Project Management

Project management is the discipline of planning, organizing, securing, and managing resources to achieve specific goals. A project is a temporary endeavor with a defined beginning and end (usually time-constrained, and often constrained by funding or deliverables), undertaken to meet unique goals and objectives, typically to bring about beneficial change or added value.

Primary Challenges of Project Management

The primary challenge of project management is to achieve all of the project goals and objectives while honoring the preconceived constraints.
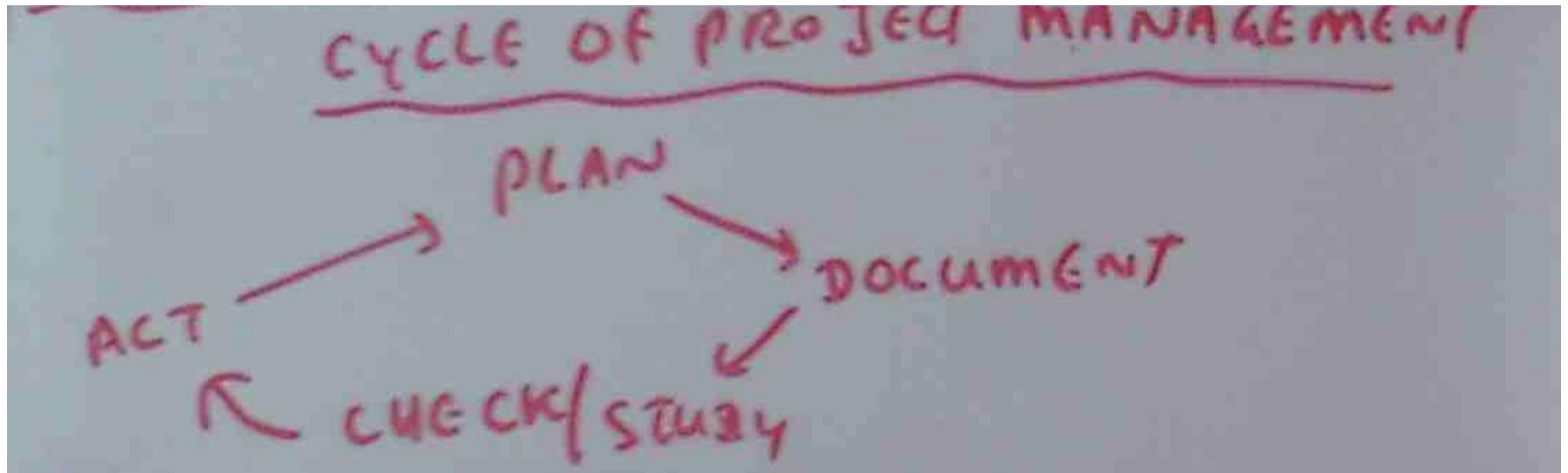
Constraints

scope,

time,

budget.

Cycle of Project Management

Stages in project life cycle

STAGES IN PROJECT LIFE CYCLE

DESIGN IT, DOIT, DEVELOP IT.

Project Life Cycle Management

"Project Cycle Management" is a term used to describe the management activities and decision-making procedures used during the life-cycle of a project1. The image of a 'project cycle' assists applicants to understand how to organize their work so that it is based on real needs, is well planned, monitored and evaluated, and allows involved parties to learn from every project to improve their future work. The cycle represents a continuous process in which each stage provides the foundation for the next.

Steps involved in project life cycle

Identification – generation of the initial project idea and preliminary design

Preparation – detailed design of the project addressing technical and operational aspects

Appraisal – analysis of the project from technical, financial, economic, gender, social, institutional and environmental perspectives
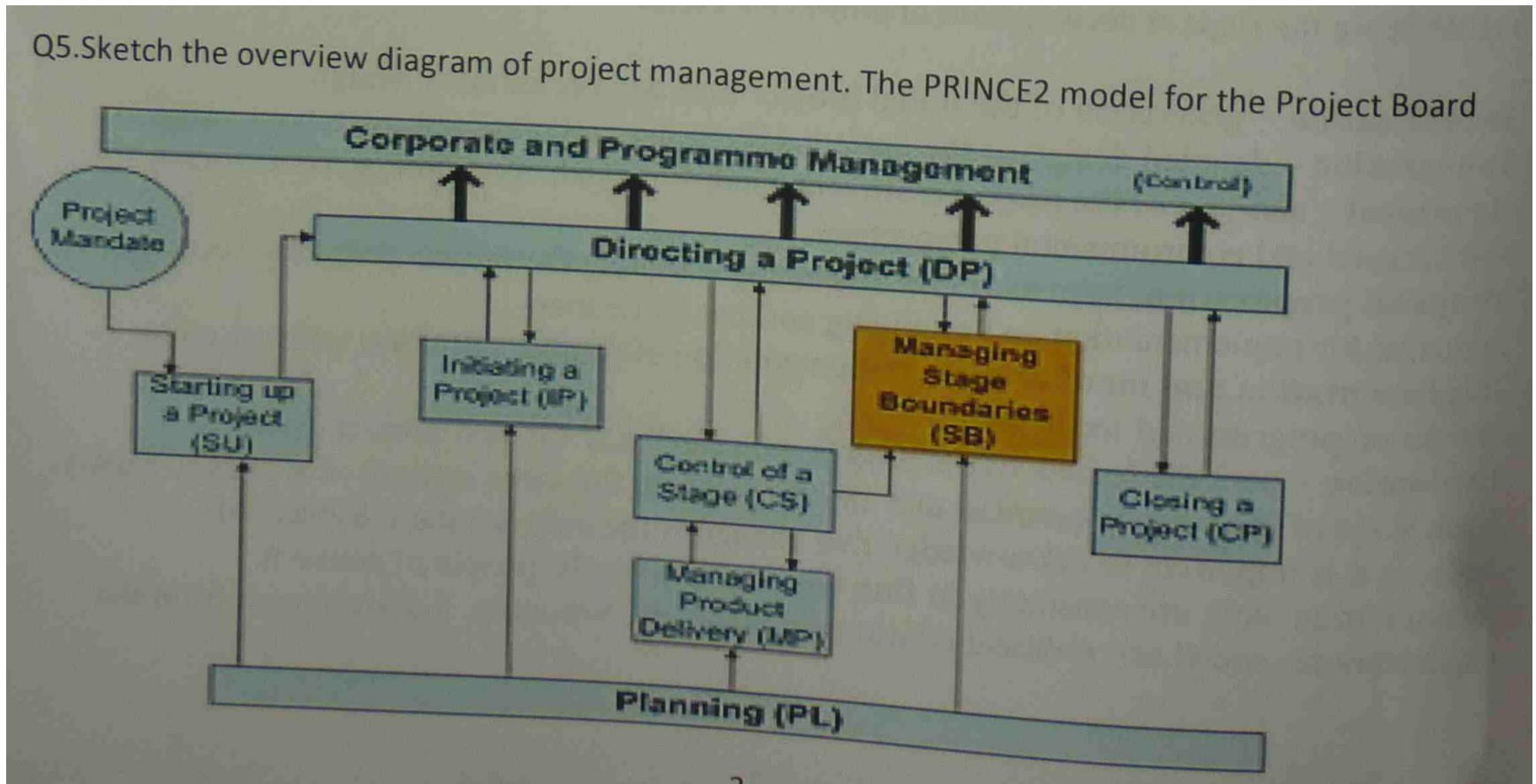
Proposal preparation, approval and financing – writing the project proposal, securing approval for implementation and arranging sources of finance

Implementation and monitoring – implementation of project activities, with on-going checks on progress and feedback

Evaluation – periodic review of the project with feedback for next project cycle.

Overview of project board

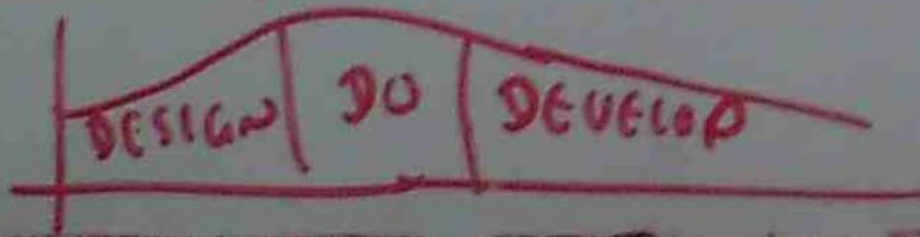Q5.Sketch the overview diagram of project management. The PRINCE2 model for the Project Board
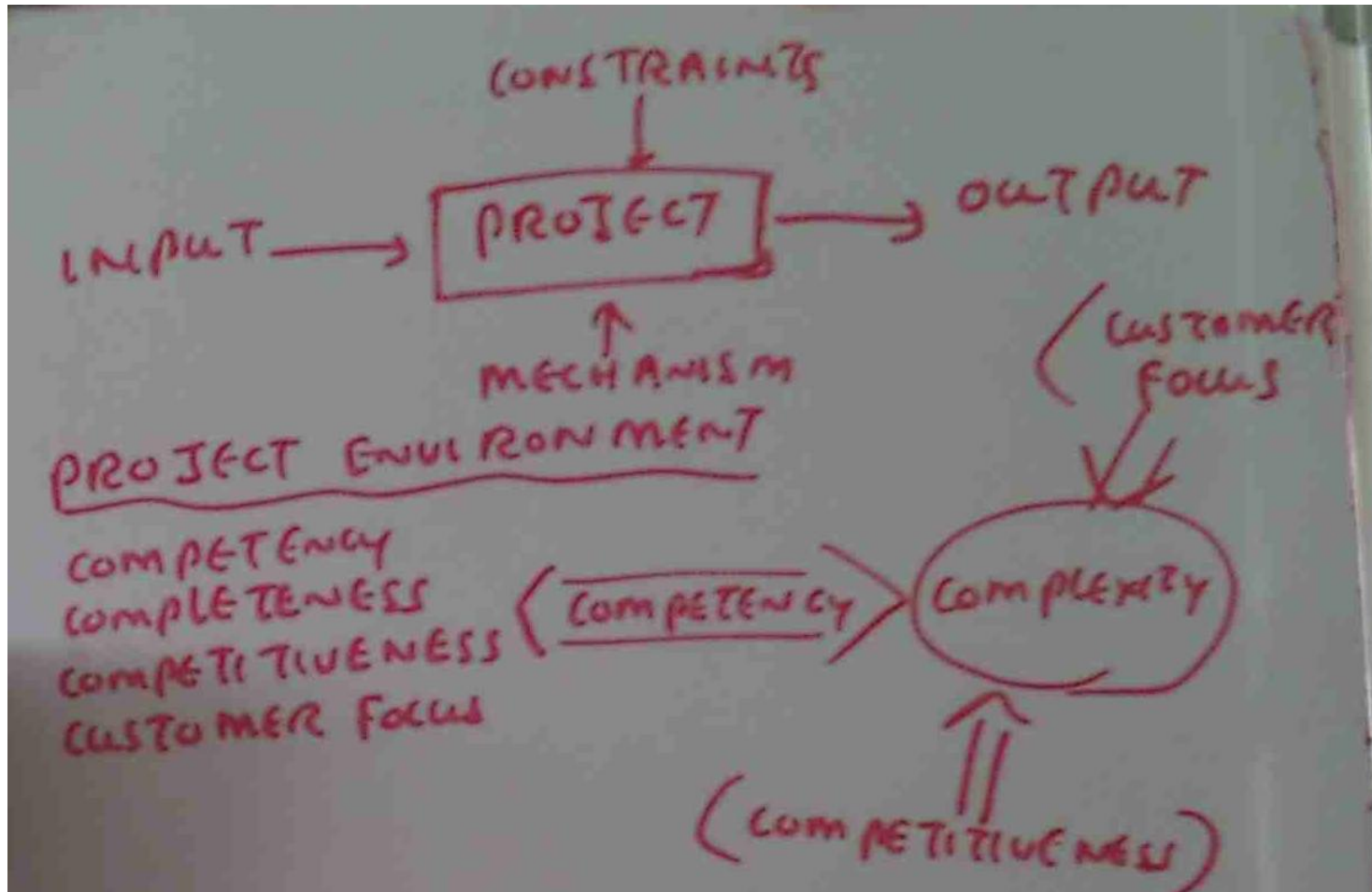
Stages in project life cycle

Project environment

Project stages
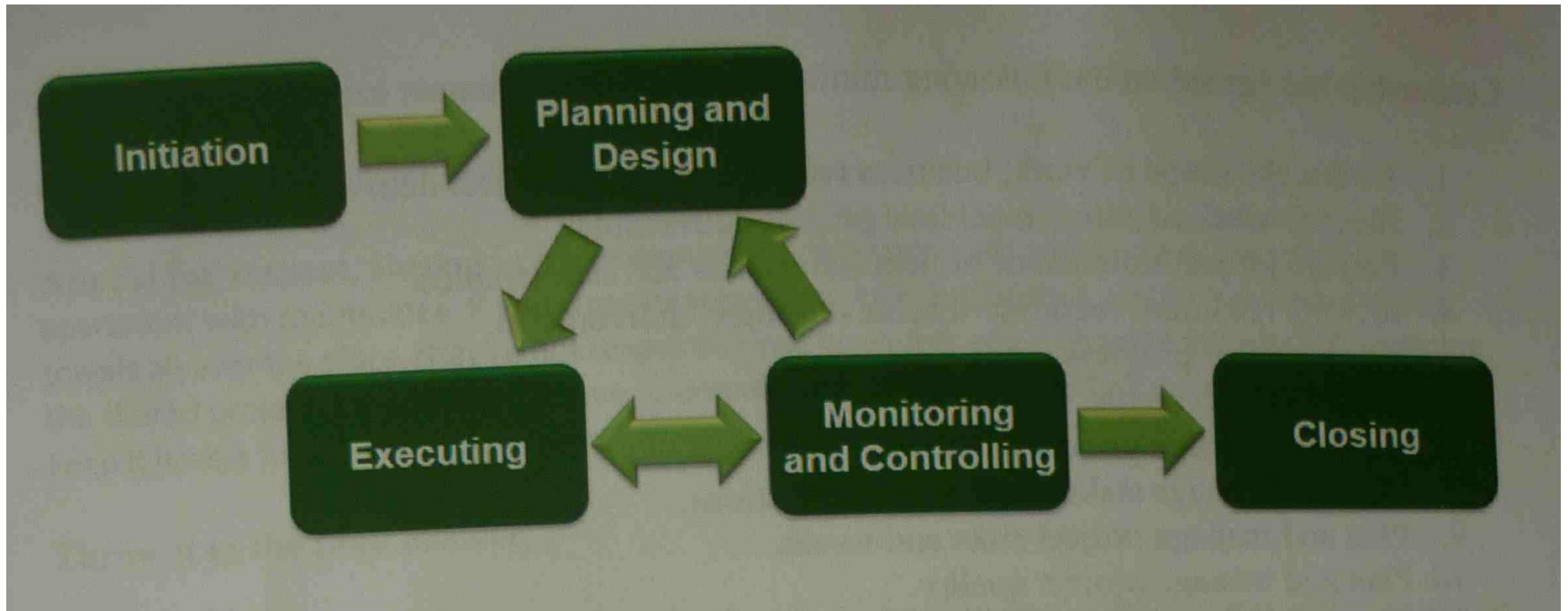
Project management expectations

Leadership has agreed on the following minimum project management expectations:

1. Define the scope of work, business requirements and project deliverables.
2. Identify work required to achieve project deliverables.
3. Prepare project timeline of project milestones and deliverables.
4. Identify resources required to achieve project deliverables.
5. Track project progress.
6. Report project status.
7. Plan and manage project resources.
8. Plan and manage stakeholder communications.
9. Plan and manage project risks and issues.
10. Plan and manage project quality.
11. Plan and manage changes to project scope, timeline and resources.
12. Ensure project deliverables are transitioned.
13. Close the project.

The elements of project expectation

meeting or exceeding

customer expectations

project scope,

time, cost & quality.

The elements of project expectation

Regardless of the size and complexity, all projects should be managed to some minimum expectations. The level of effort and document detail will vary, but the basic management expectations are consistent.

Strategies in project management

Appeal for respect. Sharing a project management system with your team is like sharing an apartment with roommates. If your roommates leave their dirty dishes, unopened mail, and wet towels all over the place, they're not respecting you or your space. The same goes for not updating the shared project plan. You don't have to demand perfection, but everyone should do their part to keep it livable for the rest of the team.

Throw it in the junk drawer.

Let's face it. Sometimes there's a bunch of stuff in the plan that nobody cares about anymore. Well, you might care about it someday, but for now it's just getting in the way and bogging people down. In this case, why do today what you can put off to tomorrow?

Create a "holding bin" for those miscellaneous items and get them out of the way. If you need them you can retrieve them later. Technically, there's still clutter behind the scenes, but it will keep things looking neat and tidy on the surface.

Strategies in project management

Schedule a cleaning.

Sometimes all it takes to stay on track are regularly scheduled "maintenance windows" for your project plan. Try booking a weekly or bi-weekly 15-minute meeting on each person's calendar for general clean-up. Maybe just once a month is enough for your team.

Even better: make yourself available to help troubleshoot during that time, so any hurdles can be overcome immediately.

Small but regular updates are relatively painless. They sure beat a panic-driven long-haul sessions when a report is due.

Do it yourself.

On every team, there are one or two folks that just can't bring themselves to update their tasks in the project plan or track their time. Trying to convince them to participate seems like a losing battle. In those cases, getting their go-ahead to update items on their behalf is the best strategy. If they get notified of the updates you make for them, they might see an opportunity to jump in and participate.

Aggregate project plan

An **aggregate project plan** (APP) is the process of creating development goals and objectives and using these goals and objectives to improve productivity as well as development capabilities. The purpose of this process is generally to ensure that each project will accomplish its development goals and objectives. Projects can be differentiated into five types of projects: breakthrough, platform, derivative, R&D, or partnered projects (such as projects performed with partners or allianced firms). This differentiation determines a project's development goals and objectives as well as resources allocated to that project.

