark.

3. Click on Function on the Insert menu.

4. In the dialog box that appears, click on Statistical in the Function category box and double click on Forecast in the Function name box.

5. In the Forecast dialog box that appears, the curser will be flashing on the X box.

6. Click on the x-value for which you want to find the unknown.

7. Click on the cell labeled Known y's and highlight the y-values. Do not include the cell with the question mark.

8. Click on the cell labeled Known x's and highlight the x-values. Do not include the cell next to the cell with the question mark.

9. Click OK and the predicted value will appear in place of the question mark.

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UNIT 12: PROJECT PROPOSALS

TERMINAL OBJECTIVE

The students will be able to use the results of their Project Proposals in solving the identified problem.

ENABLING OBJECTIVES

The students will:

1. *Provide feedback about the Project Proposals to group members.*

2. *Revise their Project Proposals.*

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Activity 12.1

Feedback on Project Proposals

Purpose

To provide feedback about Project Proposals to group members.

Directions

1. During the next 2 hours, you will share the information you have developed for your Project Proposal with other members of your group. The purpose is for you to challenge each other using the knowledge you have gained in this course.

2. Based on the feedback offered by your group, revise your Project Proposal to improve the chances that you can implement it effectively.

3. Your group then should prepare a 15- to 20-minute presentation for the class. You may select one person's proposal to review in detail or decide to tell the class the lessons learned by members of your group in regard to several of the proposals.

4. Your instructors will be sitting in with your group for part of the activity time to answer any questions and clarify any issues.

5. Each group will have an opportunity to answer questions and take comments from the audience.

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UNIT 13: REMAINING CURRENT

TERMINAL OBJECTIVE

The students will be able to identify practical tips on how to remain current on organizational theories.

ENABLING OBJECTIVES

The students will:

1. *Discuss training available in the government, the private sector, institutional organizations, and service industries.*

2. *Identify sources of information on new organizational theories and trends.*

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Activity 13.1

How Do You Remain Current?

Purpose

To help you apply your own insights and practical tips for remaining current in your own situations.

Directions

1. Individually, write down three or four ideas about how to remain current. You will have about 10 minutes for this portion of the activity.

2. Discuss your ideas on this subject in your table groups. You will have about 30 minutes for this portion of the activity.

3. In your table group, appoint a spokesperson who will use an easel pad to tell the rest of the class what your group discussed.

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Resource Organizations

American Management Association
135 W. 50th Street
New York, NY 10020
(212) 586-8100
www.amanet.org

International City/County Management Association
1120 G Street, NW
Washington, DC 20005
(202) 626-4600
www.icma.org

American Society for Training and Development
1630 Duke Street, Box 1443
Alexandria, VA 22313
(703) 683-8100
www.astd.org

National Association of Counties
440 First Street, NW
Washington, DC 20001
(202) 393-6226
www.naco.org

World Future Society
4916 St. Elmo Avenue
Bethesda, MD 20814
(301) 656-8274
www.wfs.org

National Coordinating Council on Emergency Management
7297 Lee Highway, Suite N
Falls Church, VA 22042
(703) 533-7672
For contact information: http://www.fema.gov/emergency/managers/exp_11.shtm

National Emergency Management Association
c/o James Maher
1410 Riverside Drive
Jackson, MS 39202
(601) 352-9100
www.nemaweb.org

American Society for Public Administration
1120 G Street, NW, Suite 500
Washington, DC 20005
(202) 393-7878
www.aspanet.org