AGENDA

OPERATIONS RESEARCH: PART ONE

➢ DEFINING OPERATIONS RESEARCH

➢ OFFICE ORGANIZATION

➢ JOB ANALYSIS

➢ SYSTEMS AND PROCEDURES

➢ OFFICE WORK SIMPLIFICATION

➢ PLANNED CHANGE AND ORGANIZATIONAL DEVELOPMENT

DEFINING OPERATIONS RESEARCH

- Operations research (OR) is an analytical method of problem-solving and decision-making that is useful in the management of organizations. In operations research, problems are broken down into basic components and then solved in defined steps by mathematical analysis.

OFFICE ORGANIZATION

- ORGANIZATIONAL CHART
- TYPES OF RELATIONSHIPS
- ORGANIZATIONAL STRUCTURE
- TRADITIONAL STRUCTURES
- MATRIX STRUCTURE
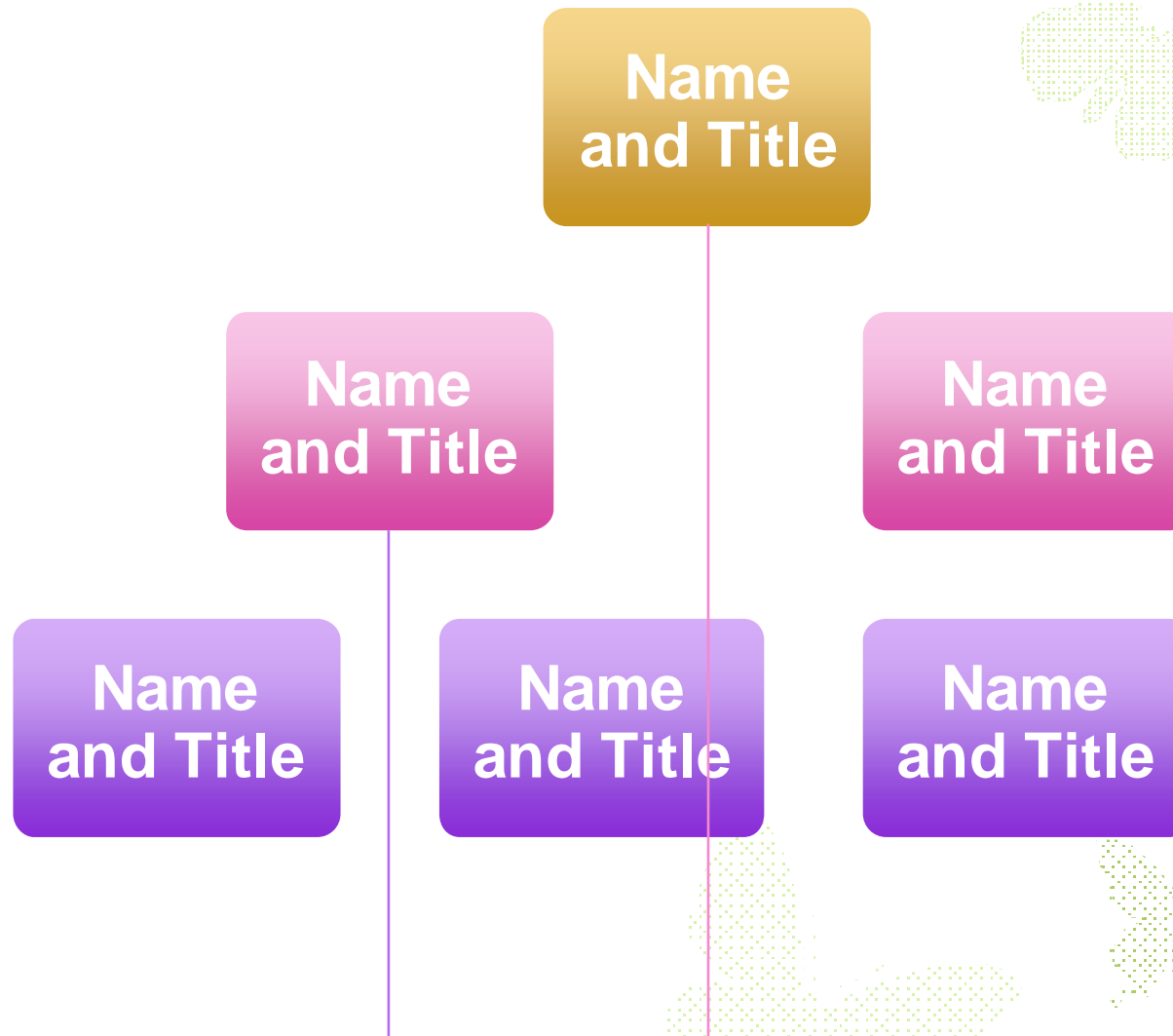- CENTRALIZATION
- DECENTRALIZATION