Project system overview model


MODELLING THE PROJECT SYSTEM OVER VIEW MODEL

TO CONSIDER THE FORM IN WHICH OBJECTIVES ARE OFTEN PRESENTED TO THE PROJECT AND THAT IN WHICH THE ANALYZED PLAN WILL NEED TO BE DELIVERED

Trade off in project management

(b) Trade off in project management.

Projects being what they are, the trade-off decisions across the project life cycle seem to vary considerably. This is especially true with the parameters of the triple constraint – scope, schedule and cost. It does seem as though IT projects are particularly prone to scope reduction before things are complete! I think this is due to several things, including optimistic attitudes regarding what the team can actually do in a certain amount of time early in the life cycle.

Trade off in project management
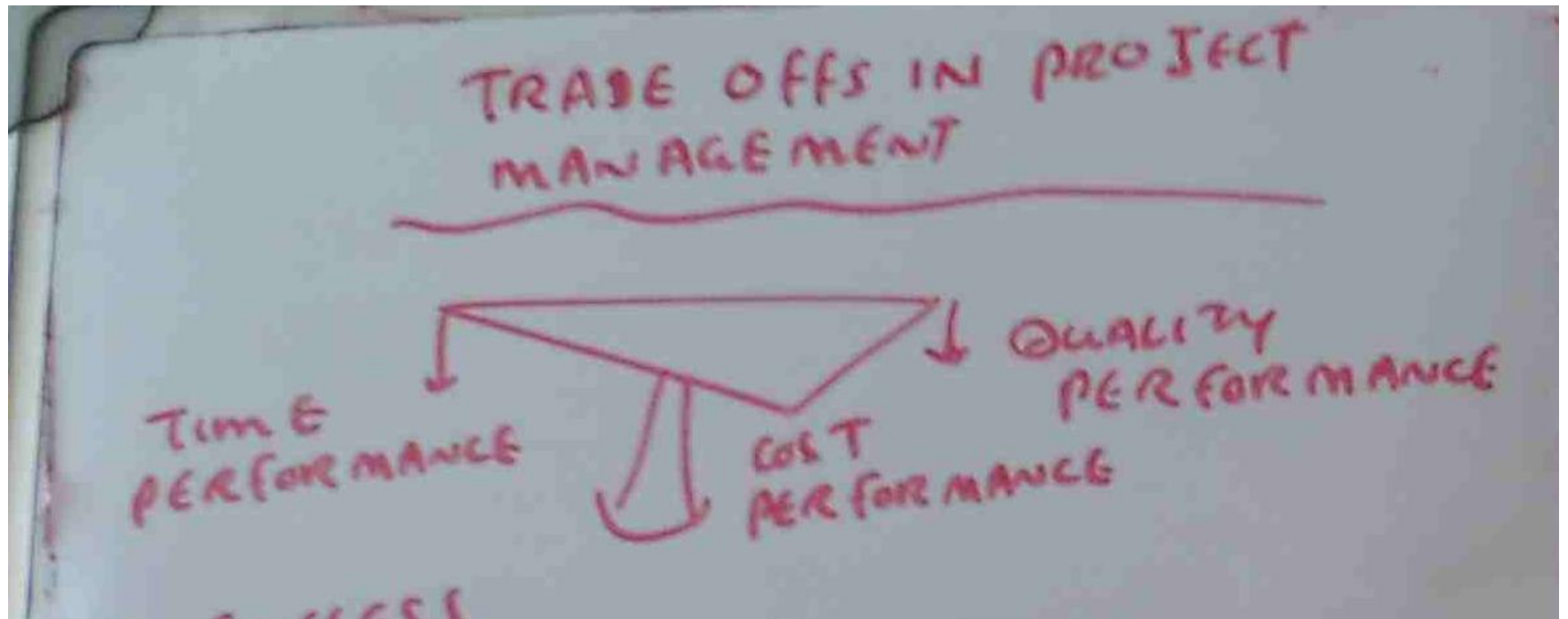
Skills levels in project

(c) Various levels of skills for project.

A project manager is the person responsible for accomplishing the stated project objectives. Key project management responsibilities include creating clear and attainable project objectives, building the project requirements, and managing the triple constraint for projects, which are cost, time, and quality (also known as scope).

A project manager is often a client representative and has to determine and implement the exact needs of the client, based on knowledge of the firm they are representing. The ability to adapt to the various internal procedures of the contracting party, and to form close links with the nominated representatives, is essential in ensuring that the key issues of cost, time, quality and above all, client satisfaction, can be realized.

The term and title 'project manager' has come to be used generically to describe anyone given responsibility to complete a project. However, it is more properly used to describe a person with full responsibility and the same level of authority required to complete a project. If a person does not have high levels of both responsibility and authority then they are better described as a project administrator, coordinator, facilitator or expeditor.

Failure of project

The project will fail if it does not provide the followings

- It is delivered on time.
- It is on or under budget.
- The system works as required.

Failure of project

SUCCESS

- RESULTS ACHIEVED MEET THE STATED NEEDS / WITH IN GIVEN CONSTRAINT / MINIMUM COST / BENEFIT TO TEAM / BENEFIT TO ALL STAKE HOLDERS

FAILURE

OVER TIME, OVER BUDGET, OUT PUT DOES NOT MEET THE NEEDS
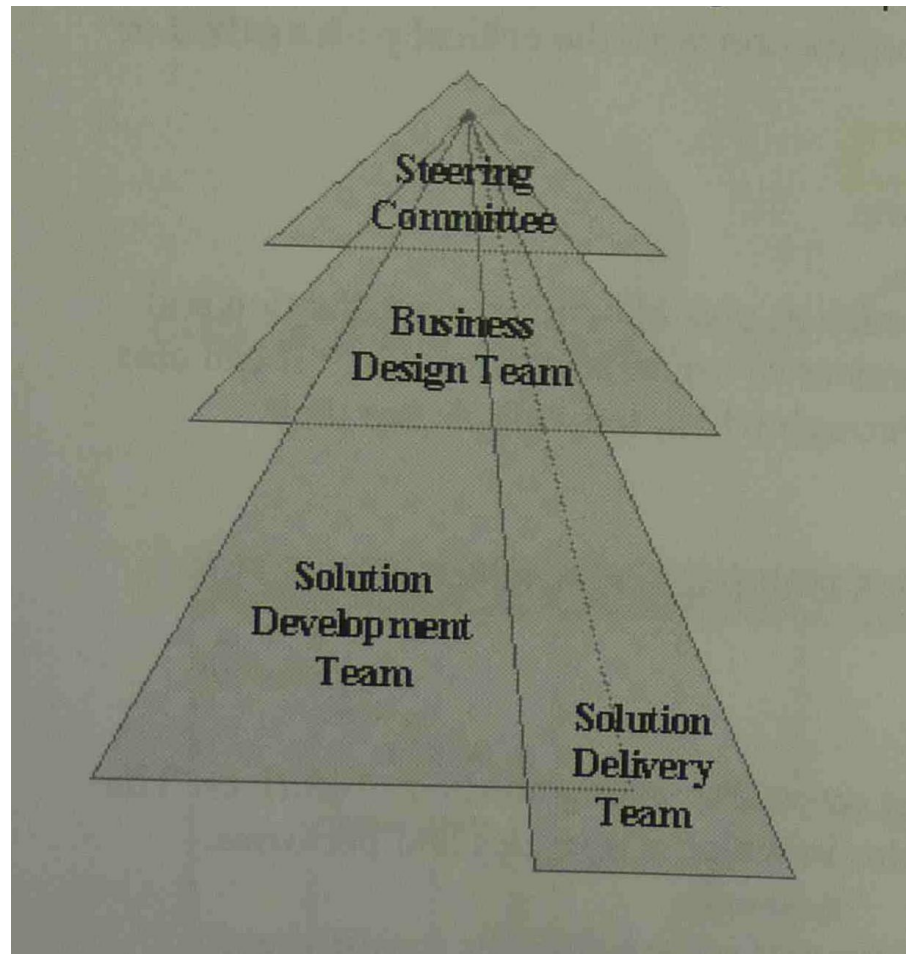
SATISFACTION= PERCEPTION — EXPECTATION

RESPONSIVENESS, COMMUNICATION, COMPETENCY / PROFESSIONALISM, COURTESY ACCESSIBILITY

Project structure

G069 + G070

PROJECT STRUCTURE

ORGANIZATION OF PEOPLE – TAKE ADVANTAGE OF BRINGING TOGETHER INDIVIDUALS FROM DIFFERENT SPECIALIZATIONS.

ORGANIZATION SIZE INCREASED – THE DEGREE OF SPECIALISATION OF INDIVIDUAL INCREASES

Project structure

ENGINEERING, MANUFACTURING, SALE

- CHIEF EXECUTIVE
- BOARD DIRECTORS
- LINE MANAGERS
- SUPERVISORS
- WORKER

ACCOUNTANT

NEW PRODUCT IDEA

TAX ADVISOR → CORE BUSINESS

LEGAL SERVICE →

THE NATURE OF
WORK ORGANIZATION

(17)

COMPONENT MANUFACTUR-ER

- DEFINE RESPONSIBILITY AND AUTHORITY
- OUTLINE REPORTING ARRANGEMENT
- DETERMINE THE MANAGEMENT OVERHEAD COST
- FUNCTION THEY PERFORM
- DETERMINE ONE GROUP OF STAKE HOLDERS IN
  PROJECT ACTIVITIES

EXPENSION OF ORGANIZATION - LESS INTEGRATION

GEOGRAPHICAL SEPARATION

DETAILED ADMINISTRATIVE → INTEGRATION
   PROCEDURES

Developing strategies in project

Q11.What are the developing of strategies in project?

Identify the Formal and Informal Power Systems

Identify how the customer's organization and its formal and informal power system works. Understand where the money is coming from for this project and why. Identify the customer's internal processes to get things approved.

Identify the Key People and Set Expectations

Identify the critical mass of key people who must support the project in order for it to be successful. These include decision-makers, opinion leaders, system users, internal and external regulatory bodies, any other stakeholders, and anyone who controls access to these people.

Set up an intelligence network to gather information on what the key people are talking about and who speaks to whom, when, and why. Understand the status symbols (what they are, who's gaining some, and who's losing some). Understand where the money is going (who's gaining some, and who's losing some). Identify any issues that may be developing.

Set expectations with the key people in advance. If you wait too late, the key people will set their expectations without you and it will usually cost the project in lost momentum, time and money.

Organizational structure

An **organizational structure** consists of activities such as task allocation, coordination and supervision, which are directed towards the achievement of organizational aims.[1] It can also be considered as the viewing glass or perspective through which individuals see their organization and its environment.

Most organizations have hierarchical structures, but not all.[citation needed]

Organizations are a variant of clustered entities.

An organization can be structured in many different ways, depending on their objectives. The structure of an organization will determine the modes in which it operates and performs.

Organizational structure allows the expressed allocation of responsibilities for different functions and processes to different entities such as the branch, department, workgroup and individual.

Organizational structure affects organizational action in two big ways. First, it provides the foundation on which standard operating procedures and routines rest. Second, it determines which individuals get to participate in which decision-making processes, and thus to what extent their views shape the organization's actions.

Organizational structure
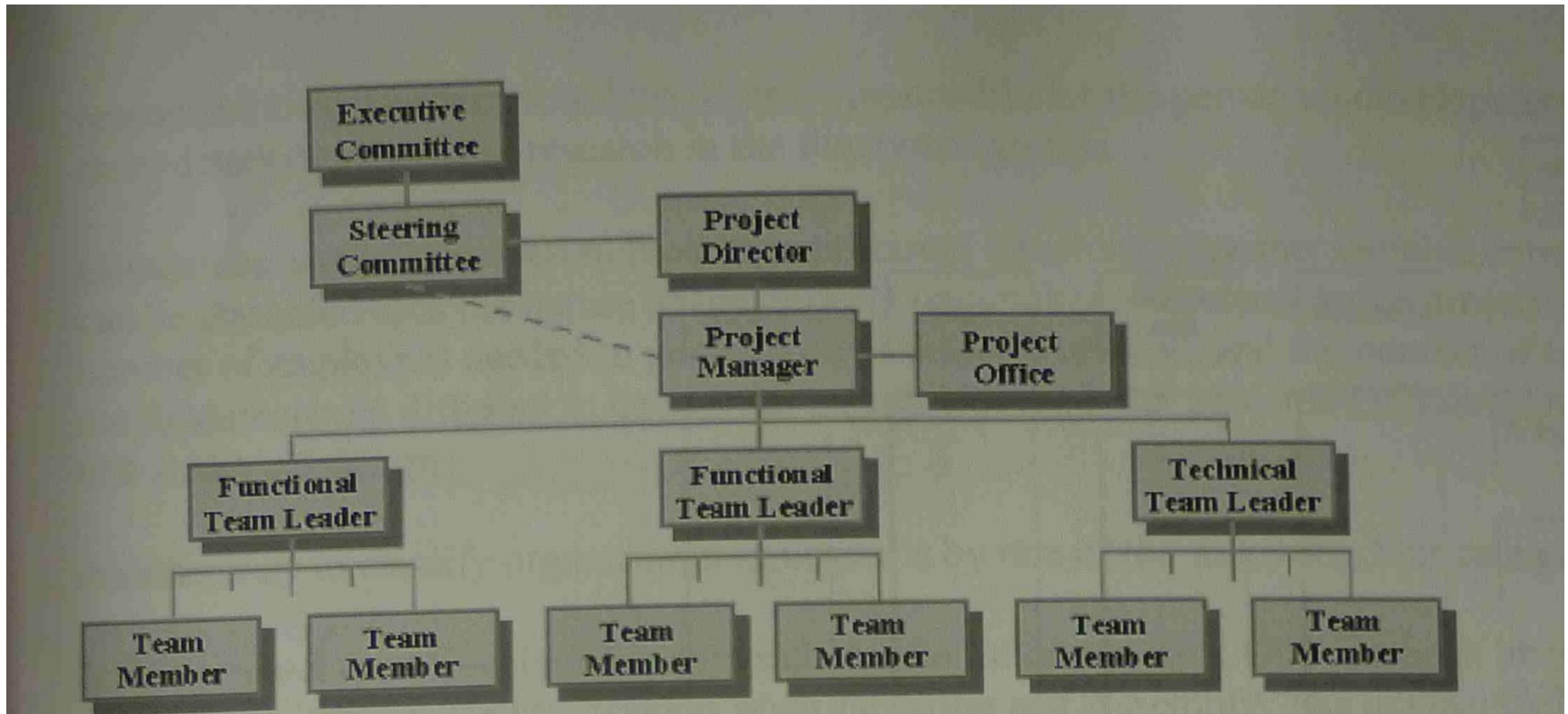
- Project Manager is supported by a Project Office.
- Project Director is on the same level as the Steering Committee (and would probably be seen as a full member of the committee).
- Project Manager reports to the Steering Committee.
- There is an ultimate decision making body at an executive level above the Steering Committee.

Planning

PLANNING STAGE - ARCHITECT, STRUCTURAL
ENGINEER, QUANTITY SURVEYOR, LEGAL ADVISORS

EXECUTION STAGE - CONTRACTORS

PROJECT IS COMPLETED, TEAM IS DISBANDED
ADVANTAGES / DISADVANTAGES

MATRIX MANAGEMENT
- MORE THAN ONE ORIENTATION TO ACTIVITIES
- THE NEED TO PROCESS SIMULTANEOUSLY
- SHARE RESOURCES
- CROSS FUNCTION PROJECT TEAM.

Matrix management

Matrix management is a type of organizational management in which people with similar skills are pooled for work assignments. For example, all engineers may be in one engineering department and report to an engineering manager, but these same engineers may be assigned to different projects and report to a different engineering manager or a project manager while working on that project. Therefore, each engineer may have to work under several managers to get their job done.

Matrix management
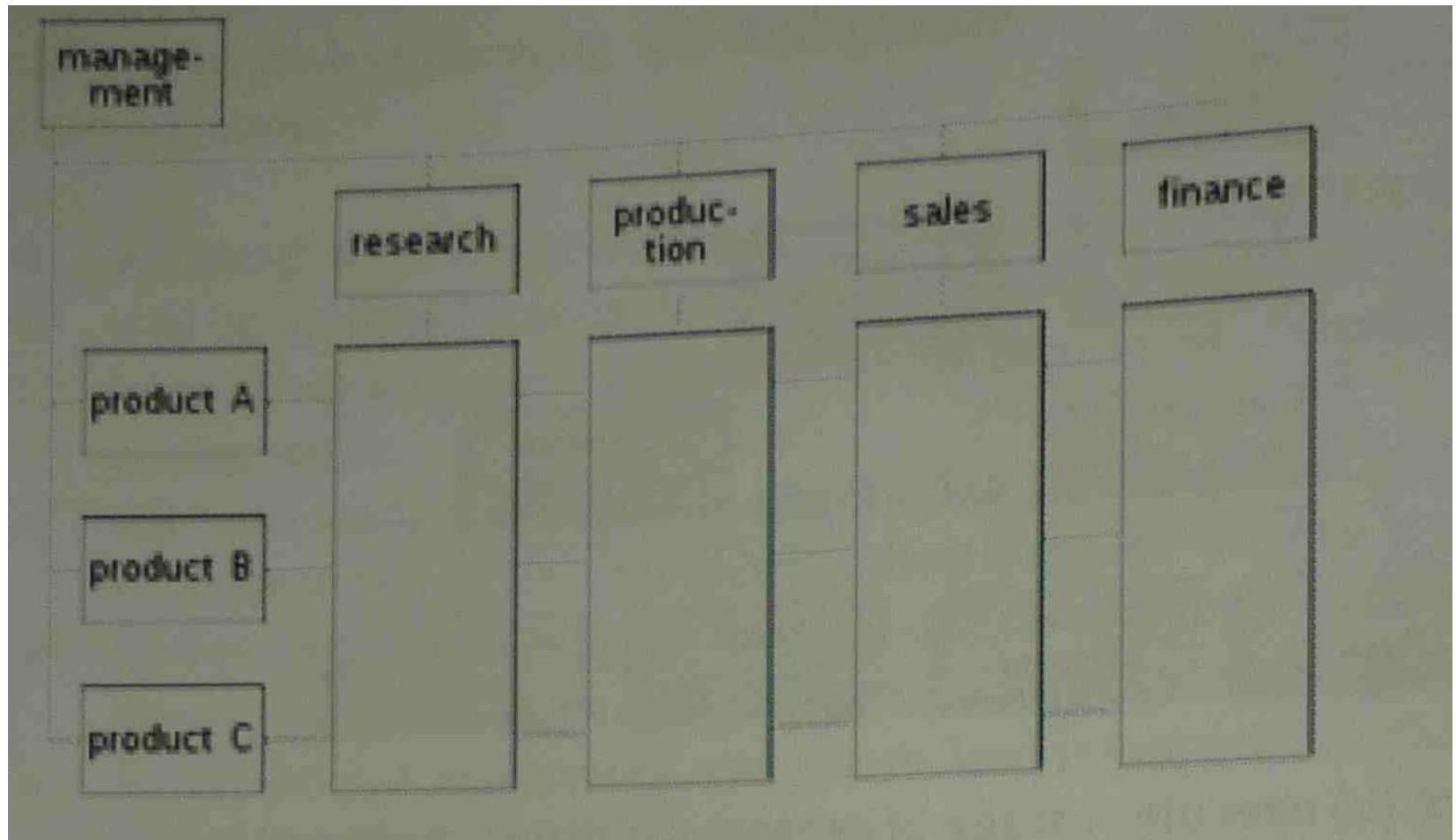
Organizational structure depends on the product to be developed. Wheelwright and Clark define a continuum of organizational structures between two extremes, functional organizations and project organizations. Functional organizations are organized according to technological disciplines. Senior functional managers are respnsible for allocating resources. The responsibility for the total product is not allocated to a single person. Coordination occurs through rules and procedures, detailed specifications, shared traditions among engineers and meetings (ad hoc and structured). Products that need a high level of specialized knowledge require a functionally organized structure.

A light-weighted matrix organization remains functional and the level of specialization is comparable to that found in the functional mode. What is different, is the addition of a product manager who coordinates the product creation activities through liaison representatives from each function. Their main tasks are: to collect information, to solve conflicts and to facilitate achievement of overall project objectives. Their status and influence are less as compared to functional managers, because they have no direct access to working-level people.

A heavy-weighted matrix organization exists of a matrix with dominant the project structure and underlying the functional departments. The product manager has a broader responsibility. Manufacturing, marketing and concept development are included. The status and influence of the product manager, who is usually a senior, is the same or higher as compared to the functional manager. compared to functional managers, because they have no direct access to working-level people.

Functional Organization

I. The product to be developed is comprehensible for one person. One person is likely to have all the knowledge needed to develop Manufacturing and Assembly. The development department in companies that undertake these kinds of projects are usually very small. If a company consists of more than one department, it is usually structured as a functional organization.

Design Structure Matrix

II. The product to be developed has a fairly low complexity, but total work is high. These kind of products are likely to be developed within one functional department. A research department may also be an example of a department in which type II projects are undertaken. Are more departments involved, then the light weighted matrix structure is preferable. Employees are involved on a full-time basis. Tasks may be performed concurrently. The sequence can be determined using the Design Structure Matrix.

Product development

III. The product to be developed consists of a lot of different elements, such as software, PCB, power supply and mechanical structure. The product is however in the engineering phase, i.e. it is clear what needs to be done to get the product into production. Various disciplines perform their own tasks. These tasks have mostly a low workload. Employees cannot work full-timee on one project. This creates a complex situation, that may be compared to a job shop situation in production logistics. Though the comparison between manufacturing and product development is not accepted by all product development managers, it may yield good results. Studying each step in the Product Development Process and fluctuations in workloads reveals ways to reduce variation and eliminate bottlenecks. It is necessary to view the Product Development Process as a process and not as a list of projects. Three important findings regarding this are:

Organisational factors affecting project efficiency

1. Projects get done faster if the organization takes on fewer at a time.
2. Investments to relieve bottlenecks yield disproportionately large time-to-market benefits.
3. Eliminating unnecessary variation in workloads and work processes eliminates distractions and delays, thereby freeing up the organization to focus on the creative parts of the task.

Team Work

The Project Management Team: The Project Management team includes the Project Manager and the individual leads for each of the team roles. They share the responsibility for planning schedules and resources, assessing risks, and tracking the project. Because each

Team effectiveness

To improve a team's effectiveness, it is first necessary to understand the factors that impact its performance. Once you understand these factors you can determine when and what team development is needed.

A team exists when members have responsibility for accomplishing a common goal. An effective team is aware of and manages:

1. The extent to which goals are clear, understood and communicated to all members
2. The amount of ownership of team goals
3. The extent to which goals are defined, quantified and deliverable
4. The extent to which goals are shared or congruent
5. The extent of goal conflict or divergence

Signs to look for: The goals are unclear or not communicated, everyone is doing their own thing and not participating in goal setting.

Team Work

team must deliver on its commitment by completing a set of tasks, each lead should participate in project planning and management. The following items describe examples of this participation.

- Although the Project Manager might do an initial assessment of how the team model will be applied by considering the characteristics of the project, each team lead should have an opportunity to consider all the factors and determine if the risks are manageable.
- All team leads participate in negotiating the functional specification. Any proposed changes to the functional specification baseline require agreement from all team leads.
- Rather than having scheduling and estimating imposed from the top down, each key player should have an opportunity to contribute to the overall schedule and estimates.
- As the project progresses, each team lead is responsible for assessing risks and participating in tradeoff decisions.

When necessary, the Project Manager may make top-down decisions if the team members cannot reach consensus. Obviously, this can have a tendency to migrate gradually to a more traditional top-down project management style. Only the corporate culture can assure that it will not.

Team Work

EFFECTIVE TEAM WORK
- CLEAR, ELEVATING GOAL
- PROVIDE RESULT DRIVEN STRUCTURE
- UNIFIED COMMITMENT
- FOSTER A COLLABORATIVE CLIMATE
- STANDARDS of EXCELLENCE

Meeting
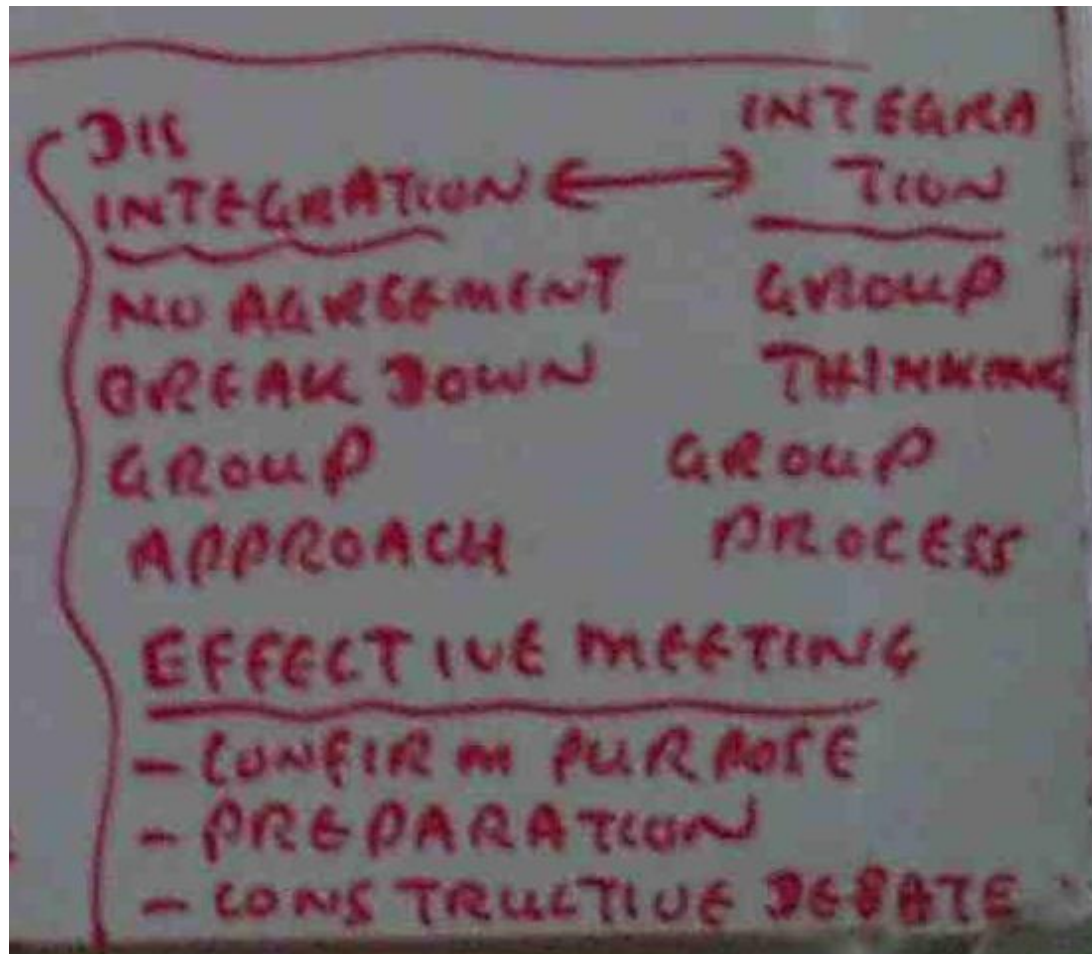
Risk management in project

In project management, risk management includes the following activities:

- Planning how risk will be managed in the particular project. Plans should include risk management tasks, responsibilities, activities and budget.
- Assigning a risk officer - a team member other than a project manager who is responsible for foreseeing potential project problems. Typical characteristic of risk officer is a healthy skepticism.
- Maintaining live project risk database. Each risk should have the following attributes: opening date, title, short description, probability and importance. Optionally a risk may have an assigned person responsible for its resolution and a date by which the risk must be resolved.
- Creating anonymous risk reporting channel. Each team member should have the possibility to report risks that he/she foresees in the project.
- Preparing mitigation plans for risks that are chosen to be mitigated. The purpose of the mitigation plan is to describe how this particular risk will be handled – what, when, by who and how will it be done to avoid it or minimize consequences if it becomes a liability.
- Summarizing planned and faced risks, effectiveness of mitigation activities, and effort spent for the risk management.

Risk management in project

RISK & CONTINGENCY

- PROJECT WILL FAIL COMPLETELY
- PROJECT WILL BE COMPROMISED ON TIME, COST (OR)
  BOTH
- THE LIKELIHOOD OF A PARTICULAR UNDESIRABLE
  EVENTS HAPPENING
- THE SEVERITY OF THE EFFECT ON THE PROJECT BY
  THESE EVENTS

FORMAL USE OF RISK ANALYSIS TECHNIQUES

- COMPANY POLICY, CLIENT

RISK ANALYSIS TECHNIQUES

PERT, CATASTROPHE THEORY, GAME THEORY
DECISION TREE, MULTIPLE CRITERIA DECISION MODEL
EXPECTED VALUE, SENSITIVITY ANALYSIS
MONTE - CARLO SIMULATION

Critical success factors

That's where Critical Success Factors (CSFs) can help. CSFs are the essential areas of activity that must be performed well if you are to achieve the mission, objectives or goals for your business or project.

By identifying your Critical Success Factors, you can create a common point of reference to help you direct and measure the success of your business or project.

As a common point of reference, CSFs help everyone in the team to know exactly what's most important. And this helps people perform their own work in the right context and so pull together towards the same overall aims.

Rockart defined CSFs as:
"The limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organization. They are the few key areas where things must go right for the business to flourish. If results in these areas are not adequate, the organization's efforts for the period will be less than desired."

Management of expectation & perception

Control in organizations can be defined as expectational equilibrium, or correspondence between how the members of an organization behave, and how they are expected to behave by others. Using contract model of organizations as the base, we build a theory of control with the help of human expectations, common knowledge, and culture. Changes in factor and product market conditions tend to disrupt control in organizations. Strategic management consists of continual monitoring of the market conditions, and redesign of contracts, to restore and maintain the expectational equilibrium.

Marketing research

Marketing research is "the function that links the consumer, customer, and public to the marketer through information — information used to identify and define marketing opportunities and problems; generate, refine, and evaluate marketing actions; monitor marketing performance; and improve understanding of marketing as a process. Marketing research specifies the information required to address these issues, designs the method for collecting information, manages and implements the data collection process, analyzes the results, and communicates the findings and their implications."Marketing research is the systematic gathering, recording, and analysis of data about issues relating to marketing products and services. The goal of marketing research is to identify and assess how changing elements of the marketing mix impacts customer behavior. The term is commonly interchanged with market research; however, expert practitioners may wish to draw a distinction, in that market research is concerned specifically with markets, while marketing research is concerned specifically about marketing processes.

Consumer behaviour
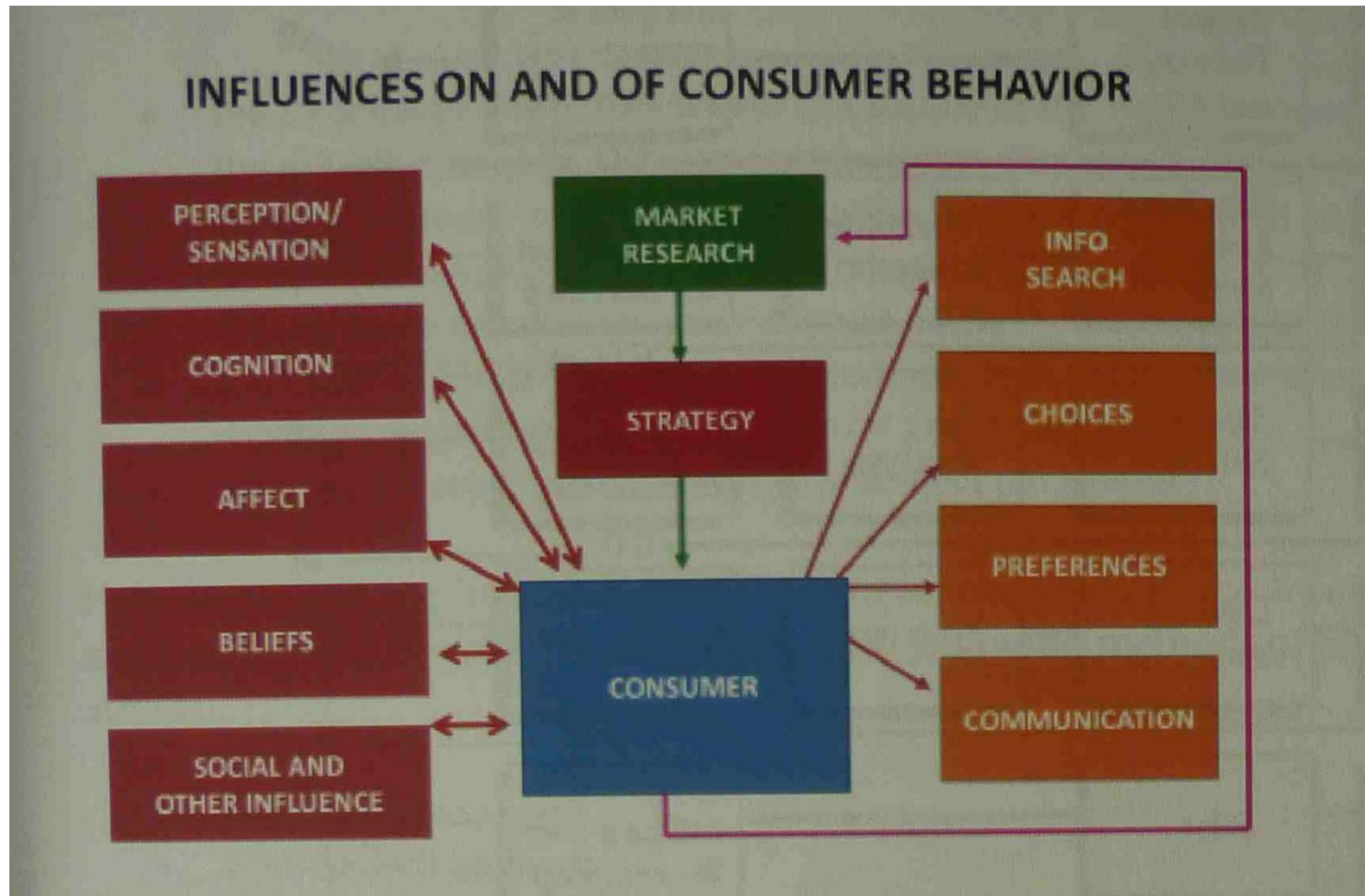
Processes in project planning

- **_Process_**
  Mention the process you will apply, either by referring to a defined method (like Scrum) or to a document describing your own custom process.
- **_Milestones_**
  Name any specific dates and (if known at this stage) what you expect to be delivering. Regular iterations/releases might be mentioned here.
- **_Dependencies_**
  Name any dependencies, like the involvement of third parties, that are beyond your own direct control.
- **_Assumptions_**
  Make any assumptions explicit, like the availability of a customer stakeholder, or the availability of graphic designs.
- **_Change Management_**
  Define how you're going to cope with changes during the project. This is part of the defined process, but it deserves to be mentioned explicitly.