3

ORGANIZATIONAL CHART

A chart which represents the structure of an organization in terms of rank.

It shows the managers and subordinate staff who make up an organization.

The branches on the organization chart show the relationships between managers and departments, if any.

4

ORGANIZATIONAL CHART

Name and Title

Name and Title

Name and Title

Name and Title

Name and Title

Name and Title

TYPES OF RELATIONSHIPS

- LINE- direct relationship between superiors and subordinates

- LATERAL – 2 employees in same organization with same level title

- STAFF – the elements of the organization which help the line work effectively

- FUNCTIONAL-Relationship between staff whose duties overlap with others.

6

ORGANIZATIONAL STRUCTURE

The plan for the systematic arrangement of work is the organization structure.

It is comprised of functions, relationships, responsibilities, authorities, and communications of individuals within each department.

TRADITIONAL STRUCTURE

- Line Structure
- Line and Staff Structure

MATRIX STRUCTURE

- A variation of the line and staff organizational structure.

- Organization is arranged according to projects.

9

CENTRALIZATION

- Organizations with a centralized structure have several layers of management.

- Control the company by maintaining a high level of authority.

- Focus on top-down management.

DECENTRALIZATION

- Seeks to eliminate the unnecessary levels of management and to place authority in the hands of front line managers and staff.

- Increases the span of control.

- Employees report to one manager.

- Restructuring takes place at mid-management.

11

WHAT IS JOB ANALYSIS?

The process of identifying the content of a job to determine the duties inherent in the position as well as the qualifications needed to fulfill its responsibilities.

12

HOW IS JOB ANALYSIS USED?

In Human Resources , JOB ANALYSIS is used to gather information for use in:

○ Personnel Selection

○ Training

○ Classification

○ Compensation

13

JOB ANALYSIS METHODS

- Interviews with workers
- Questionnaires
- Observation
- Gathering background information

14

JOB ANALYSIS RESULTS

○ Job analysis can result in a description of common duties performed on a job as well as descriptions of knowledge, skills, abilities and other characteristics required to perform those tasks.

15

SYSTEMS AND PROCEDURES

○ Coordinate and Control all the organizational objectives of the enterprise

○ Individual needs of workers and work units are subordinate and must be directed toward the achievement of these objectives

16

TOTAL SYSTEMS APPROACH

TEAM WORK AND COORDINATION ASSISTING MANAGEMENT AT ALL LEVELS

DEFINITIONS OF METHOD, PROCEDURE, AND SYSTEM

○ A **method** may be defined as the manner in which a clerical operation or task is performed. For example, the data on a form might be filled out electronically by typing (mechanical) or longhand using a pen (manual).

DEFINITIONS OF METHOD, PROCEDURE AND SYSTEM

○ A **procedure** may be defined as a series or sequence of related operations, designed to standardize the performance of the various steps which make up a major operation. For example, classifying, coding, and sorting correspondence would be three different procedural units within the filing system of a company.

DEFINITIONS OF METHOD, PROCEDURE AND SYSTEM

○ A **system** may be defined as a complex of related procedures designed according to an integrated scheme for the purpose of achieving a major activity of a company.

20

OFFICE WORK SIMPLIFICATION

A Scientific approach to studying the work processes with an eye towards making the process efficient and effective, raising productivity. It reduces duplication and waste, thereby by viewed as common sense.