Project proposal

The Project Proposal

Until this day we have initiated projects in our company by writing *Project Proposal* documents for our customers. Such a Project Proposal usually contains an outline of the project, a vision of the intended solution, the planned phases, milestones and deliverables, the budget, pricing details, a description of our agile processes, licensing and maintenance stuff,
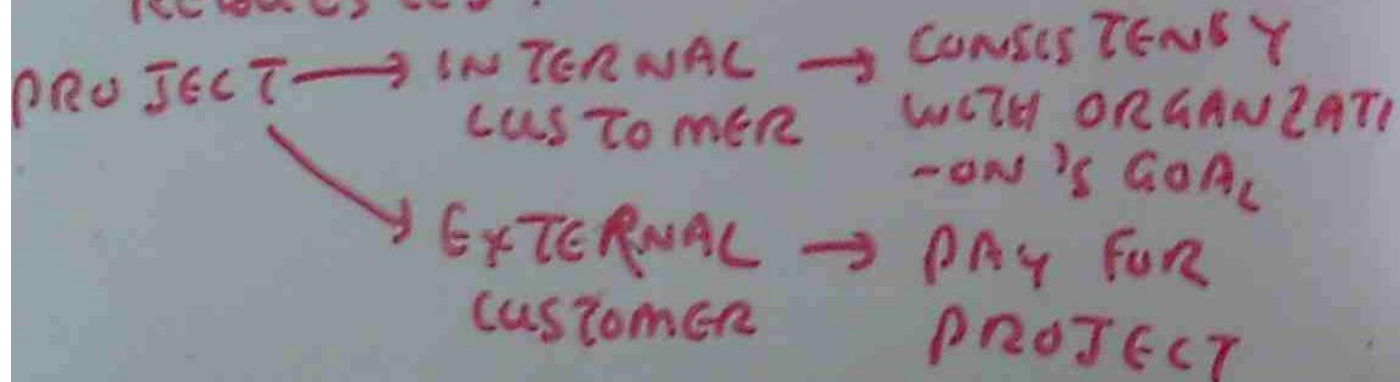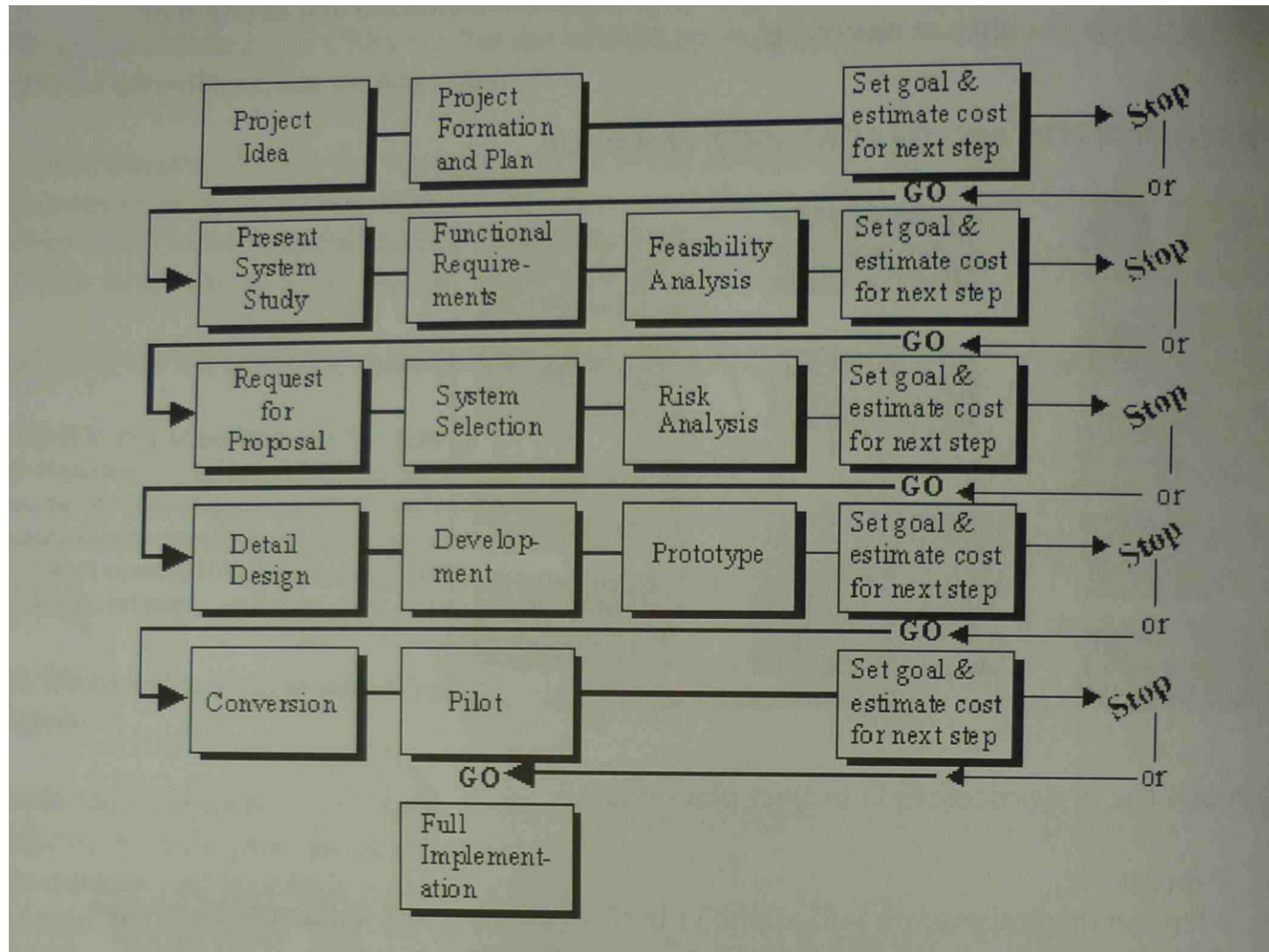
Project Brief

BRIEF
- VERY PRECISE
- AREAS THAT ARE NOT SO PRECISE NEED TO BE IDENTIFIED
- OPEN BRIEF

PROPOSAL
- WHO IS THE PROPOSAL FOR?
- WHY IS THE PROPOSAL BEING REQUESTED?

PROJECT → INTERNAL → CONSISTENCY WITH ORGANIZATION'S GOAL
         LUSTOMER
         → EXTERNAL → PAY FOR PROJECT
         CUSTOMER

Overview of project planning

Activities in project planning

- determining how to plan (e.g. by level of detail or rolling wave);
- developing the scope statement;
- selecting the planning team;
- identifying deliverables and creating the work breakdown structure;
- identifying the activities needed to complete those deliverables and networking the activities in their logical sequence;
- estimating the resource requirements for the activities;
- estimating time and cost for activities;
- developing the schedule;
- developing the budget;
- risk planning;
- gaining formal approval to begin work.

Project planning analysis

(G069 &G070) ANALYZING PLANS

ANALYZING
→ TIME PLAN
→ COST PLAN
→ QUALITY PLAN

{ RISK & CONTINGENCY
STRATEGIC
INVESTMENT
STRATEGIES

CRASHING
HOW ALL (OR) PART OF THE PROJECT COULD BE CARRIED OUT IN LESS TIME

NUMBER OF WAYS TO SHORTEN ACTIVITIES

INCENTIVE, ADDITIONAL RESOURCES, PARALLEL ACTIVITIES, REDUCED LEVEL OF TECHNOLOGY CHANGE

(CHALLENGES)

CALCULATING MINIMUM COST SCHEDULE

$$\text{Cos/unit time to CRASH EACH ACTIVITY} = \frac{C_c - C_m}{t_n - t_c}$$

{ C_c - CRASHED COST
C_m - NORMAL COST
t_n - NORMAL TIME
t_c - CRASH TIME

Analysing cost plan

ANALYZING COST PLAN

THE OF PROJECT BEING CONSIDERED

TIME SPAN

PAY BACK ANALYSIS

CASH FLOWS OF COST & BENEFIT

DISCOUNTED CASH FLOW

INTERNAL RATE OF RETURN

PAY BACK - LIFE CYCLE COST OF ITEM, TIME VALUE OR MONEY

$$PRESENT\ VALUE\ (P.V) = \frac{C_m}{(1+i)^m}$$

$$FUTURE\ VALUE = C.(1+i)^m$$

$C_m =$ FUTURE VALUE OF INVESTMENTS IN m YEAR

$i =$ DISCOUNTING RATE

Cost plan analysis example

NET PRESENT VALUE = PRESENT VALUE — PRESENT VALUE
of BENEFIT   of COST

Q) IF A PROJECT REQUIRES THE EXPENDITURE of $100000 NOW AND WILL YIELD $200000 IN 6 YEARS, FIND NET PRESENT VALUE. 10% DISCOUNT RATE

$$P.V \text{ of } BENEFIT = \frac{Cm}{(1+i)^n} = \frac{200,000}{(1+\frac{10}{100})^6} = 112800$$

$$P.V \text{ OF } COST = 100,000$$

$$N.P.V = 112800 - 100,000 = \$12800 \quad \begin{cases} SHOULD \ BE \\ CARRIED \\ OUT \end{cases}$$

Project control

Project controlling should be established as an independent function in project management. It implements verification and controlling function during the processing of a project in order to reinforce the defined performance and formal goals. The tasks of project controlling are also:

- the creation of infrastructure for the supply of the right information and its update
- the establishment of a way to communicate disparities of project parameters
- the development of project information technology based on an intranet or the determination of a project key performance index system (KPI)
- divergence analyses and generation of proposals for potential project regulations
- the establishment of methods to accomplish an appropriate the project structure, project workflow organization, project control and governance
- creation of transparency among the project parameters

Project control

Project control is that element of a project that keeps it on-track, on-time and within budget. Project control begins early in the project with planning and ends late in the project with post-implementation review, having a thorough involvement of each step in the process. Each project should be assessed for the appropriate level of control needed: too much control is too time consuming, too little control is very risky. If project control is not implemented correctly, the cost to the business should be clarified in terms of errors, fixes, and additional audit fees.

Control systems are needed for cost, risk, quality, communication, time, change, procurement, and human resources. In addition, auditors should consider how important the projects are to the financial statements, how reliant the stakeholders are on controls, and how many controls exist. Auditors should review the development process and procedures for how they are implemented. The process of development and the quality of the final product may also be assessed if needed or requested. A business may want the auditing firm to be involved throughout the process to catch problems earlier on so that they can be fixed more easily. An auditor can serve as a controls consultant as part of the development team or as an independent auditor as part of an audit.

Project control

Fulfillment and implementation of these tasks can be achieved by applying specific methods and instruments of project controlling. The following methods of project controlling can be applied:
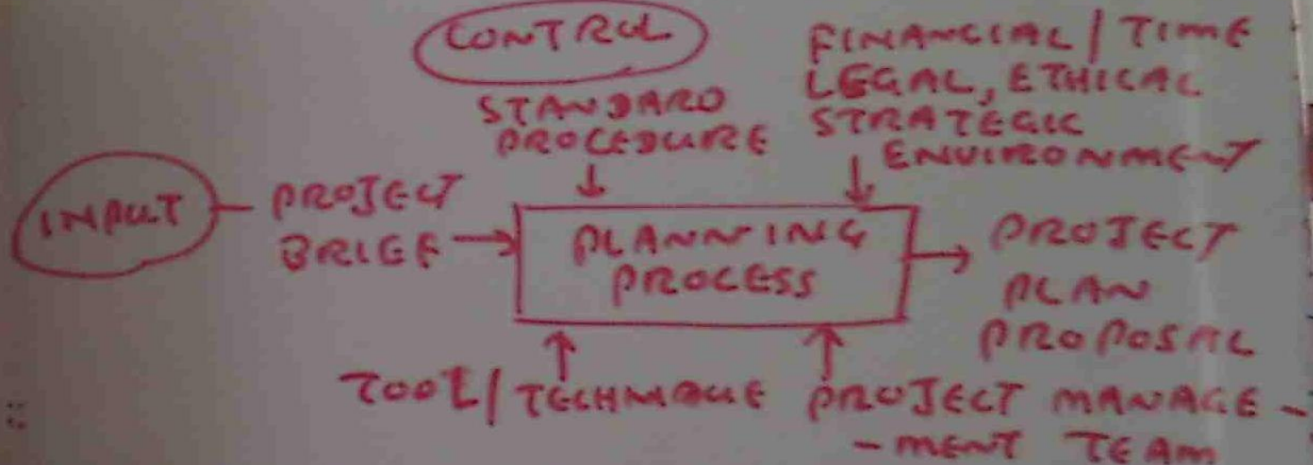
- investment analysis
- cost–benefit analyses
- value benefit Analysis
- expert surveys
- simulation calculations
- risk-profile analyses
- surcharge calculations
- milestone trend analysis
- cost trend analysis
- target/actual-comparison

Pre-project analysis
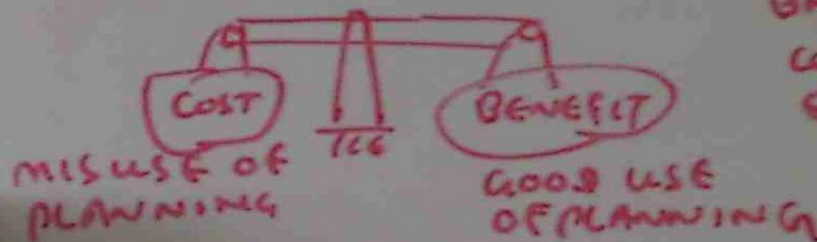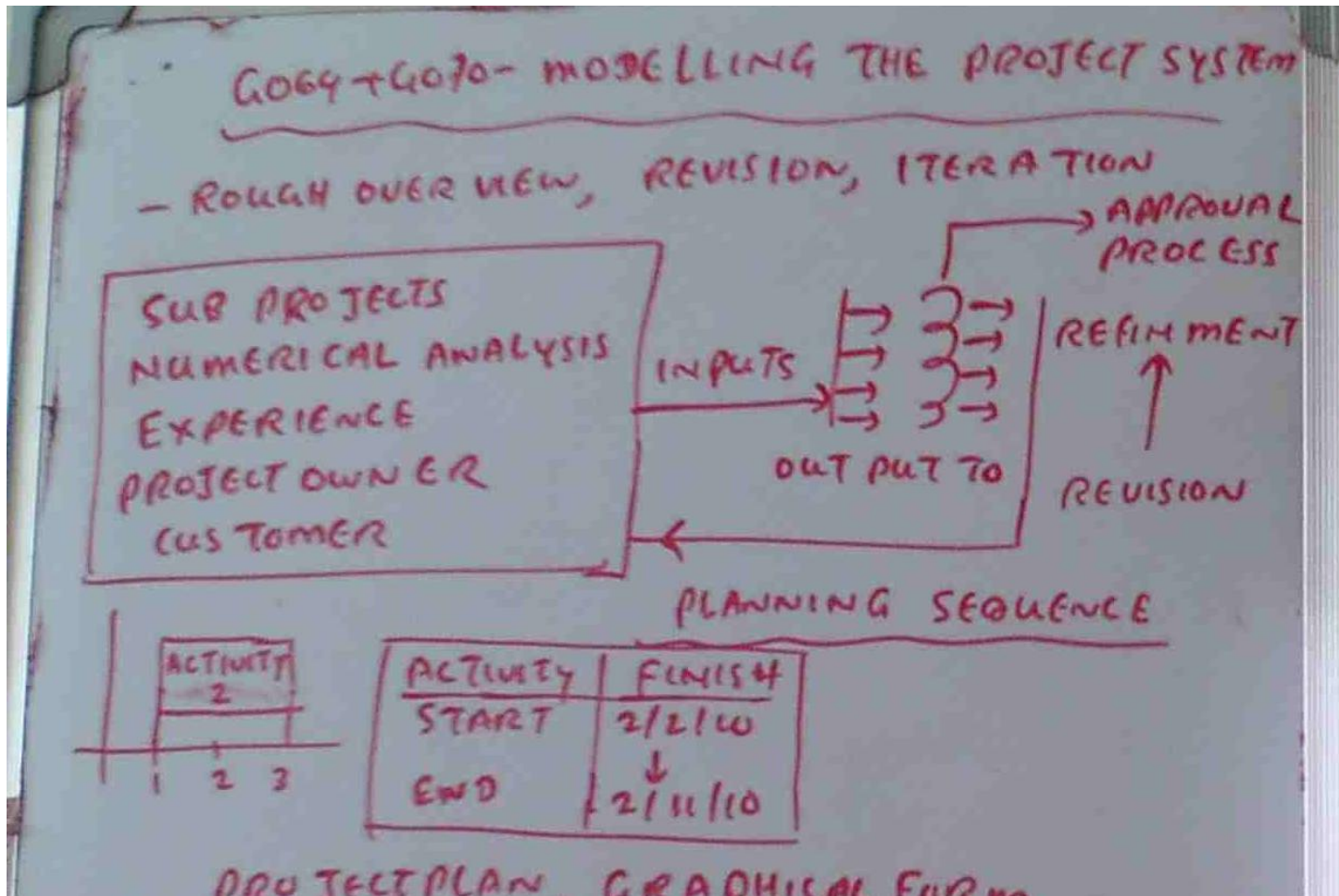
Development plan

- Standards for new systems
- Project management policies for timing and budgeting
- Procedures describing the process
- Evaluation of quality of change
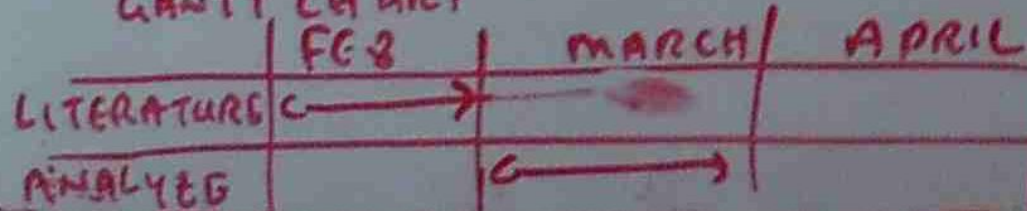
Project development plan

Project development plan
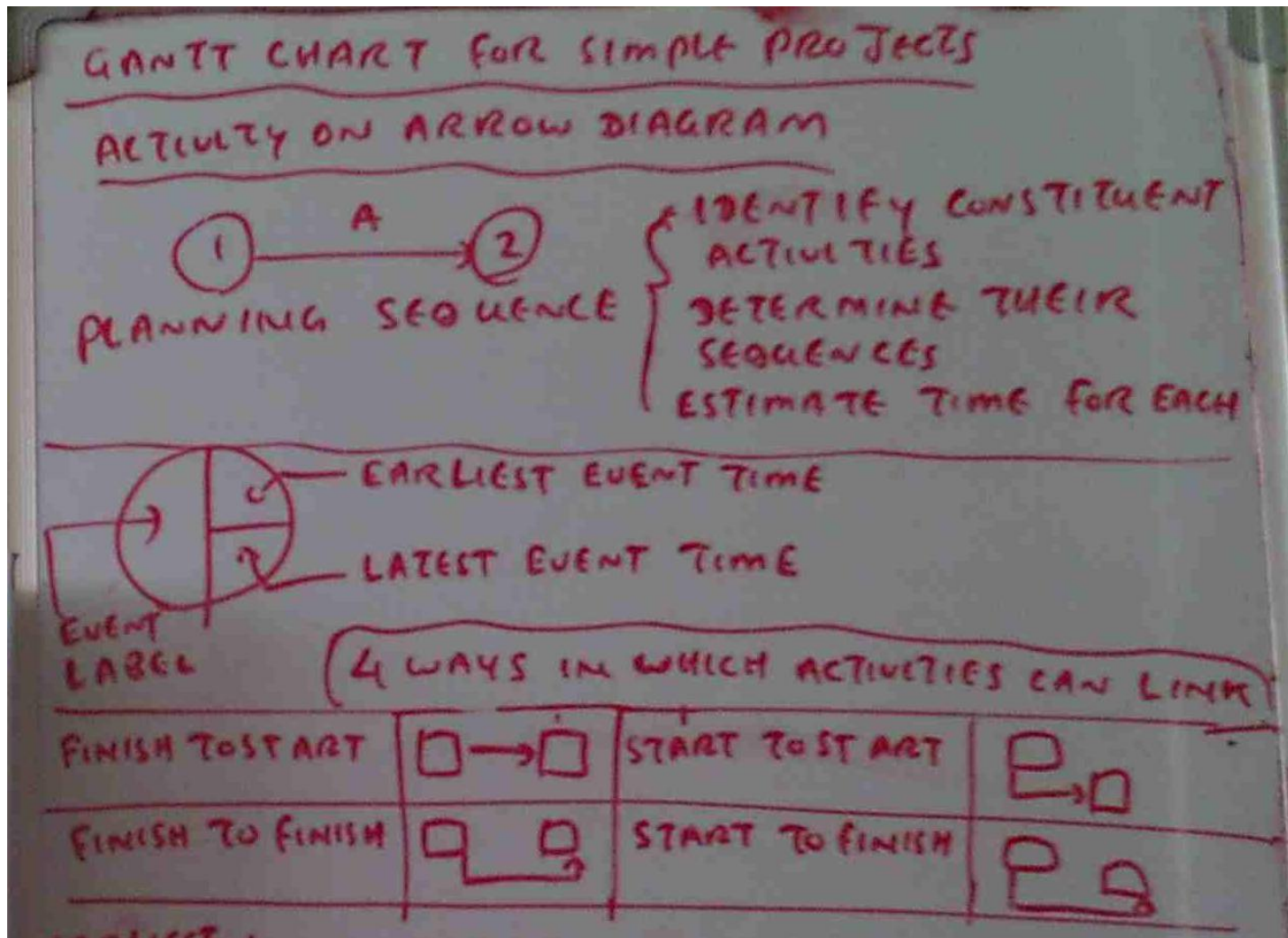
Project development plan

Project development plan

Work Breakdown Structure

A **work breakdown structure (WBS)** in project management and systems engineering, is a deliverable oriented decomposition of a project into smaller components. It defines and groups a project's discrete work elements in a way that helps organize and define the total work scope of the project.

A work breakdown structure element may be a product, data, a service, or any combination. A WBS also provides the necessary framework for detailed cost estimating and control along with providing guidance for schedule development and control.

Work Breakdown Structure

A complex project is made managable by first breaking it down into individual components in a hierarchical structure, known as the **work breakdown structure**, or the WBS. Such a structure defines tasks that can be completed independently of other tasks, facilitating resource allocation, assignment of responsibilities, and measurement and control of the project.

The work breakdown structure can be illustrated in a block diagram:

Work Breakdown Structure Diagram
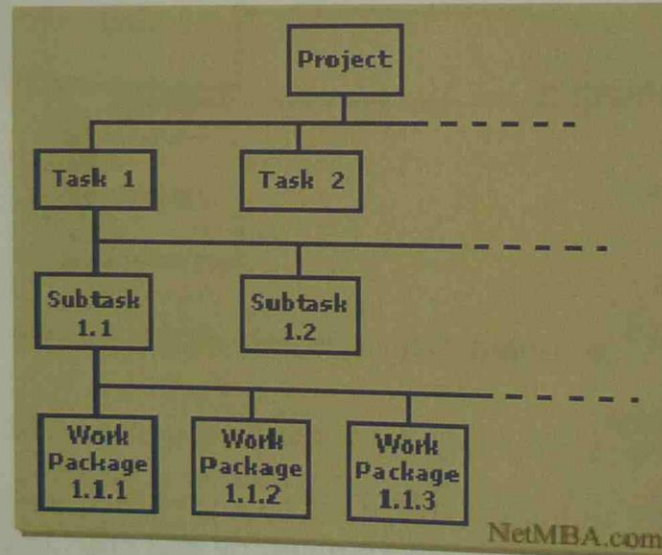
Work Breakdown Structure
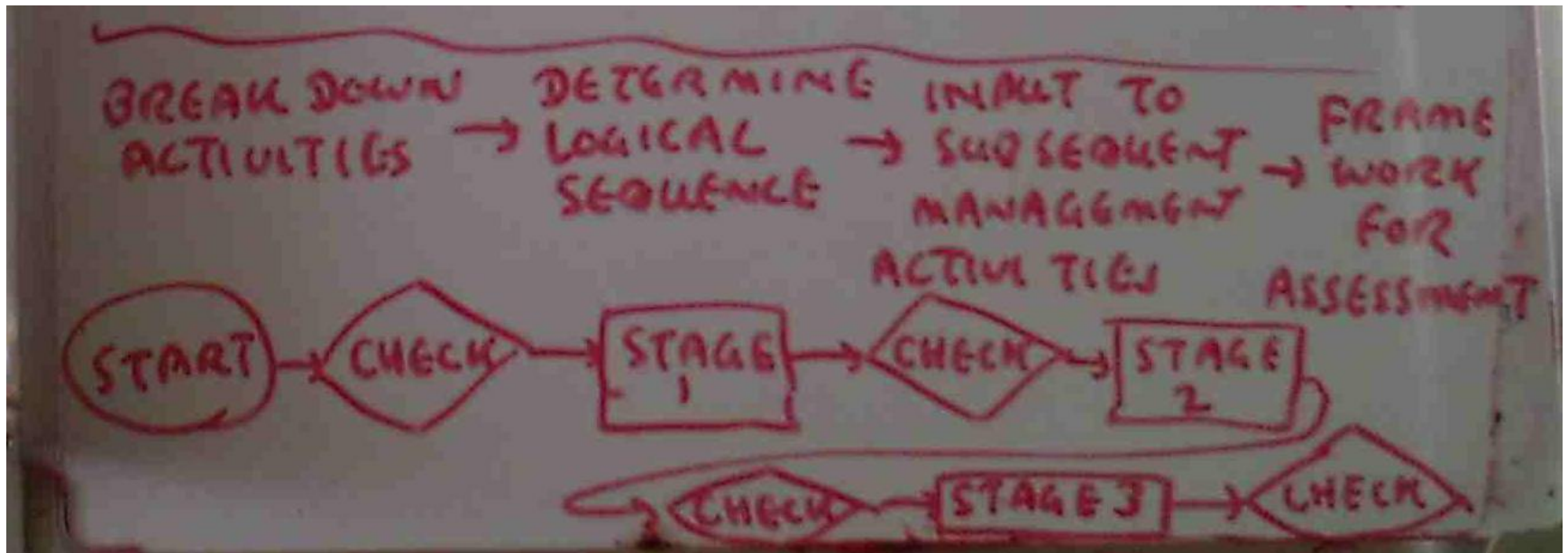
Project manager & line manager

Line management is ongoing, repetitive, with no concept of beginning or ending.

A project manager does proposals, cost-benefit analysis, hires and builds teams, schedules tasks, meets deadlines, reports on progress to management.

The first difference between these two is that line or middle management is mainly about operational and to a lesser extent about tactical management.
Operational management is about managing daily activities. Tactical management is the "layer" between operational and strategic management; "How do we get there," is one of the questions the tactical manager is dealing with.

In that sense, the project manager of program manager for who manages various projects, is the tactical manager. He or she is concerned with the issue of transforming the organization to its future form.

Project critical path analysis

project critical path analysis flow diagram example.
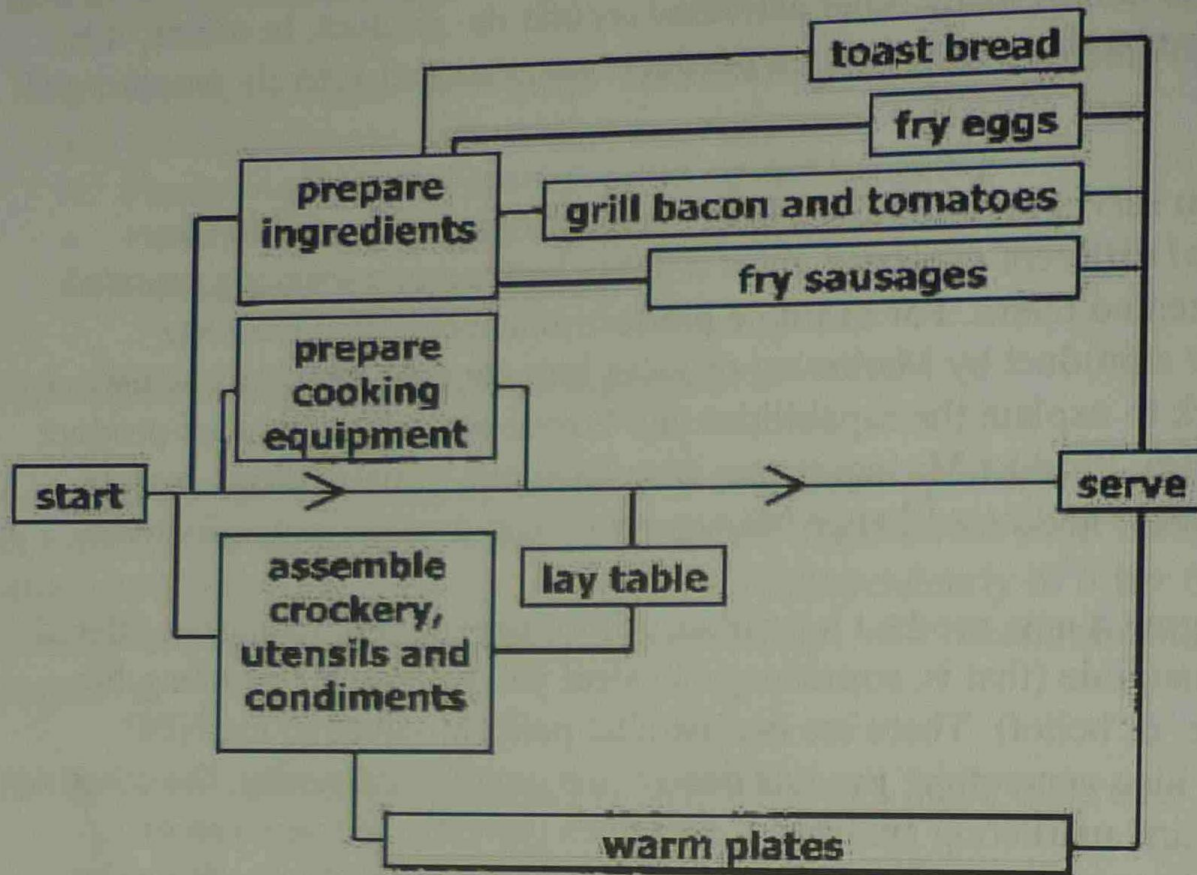
Project critical path analysis

The most widely used scheduling technique is the critical path method (CPM) for scheduling, often referred to as *critical path scheduling*. This method calculates the minimum completion time for a project along with the possible start and finish times for the project activities. Indeed, many texts and managers regard critical path scheduling as the only usable and practical scheduling procedure. Computer programs and algorithms for critical path scheduling are widely available and can efficiently handle projects with thousands of activities.

The *critical path* itself represents the set or sequence of predecessor/successor activities which will take the longest time to complete. The duration of the critical path is the sum of the activities' durations along the path. Thus, the critical path can be defined as the longest possible path through the "network" of project activities, as described in Chapter 9. The duration of the critical path represents the minimum time required to complete a project. Any delays along the critical path would imply that additional time would be required to complete the project.

Project critical path analysis

There may be more than one critical path among all the project activities, so completion of the entire project could be delayed by delaying activities along any one of the critical paths. For example, a project consisting of two activities performed in parallel that each require three days would have each activity critical for a completion in three days.

Formally, critical path scheduling assumes that a project has been divided into activities of fixed duration and well defined predecessor relationships. A predecessor relationship implies that one activity must come before another in the schedule. No resource constraints other than those implied by precedence relationships are recognized in the simplest form of critical path scheduling.

To use critical path scheduling in practice, construction planners often represent a *resource constraint* by a precedence relation. A *constraint* is simply a restriction on the options