21

GUIDES OF OFFICE WORK SIMPLIFICATION

- Promote "Participation with Know-How" by every office employee by means of training in and encouragement of the use of Work Simplification

- Make the series of activities Productive and Simple

- Combine work activities wherever possible to avoid recopying

- Reduce distances traveled to the shortest amounts feasible

- Arrange activities to provide a smooth flow from one clerical step to another

22

APPLYING OFFICE WORK SIMPLIFICATION

- Select work to be simplified

- Obtain all the facts about this work

- Devise improvement by analyzing these facts and using the questioning approach

- Apply the derived improved means

23

Organizational Change and Development

Organizational Structures

Bureaucratic: 1) Specialization of labor

2) Standardized work

3) Centralization of Authority

4) Emphasis on conformity

5) High level of efficiency on

repetitive tasks

25

Planned Change and Organizational Development

Objectives

1. Examine the nature of change and analyze some of the forces making it necessary

2) Pinpoint the differences between haphazard and planned change

3) Itemize and explain commonly used strategies in implementing planned change

4) Define and analyze organizational development and show its relationship to planned change

Resistance to Change

1. Insecurity

   a) Automation may result in loss of jobs of front
   line workers in the name of efficiency.

   b) High level staff may fear losing their positions
   as a result of process changes.

2. Economic Reasons

   a) Reduced jobs, reduced hours mean reduced
   wages

3. Sociopathic Reasons

   a) People are programmed to accept traditional
   way of operating.

Case Study about resistance to change by Educators

1. Fear of unknown
2. Embrace status quo
3. No reason given for resisting change
4. Feels society will not accept change
5. Colleagues will not accept change so he will not either
6. An alternative idea was identified that they embrace
7. The teachers know what is best based on experience
8. The proposed idea failed before so it will not work
9. Through reasoning, though flawed, this idea will fail.

28

External Pressures for Change

○ Technological advances

○ Introduction and removal of government regulations

○ Changes in societal values

○ Shifting political dynamics

○ Changes in demographics

Planned Change

A process involving deliberate efforts to move an organization or a unit from its current undesirable state to a new, more desirable state

Management generally serve as change agents to assist in overcoming resistance to change both from internal and external sources.

Emergence of the forces demanding change

Recognition of the need for change
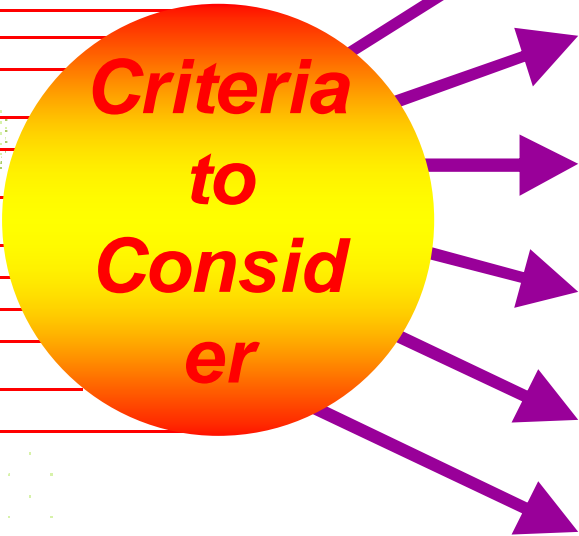
Diagnosis of type of change required

Selection of Strategy for implementation

Intervention and overcoming resistance

Acceptance of Change

Speed of Change

Criteria to Consider

- Urgency
- Degree of support
- Amount and complexity of change
- Competitive environment
- Knowledge and skills available
- Financial and other resources

32

Style of Change

Non-participatory – top down, leaders design the change and plan its implementation

Participatory – change leaders seek the ideas and advice of associates and then use many of those ideas. Criteria for evaluating the degree to which the participatory style should be used:

Urgency	Degree of Support	Referent and Expert Power of Leaders

Resistance to Change

Effort to block new ways of doing things

Four Factors

Lack of understanding

Self-interest

Different assessments

Low tolerance for change

34

The DADA syndrome

Denial – ignore possible or current change

Anger – individuals facing unwanted change become angry about the change

Depression – individuals experience emotional lows

Acceptance – individuals embrace the reality of the situation and make the best of it

35

PRACTICE QUESTION #1

WHEN AN ORGANIZATIONAL CHANGE IS BEING INSTITUTED, WHAT OUTCOME CAN ALWAYS BE ANTICIPATED?