Project critical path analysis
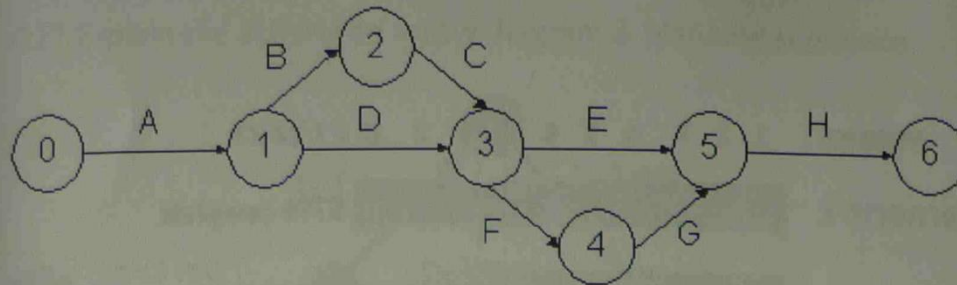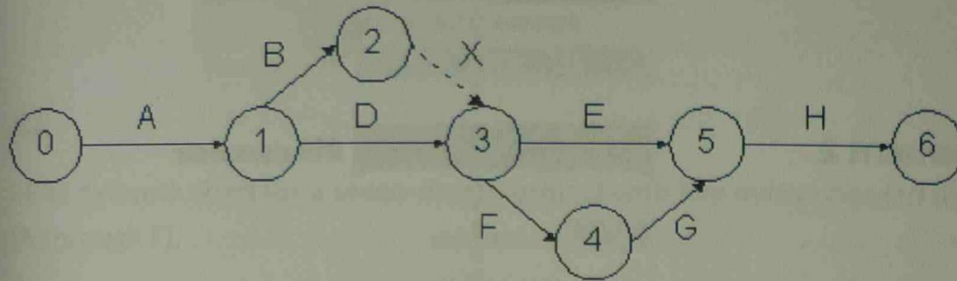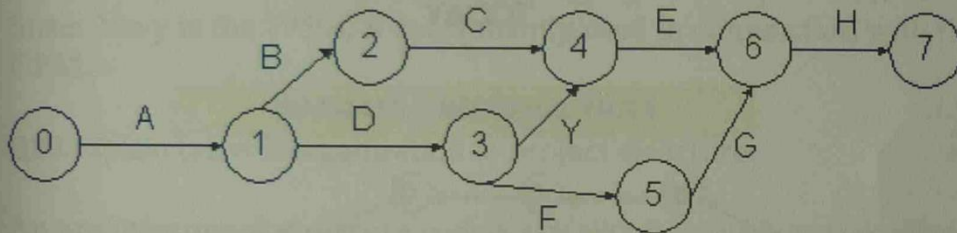
Project critical path analysis
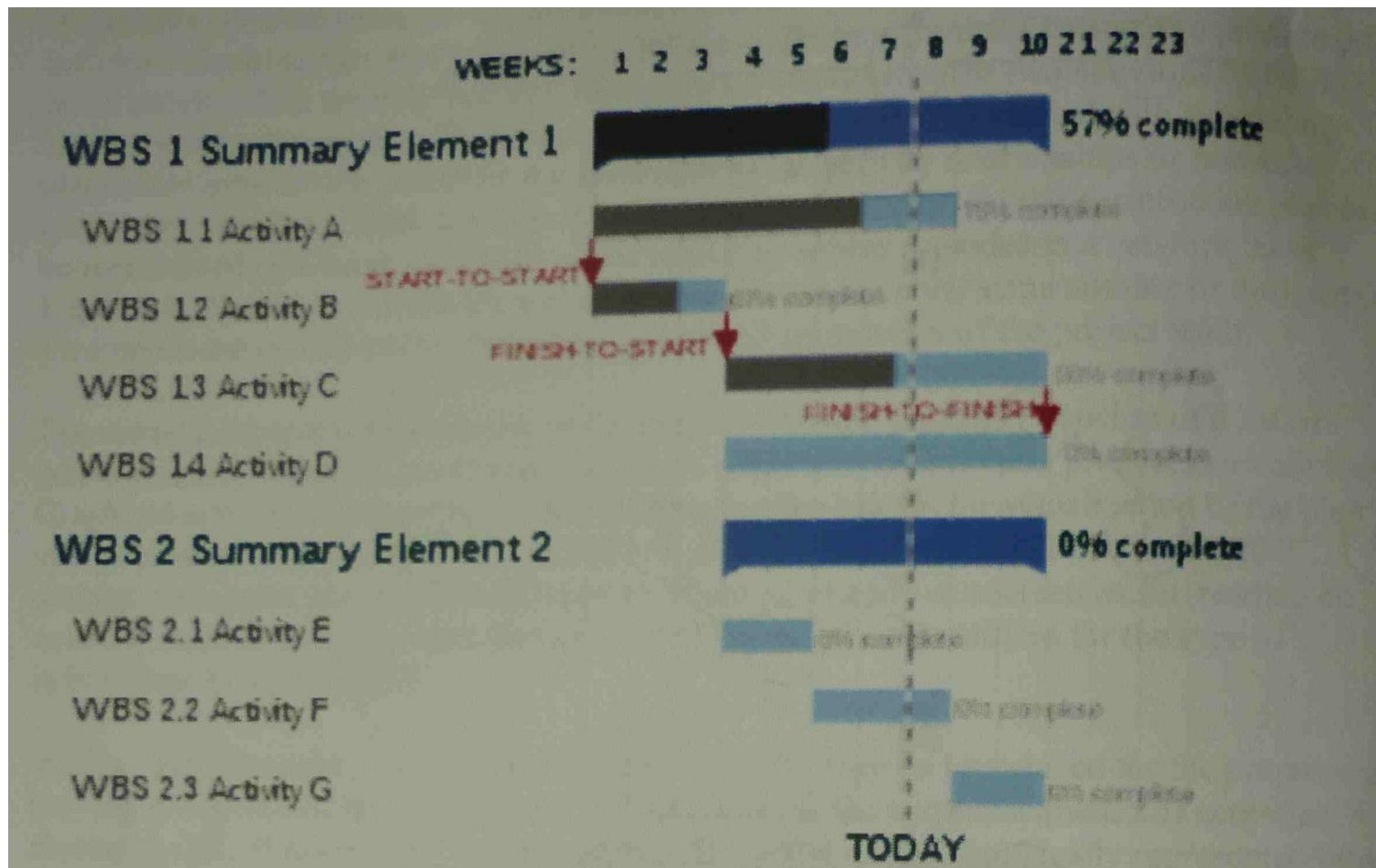
Project critical path analysis
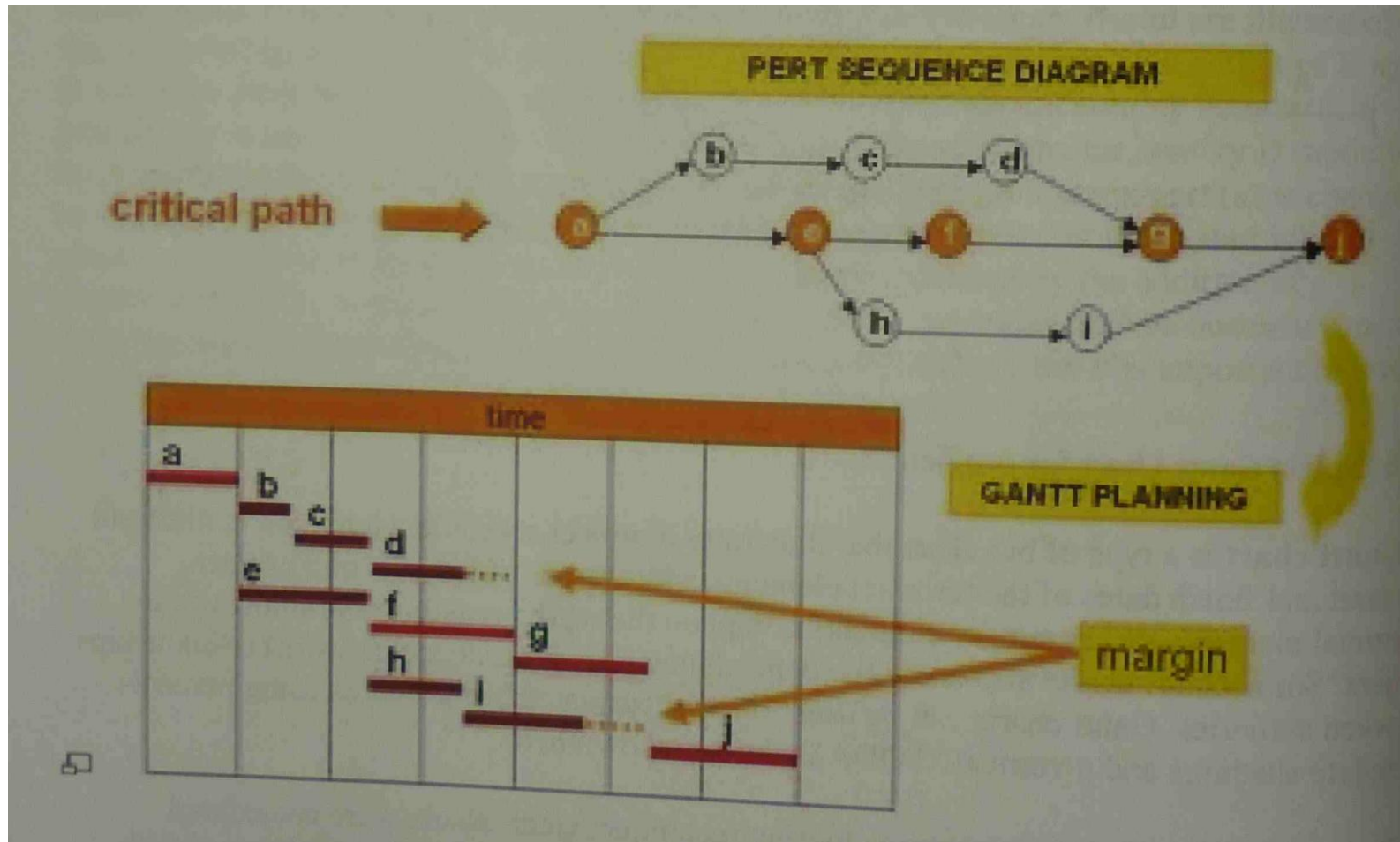
Arrow diagram & planning sequence

Q27.Explain the activity on arrow diagram & planning sequence.
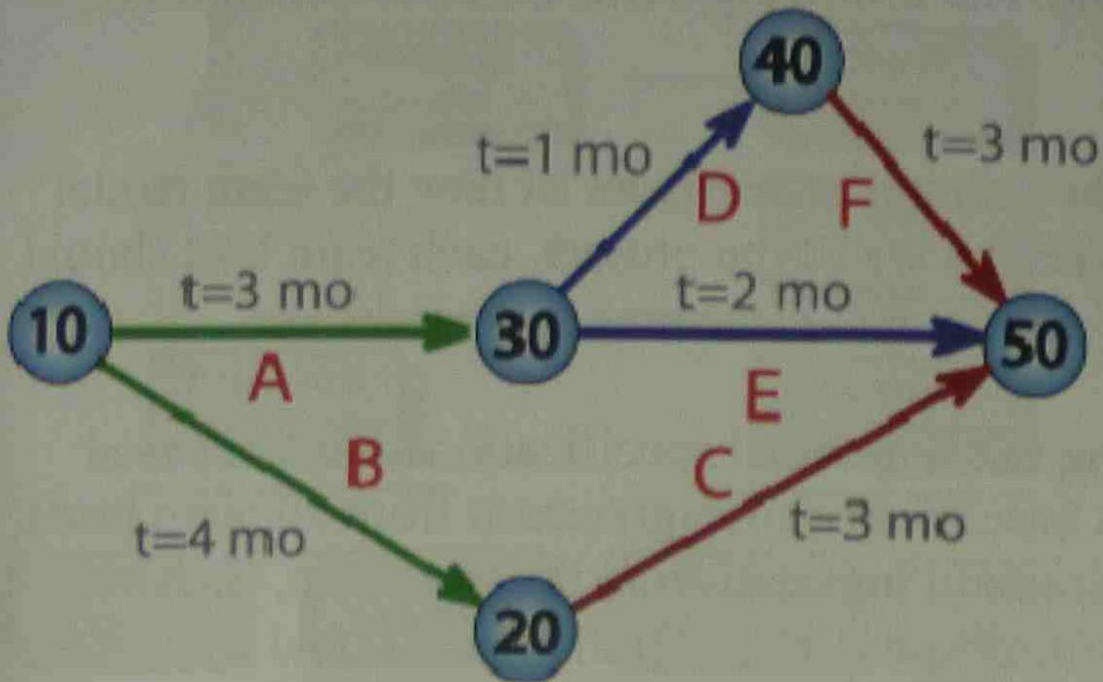
Project approach

A traditional phased approach identifies a sequence of steps to be completed. In the "traditional approach", five developmental components of a project can be distinguished (four stages plus control):
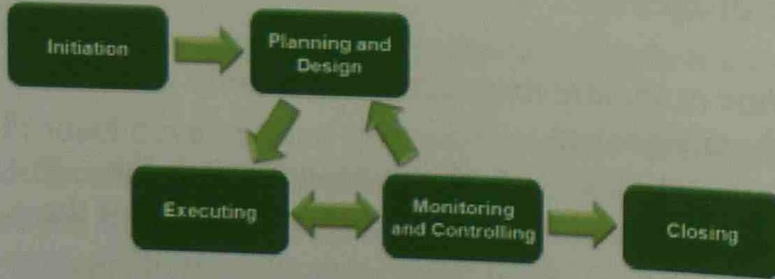
Typical development phases of an engineering project

- initiation;
- planning and design;
- execution and construction;
- monitoring and controlling systems;
- completion.

Project approach

1. Scoping
2. Build business case
3. Development
4. Testing and validation
5. Launch

Project Evaluation & Review Technique

The **Program** (or **Project**) **Evaluation and Review Technique**, commonly abbreviated **PERT**, is a statistical tool, used in project management, that is designed to analyze and represent the tasks involved in completing a given project. First developed by the United States Navy in the 1950s, it is commonly used in conjunction with the critical path method or **CPM**.

Plan Analysis

For the most part, these methods consist of the following elements, performed, more or less, in the following order.

1. identify, characterize, and assess threats
2. assess the vulnerability of critical assets to specific threats
3. determine the risk (i.e. the expected consequences of specific types of attacks on specific assets)
4. identify ways to reduce those risks
5. prioritize risk reduction measures based on a strategy.

Plan Analysis

The planning process should result in major parties to the project having a clear sense of the cost, schedule, and technical objectives. The establishment of these three should attempt to define the possible. The project's technical objectives should be derived from a clear understanding of the business requirements. Project costs should be realistic and affordable. The schedule should be achievable and appropriate for the business needs.

Trade-off studies balancing technical performance, schedule, and costs may be used to adjust project parameters to fit with organizational priorities. The realism inherent in determining these three project parameters can largely effect the perceived success or failure of the project.

Plan Analysis

Efforts to accelerate project schedules will usually increase project risks. Innovative techniques must be used to achieve orderly schedule compression without creating unacceptable risks and quality impacts.

Without reducing project scope or attempting radical development methodologies, a project schedule can often be compressed by up to 20% by increasing concurrency of tasks and adding additional staffing. A typical project environment will usually involve pressures to add scope, accelerate schedule, and decrease costs. Nevertheless, changes to project scope

Plan Analysis
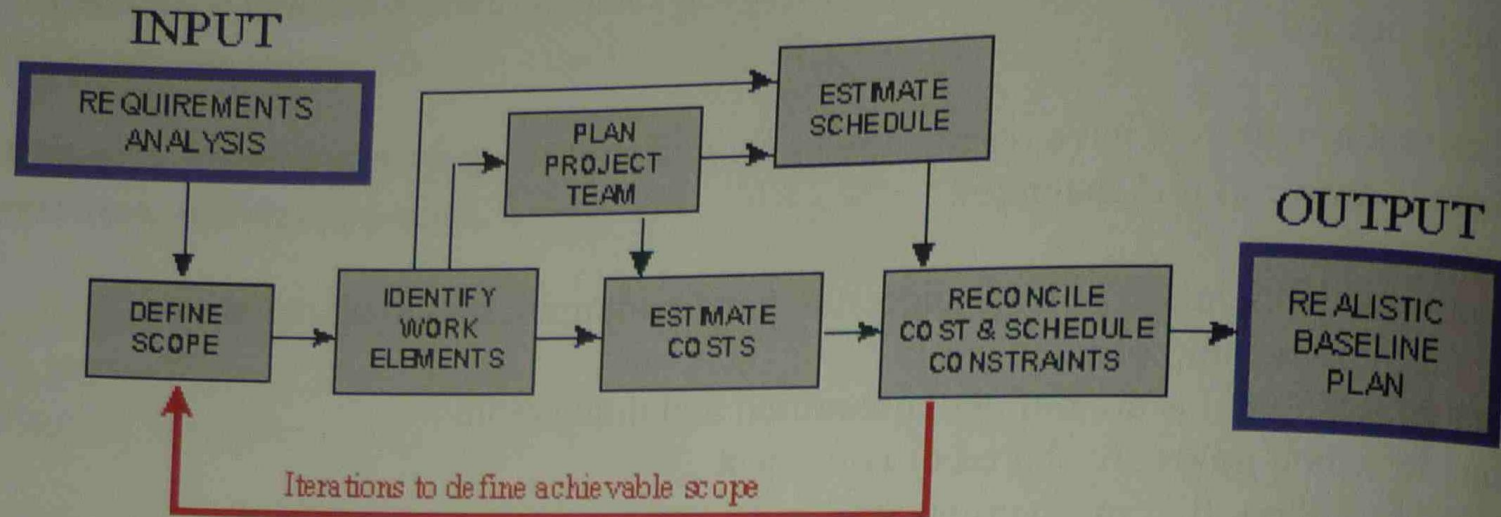
Q36. What are the numbers of ways to shorten the activities?

Construction project scheduling is a topic that has received extensive research over a number of decades. The previous chapter described the fundamental scheduling techniques widely used and supported by numerous commercial scheduling systems. A variety of special techniques have also been developed to address specific circumstances or problems. With the availability of more powerful computers and software, the use of advanced scheduling techniques is becoming easier and of greater relevance to practice. In this chapter, we survey some of the techniques that can be employed in this regard. These techniques address some important practical problems, such as:

- scheduling in the face of uncertain estimates on activity durations,
- integrated planning of scheduling and resource allocation,
- scheduling in unstructured or poorly formulated circumstances.
- Estimates of the expected time and variance of the project completion.
- An estimate of the distribution of completion times, so that the probability of meeting a particular completion date can be estimated.
- The probability that a particular activity will lie on the critical path. This is of interest since the longest or critical path through the network may change as activity durations change.

Cost effectiveness analysis

Cost-effectiveness analysis (CEA) is a form of economic analysis that compares the relative costs and outcomes (effects) of two or more courses of action. Cost-effectiveness analysis is distinct from cost-benefit analysis, which assigns a monetary value to the measure of effect. Cost-effectiveness analysis is often used in the field of health services, where it may be inappropriate to monetize health effect. Typically the CEA is expressed in terms of a ratio where the denominator is a gain in health from a measure (years of life, premature births averted, sight-years gained) and the numerator is the cost associated with the health gain. The most commonly used outcome measure is quality-adjusted life years (QALY). Cost-utility analysis is similar to cost-effectiveness analysis.