A. RESISTANCE
B. FULL COOPERATION IF A DETAILED PLAN IS DEVISED
C. LONG TERM INCREASE IN PRODUCTIVITY
D. A SERIES OF PERFECT SOLUTIONS

PRACTICE QUESTION #2

WHAT IS NOT ALLOWED DURING A BRAINSTORMING SESSION?

A. A FREEFORM DISCUSSION OF IDEAS
B. A DISCUSSION OF THE PROS AND CONS OF IDEAS AS THEY ARE PRESENTED
C. A LIST OF CRITERIA
D. FORMAL RULES FOR GROUP BRAINSTORMING

PRACTICE QUESTION #3

WHICH OF THE FOLLOWING STATEMENTS MOST ACCURATELY DEFINES "OPERATIONS RESEARCH"?

A. A HIGHLY SOPHISTICATED SYSTEM USED IN THE ANALYSIS OF MANAGEMENT PROBLEMS.

B. A SPECIALIZED APPLICATION OF ELECTRONIC DATAPROCESSING IN THE ANALYSIS OF MANAGEMENT PROBLEMS.

C. RESEARCH ON OPERATING PROBLEMS.

D. THE APPLICATION OF SOPHISTICATED MATHEMATICAL TOOLS TO THE ANALYSIS OF MANAGEMENT PROBLEMS.

PRACTICE QUESTION #4

USE OF THE SYSTEMS APPROACH IS MOST LIKELY TO LEAD TO

A. CONSIDERATION OF THE IMPACT ON THE WHOLE ORGANIZATION OF ACTIONS TAKEN IN ANY PART OF THAT ORGANIZATION.
B. THE PLACING OF RESTRICTIONS ON DEPARTMENTAL AUTHORITY.
C. USE OF MATHEMATICAL MODELS TO SUB-OPTIMIZE PRODUCTION.
D. CONSIDERATION OF THE ACTIVITIES OF EACH UNIT OF AN ORGANIZATION AS A TOTALITY WITHOUT REGARD TO THE REMAINDER OF THE ORGANIZATION.

PRACTICE QUESTION #5

AN INTERRELATED PATTERN OF JOBS WHICH MAKE UP THE STRUCTURE OF A SYSTEM IS KNOWN AS

A. CHAIN OF COMMAND
B. CYBERNETICS
C. THE FORMAL OPERATION
D. THE MAINTENANCE PATTERN

PRACTICE QUESTION #6

WHEN ONGOING PROCESS PROBLEMS ARE OCCURRING IN A UNIT, FOR EXAMPLE INTER-OFFICE MAIL FROM THE MAILROOM IS 3 TO 5 DAYS LATE, WHO SHOULD BE ASKED ABOUT THE NATURE OF THE PROBLEM?

A. THE COMMISSIONER
B. THE DEPUTY COMMISSIONER
C. THE EXECUTIVE MANAGERS
D. THE DELIVERY STAFF

PRACTICE QUESTION #7

OF THE FOLLOWING, THE ONE WHICH A LINE ROLE GENERALLY DOES NOT INCLUDE IS

A. CONTROLLING RESULTS AND PERFORMANCE
B. COORDINATING WORK AND EXCHANGING IDEAS WITH OTHER LINE ORGANIZATIONS
C. IMPLEMENTATION OF APPROVED PLANS DEVELOPED BY STAFF
D. PLANNING WORK AND MAKING OPERATING DECISIONS

PRACTICE QUESTION #8

OF THE FOLLOWING, THE MAJOR DIFFERENCE BETWEEN SYSTEMS AND PROCEDURES ANALYSIS AND WORK SIMPLIFICATION IS

A. THE FORMER COMPLICATES ORGANIZATIONAL ROUTINE AND THE LATTER SIMPLIFIES IT
B. THE FORMER IS OBJECTIVE AND THE LATTER IS SUBJECTIVE
C. THE FORMER GENERALLY UTILIZES EXPERT ADVICE AND THE LATTER IS A "DO IT YOURSELF" IMPROVEMENT BY SUPERVISORS AND WORKERS
D. THERE IS NO DIFFERENCE OTHER THAN NAME