Regulate worksheet
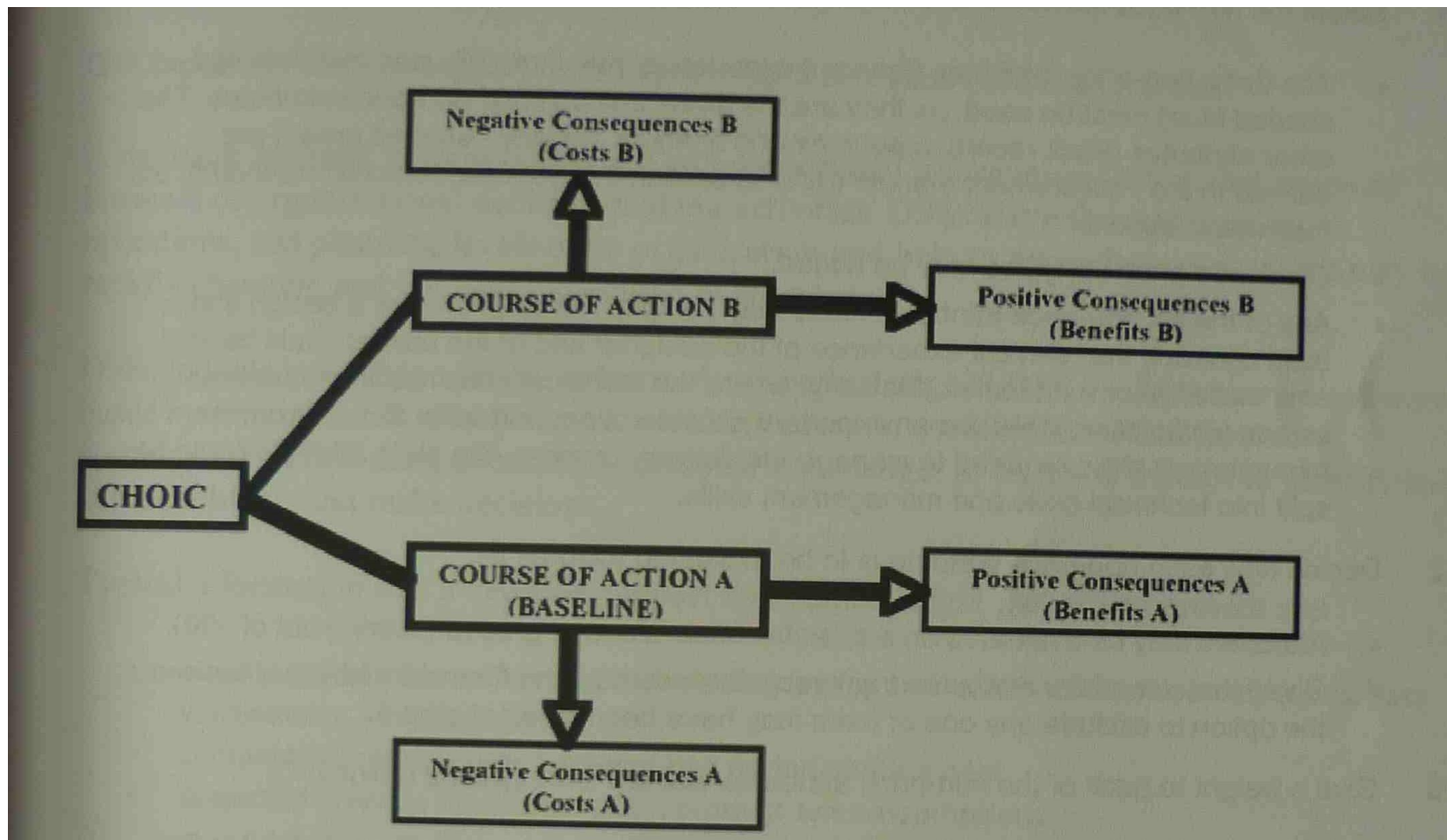
Decision Tree
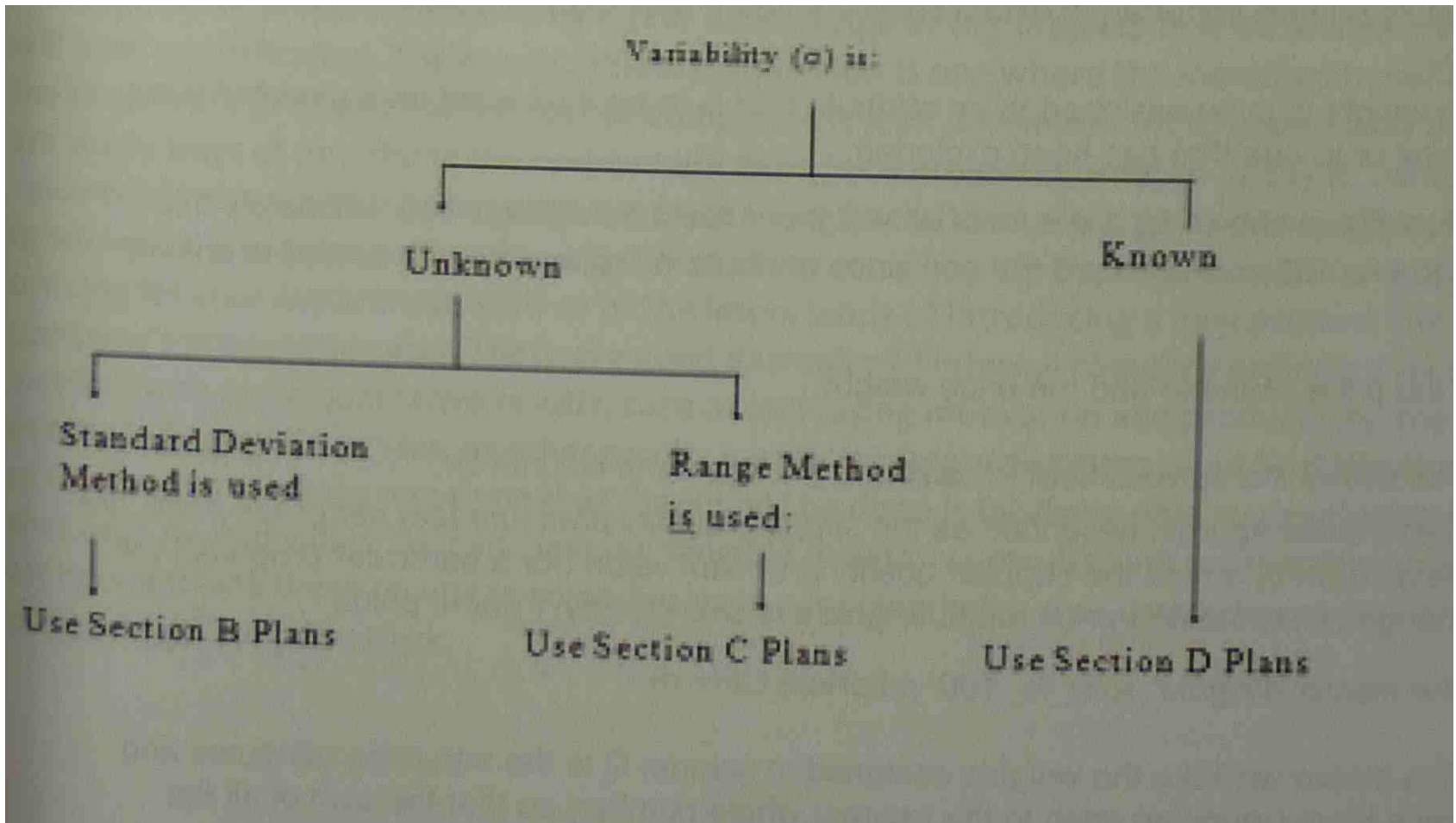
Decision Support System-DSS

A **decision support system (DSS)** is a computer-based information system that supports business or organizational decision-making activities. DSSs serve the management, operations, and planning levels of an organization and help to make decisions, which may be rapidly changing and not easily specified in advance.

DSSs include knowledge-based systems. A properly designed DSS is an interactive software-based system intended to help decision makers compile useful information from a combination of raw data, documents, personal knowledge, or business models to identify and solve problems and make decisions.

Typical information that a decision support application might gather and present are:

- inventories of information assets (including legacy and relational data sources, cubes, data warehouses, and data marts),
- comparative sales figures between one period and the next,
- projected revenue figures based on product sales assumptions.

Justification

Justification

Although some projects are done by direct order, most of the projects that we will be involved with will have a justification. The most credible justification is one where the identified benefits of doing the project are greater than the cost of doing the project. It is important to understand that there are many ways of describing the cost-benefit ratio for a project in order to justify it. Using monetary value is just one approach that does not have to be forced over all projects. Many of you have been faced with the problem of making a justification to company top management to carry out corporate training for your department staff or of the importance of introducing a new product line to your company's production cycle. These are good examples of internal company projects that would be justified with more qualitative results, such as increasing motivation and productivity, the ability to enter newly grown markets, or other results where monetary numbers could be difficult to develop or forecast. In this case one thing that should not be done is falsifying data by developing figures that have no real value. Instead, develop tangible qualitative results with measurable indicators to monitor and link these results to some business opportunity for your company or some problem the project might help to attack.

Follow up action

Follow up action.

Any subsequent trading that affects an established position in a <u>security</u> or derivative. Follow-up actions are taken to change the amount of exposure an investor has in a position, or to limit a strategy's losses or profits. For example, an investor who is long in shares of Company XYZ may be nervous about future losses. He or she could take the follow-up action of purchasing a put option for the stock, which would minimize losses in the event of a downturn.

Problem solving

GOGY FACTO

DECISION MAKING

PROBLEM . THE GAP BETWEEN AN ACTUAL
SITUATION AND THE REQUIRED (OR)
EXPECTED SITUATION

NATURE OF PROBLEM

REQUIRING IMMEDIATE ACTION
RESPONSE TO CRISIS
EMERGING PROBLEMS
RESPONSE TO OPPORTUNITY
STRATEGY FORMULATION
RESPONSE → INSTINCTIVE, TO REMOVE THE
            SOURCE OF POTENTIAL DANGER
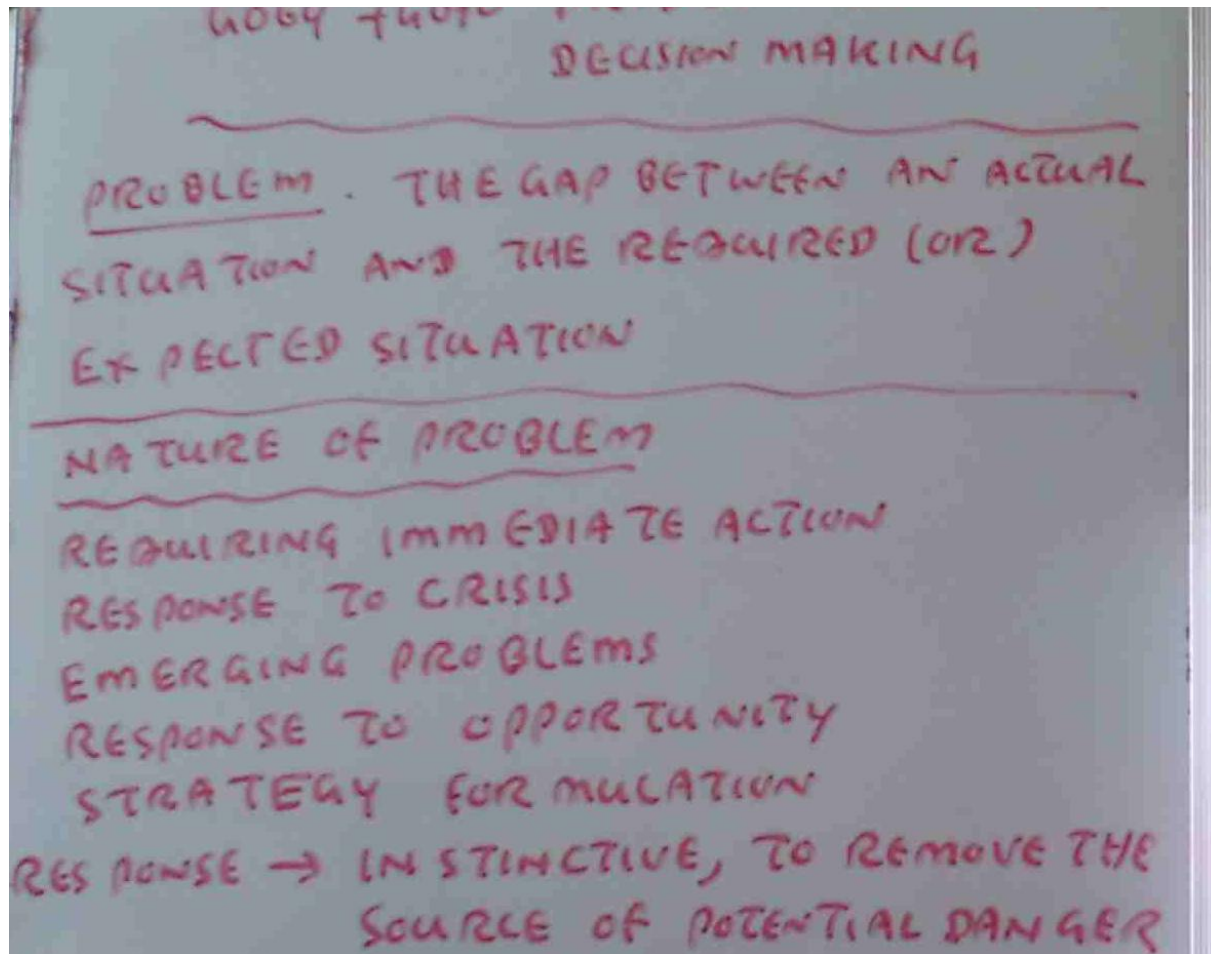
Problem solving

DECISION – POOR DECISION MAKING
MODEL – DESCRIPTIVE, MATHEMATICAL
STATIC, IN/OUT SYSTEM
DYNAMIC PREDICTIVE MODEL
CAUSE EFFECT ANALYSIS
DECISION FRAMEWORK / DECISION SUPPORT
FORECAST / JUSTIFICATION / FOLLOW UP MODEL

SYSTEMIC PROBLEM SOLVING

DOES PROBLEM EXIST → No → CHECK FOR EXISTANCE OF GROUP

↓ YES

IS THE ANSWER PRE-STRUCTURES → YES → REFER TO PROCEDURE

↓ NO

SEEK ALTERNATIVE DEFINITION

↓ YES

ARE DEFINITION ACCEPTABLE → NO

↓ YES

SELECT THE DEFINITION (OR) PROBLEM STRUCTURE

↓ NO

↓ YES

EVALUATE SOLUTION

↓

SELECT SOLUTION

SOLUTION ACCEPTABLE → NO

↓

IMPLEMENT

ANALYSIS

SYNTHESIS

ACTION
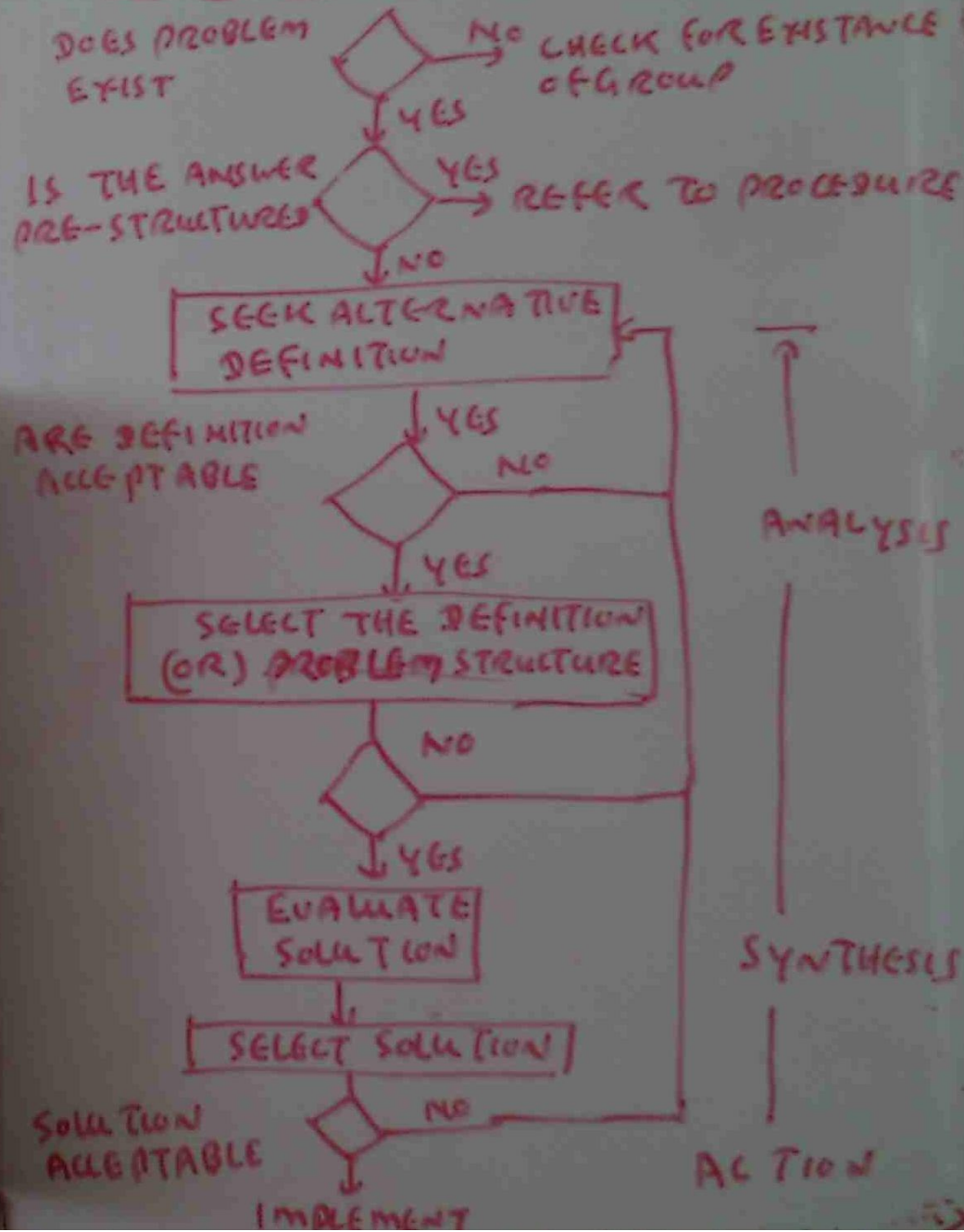
Quality Auditing

Audits are performed to ascertain the validity and reliability of information; also to provide an assessment of a system's internal control. The goal of an audit is to express an opinion of the person / organization / system (etc.) in question, under evaluation based on work done on a test basis.

Auditing is a vital part of accounting. Traditionally, audits were mainly associated with gaining information about financial systems and the financial records of a company or a business (see financial audit). However, recent auditing has begun to include non-financial subject areas, such as safety, security, information systems performance, and environmental concerns. With nonprofit organizations and government agencies, there has been an increasing need for performance audits, examining their success in satisfying mission objectives. As a result, there are now audit professionals who specialize in security audits, information systems audits, and environmental audits.