PRACTICE QUESTION #9

ORGANIZATIONAL SYSTEMS AND PROCEDURES SHOULD BE

A. DEVELOPED AS PROBLEMS ARISE AS NO DESIGN CAN ANTICIPATE ADEQUATELY THE REQUIREMENTS OF AN ORGANIZATION

B. DEVELOPED JOINTLY BY EXPERTS IN SYSTEMS AND PROCEDURES AND THE PEOPLE WHO ARE RESPONSIBLE FOR IMPLEMENTING THEM

C. DEVELOPED SOLELY BY EXPERTS IN SYSTEMS AND PROCEDURES

D. ELIMINATED WHENEVER POSSIBLE TO SAVE UNNECESSARY EXPENSE

PRACTICE QUESTION #10

ON A GENERAL ORGANIZATION CHART, STAFF POSITIONS NORMALLY SHOULD BE PICTURED

A. DIRECTLY ABOVE THE LINE POSITIONS TO WHICH THEY REPORT
B. TO THE SIDES OF THE MAIN FLOW LINES
C. WITHIN THE BOX OF THE HIGHEST LEVEL SUBORDINATE POSITIONS PICTURED
D. DIRECTLY BELOW THE LINE POSITION WHICH REPORT TO THEM

PRACTICE QUESTION #11

OF THE FOLLOWING, THE MOST USUAL REASON FOR UNSATISFACTORY LINE STAFF RELATIONSHIPS IS

A. INEPT USE OF THE ABILITIES OF STAFF PERSONNEL BY LINE MANAGEMENT
B. THE HIGHER SALARIES PAID TO LINE OFFICIALS
C. EXCESSIVE CONSULTATION BETWEEN LINE OFFICIALS AND STAFF OFFICIALS AT THE SAME ORGANIZATIONAL LEVEL
D. A FEELING AMONG THE STAFF MEMBERS THAT ONLY LOWER LEVEL LINE MEMBERS APPRECIATE THEIR WORK

PRACTICE QUESTION #12

A DETAILED DESCRIPTION OF THE STEPS TO BE TAKEN IN ORDER TO ACCOMPLISH A JOB IS MOST APPROPRIATELY CALLED A

A. POLICY
B. RULE
C. PROCEDURE
D. PRINCIPLE

PRACTICE QUESTION # 13

- **The clerk who worked in Department A earned the following salaries: $15,105 the first year, $15,750 the second year and $16,440 the third year. Another clerk who worked in Department B for three years earned $15,825 a year for 2 years and $16,086 the third year. The DIFFERENCE between the average salaries received by both clerks over a three-year period is**
- **a. $147**
- **b. $153**
- **c. $261**
- **d. $423**

Please use the chart below to answer the following three questions

		Salary	Training Materials	Training Facility	Trainer's Fee	
Region	# employees	(cost per employee)	(cost per employee)	Flat Cost	Flat Cost	Total Cost
Northeast	37	$27.00	$9.75	$925.00	$550.00	
Southeast	53	$24.75	$9.75	$425.00	$550.00	
Central	55	$24.00	$9.75	$450.00	$550.00	
Northwest	40	$25.50	$9.75	$875.00	$550.00	
Southwest	42	$26.25	$9.75	$850.00	$550.00	

PRACTICE QUESTION #14

- If five employees resigned from the Southwest Region, how much would its new total cost for the Customer Service Training be?

- a. $2,631.00
- b. $2,674.00
- c. $2,713.00
- d. $2,732.00

PRACTICE QUESTION #15

- If the training facility cost increased by 25% for the Southeast and Northwest Regions, which of the following regions would cost the MOST to conduct the Customer Service Training?
- a. Northeast
- b. Southeast
- c. Northwest
- d. Southwest

PRACTICE QUESTION#16

If 20% of the Central Region's employees retired and management decided to use the savings on training additional staff in the Northeast, then how many additional northeast employees will be able to be trained? Answer should be rounded to nearest whole number.

- A. 11
- B. 48
- C. 10
- D. 27