Quality Auditing
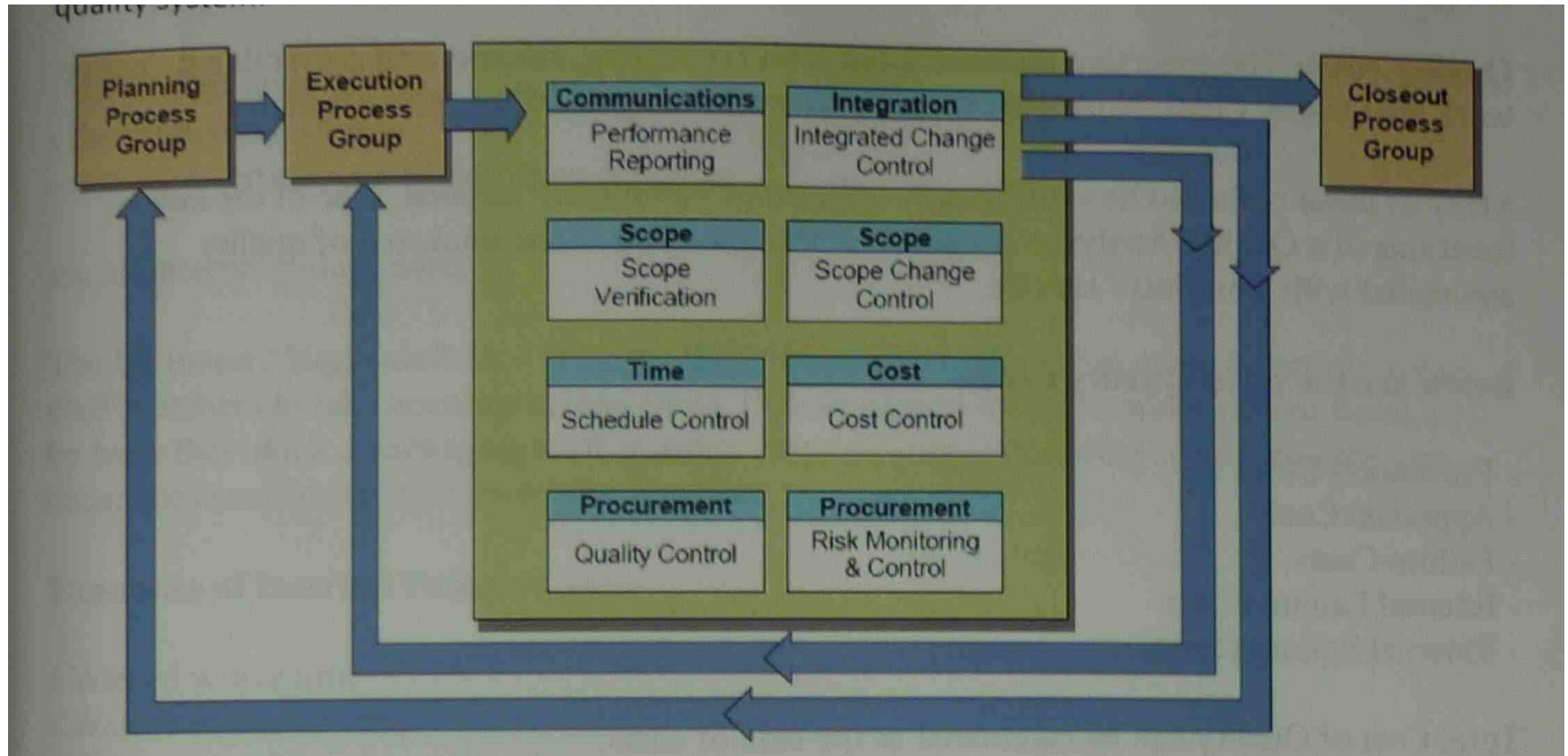
Monitoring & Controlling

Monitoring and controlling includes:

- Measuring the ongoing project activities ('where we are');
- Monitoring the project variables (cost, effort, scope, etc.) against the project management plan and the project performance baseline (*where we should be*);
- Identify corrective actions to address issues and risks properly (*How can we get on track again*);
- Influencing the factors that could circumvent integrated change control so only approved changes are implemented

Monitoring & Controlling

Monitoring and controlling consists of those processes performed to observe project execution so that potential problems can be identified in a timely manner and corrective action can be taken, when necessary, to control the execution of the project. The key benefit is that project performance is observed and measured regularly to identify variances from the project management plan. Monitoring and controlling includes:

- Measuring the ongoing project activities ('where we are');
- Monitoring the project variables (cost, effort, scope, etc.) against the project management plan and the project performance baseline (*where we should be*);
- Identify corrective actions to address issues and risks properly (*How can we get on track again*);
- Influencing the factors that could circumvent integrated change control so only approved changes are implemented

In multi-phase projects, the monitoring and control process also provides feedback between project phases, in order to implement corrective or preventive actions to bring the project into compliance with the project management plan.

Project Maintenance

Project maintenance is an ongoing process, and it includes:

- Continuing support of end-users
- Correction of errors
- Updates of the software over time

Monitoring and controlling cycle

Project Maintenance

Project maintenance is an ongoing process, and it includes:

- Continuing support of end-users
- Correction of errors
- Updates of the software over time

Quality cost

Below are the main Quality Costs:

- Prevention Costs
- Appraisal Costs
- Failure Costs
- Internal Failure Costs
- External Failure Costs

Total Cost of Quality can be calculated as the sum of costs:

Prevention + Appraisal + Internal Failure + External Failure

Prevention Costs: Costs of activities that are specifically designed to prevent poor quality which include

- Coding errors
- Design errors
- Mistakes in the user manuals
- Dadly documented or unmaintainably complex code

Most of the prevention costs don't fit within the Testing Group's budget. This money is spent by the programming, design, and marketing staffs.

Appraisal Costs: Costs of activities designed to find quality problems, such as code inspections and any type of testing.

Design reviews are part of prevention and p...

Failure costs

Examples of Internal Failure Costs:

- Wasted writer time
- Wasted marketer time
- Cost of late shipment
- Bug fixes
- Regression testing
- Wasted in-house user time
- Wasted tester time

Examples of External Failure:

- Lost sales
- Lost customer goodwill
- Discounts to resellers to encourage them to keep selling the product
- Warranty costs
- Liability costs
- Penalties
- Technical support calls
- Preparation of support answer books
- Investigation of customer complaints
- Refunds and recalls
- Coding / testing of interim bug fix releases
- Shipping of updated product
- All other costs imposed by law

Scope Management

Project Scope "The work that needs to be accomplished to deliver a product, service, or result with the specified features and functions."

Product Scope "The features and functions that characterize a product, service, or result." [2]

Notice that Project Scope is more **work-oriented,** (the hows,) while Product Scope is more oriented toward **functional requirements.** (the whats.)

If requirements are not completely defined and described and if there is no effective change control in a project, scope or requirement creep may ensue.

Scope creep management is important for effective project management. Projects are expected to meet strict deadlines with resource restraints, and an unvetted and unapproved change in the scope can affect the success of the project. Scope creep sometimes causes cost overrun.

Contract

Q51. Explain the establishment of contracts.

The Pool, in many countries, was adopted for the participants of the electricity market to trade the electrical energy in a basis of each half-hour or one hour of the next day. However, like the traditional markets, the agents of electrical market are now exposed to the volatility of market price. In some countries, to face that problem and to turn the market more liquid, the derivatives markets - futures and options - were introduced to negotiate products with electrical energy as underlying active. In this context, there is a need of decision-support tools to assist those agents for the use of derivatives markets with the objective of practicing the hedge. In this paper, we present a decision model that supports producers to establish contracts with the objective to maximize the profit expected utility.

Project Control

- investment analysis
- cost–benefit analyses
- value benefit Analysis
- expert surveys
- simulation calculations
- risk-profile analyses
- surcharge calculations
- milestone trend analysis
- cost trend analysis
- target/actual-comparison

CONTINUAL IMPROVEMENT OF THE QUALITY MANAGEMENT SYSTEM

MANAGEMENT RESPONSIBILITY

RESOURCE MANAGEMENT

MEASUREMENT/ ANALYSIS IMPROVEMENT

INPUT

SUBCON MANAGEMENT IN PRODUCT REALIZATION

PRODUCT
(F) (I)

CUSTOMER — RQMTS / COMPLAINTS / FA / REL / RETURNS

CUSTOMER — SATISFACTION

SUPPLIER	LOGISTICS	PLANNING	SUBCON	TEST	QC
	CP/CSR		(A)(B)(C)(D)(G)	(B)(E)	(E)
WAFER FAB	(E)(F)(G)	ASSEMBLY/ TEST/ WAREHOUSING PLANNING	ASSEMBLY/TEST WAREHOUSING	TPE/TDE	DOCCON/ AUDIT/ CUSTOMER QUALITY ENGG/ FA/REL
(A)	WAREHOUSING			(C)	
	TRAFFIC		(F)		(G) (B)
	(D)(I)				

LOGISTICS	PLANNING	PACKAGING	QC	HR	PIE	FINANCE	IT	TECH SUPPORT
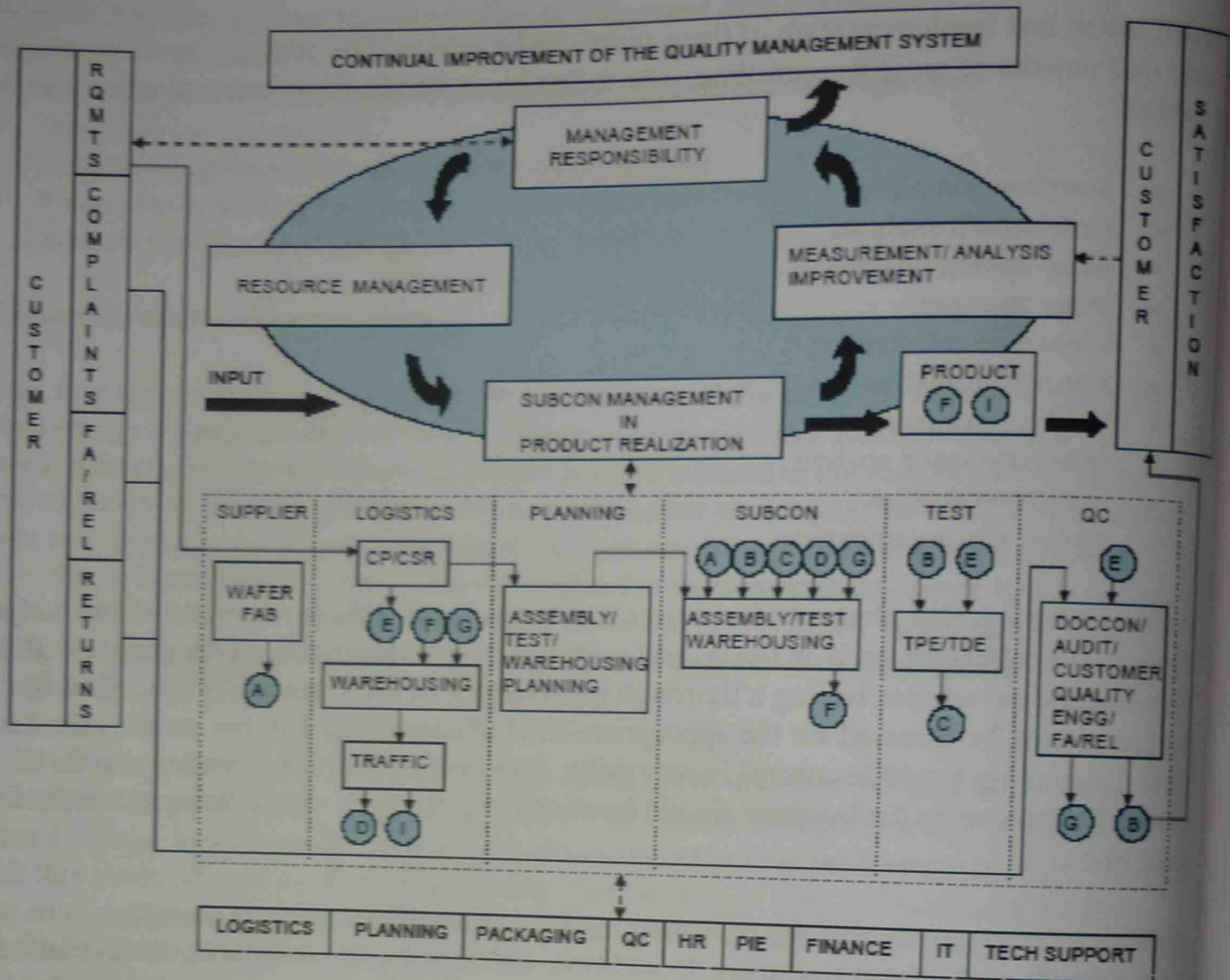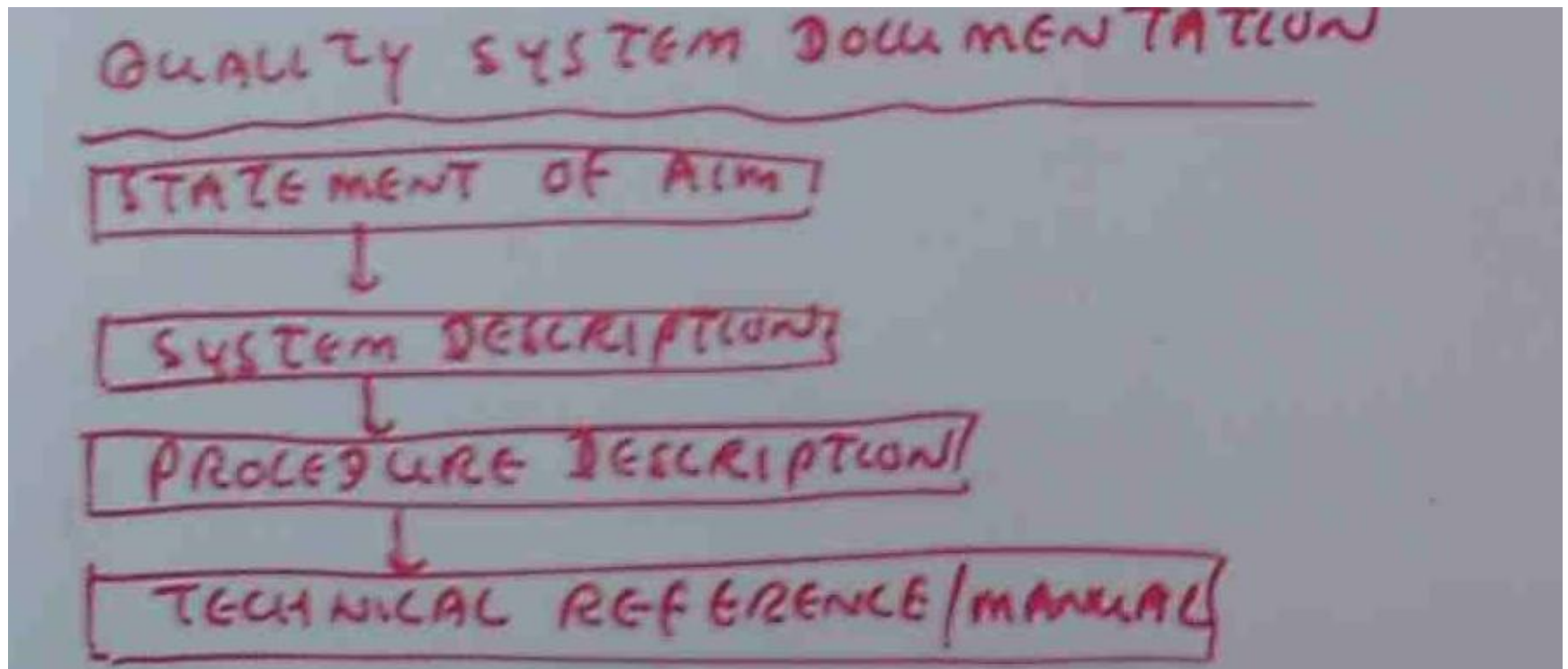
Quality System

Quality System

QUALITY SYSTEM

ESTABLISH THE REASON, TRAIN THE PEOPLE, CREATE DOCUMENTATION, INTERNAL AUDIT,

ELEMENT OF QUALITY COST

PREVENTION, APPRAISAL, FAILURE CONTROL COST, PRECAUTION

PROJECT INFORMATION _ MEASURE / RECORD / ANALYZE
SYSTEM   ACT

Quality System

$$\text{COST VARIANCE} = \text{ACTUAL COST OF PERFORMANCE} - \text{BUDGETED COST (BCWP)}$$

$$\text{ESTIMATED PROJECT} = \text{TOTAL BUDGET} - \text{COST VARIANCE}$$

Management Leadership

Q54. Explain management leadership.

In contrast to individual leadership, some organizations have adopted group leadership. In this situation, more than one person provides direction to the group as a whole. Some organizations have taken this approach in hopes of increasing creativity, reducing costs, or downsizing. Others may see the traditional leadership of a boss as costing too much in team performance. In some situations, the team members best able to handle any given phase of the project become the temporary leaders. Additionally, as each team member has the opportunity to experience the elevated level of empowerment, it energizes staff and feeds the cycle of success.

Leaders who demonstrate persistence, tenacity, determination, and synergistic communication skills will bring out the same qualities in their groups. Good leaders use their own inner mentors to energize their team and organizations and lead a team to achieve success.

Management Leadership

Ten characteristics of well-functioning teams:

- Purpose: Members proudly share a sense of why the team exists and are invested in accomplishing its mission and goals.
- Priorities: Members know what needs to be done next, by whom, and by when to achieve team goals.
- Roles: Members know their roles in getting tasks done and when to allow a more skillful member to do a certain task.
- Decisions: Authority and decision-making lines are clearly understood.
- Conflict: Conflict is dealt with openly and is considered important to decision-making and personal growth.
- Personal traits: members feel their unique personalities are appreciated and well utilized.
- Norms: Group norms for working together are set and seen as standards for every one in the groups.
- Effectiveness: Members find team meetings efficient and productive and look forward to this time together.
- Success: Members know clearly when the team has met with success and share in this equally and proudly.
- Training: Opportunities for feedback and updating skills are provided and taken advantage of by team members.

Motivation

a) Motivation is a complex phenomenon. Several theories attempt to explain how motivation works. In management circles, probably the most popular explanations of motivation are based on the needs of the individual.

Managing

Management operates through various functions, often classified as planning, organizing, staffing, leading/directing, controlling/monitoring and motivation.

- **Planning**: Deciding what needs to happen in the future (today, next week, next month, next year, over the next five years, etc.) and generating plans for action.
- **Organizing**: (Implementation) making optimum use of the resources required to enable the successful carrying out of plans.
- **Staffing**: Job analysis, recruitment, and hiring for appropriate jobs.
- **Leading/directing**: Determining what needs to be done in a situation and getting people to do it.
- **Controlling/monitoring**: Checking progress against plans.
- **Motivation**: Motivation is also a kind of basic function of management, because without motivation, employees cannot work effectively. If motivation does not take place in an organization, then employees may not contribute to the other functions (which are usually set by top-level management).

Management Leadership

- **Right customer focus**

- **Consolidation of current business**

- **Operational efficiency**

- **Exploring new market**

- **Human resources management**

- **Corporate image building**

ROLE OF PROJECT MANAGER

PLANNING, ORGANIZING, DIRECTING, CONTROLLING

ACTIVITIES

FEED BACK
CONTROL

INPUT → [ ] → OUTPUT

INSTABLE
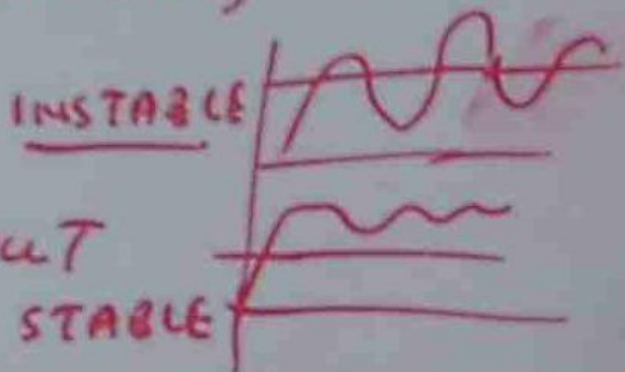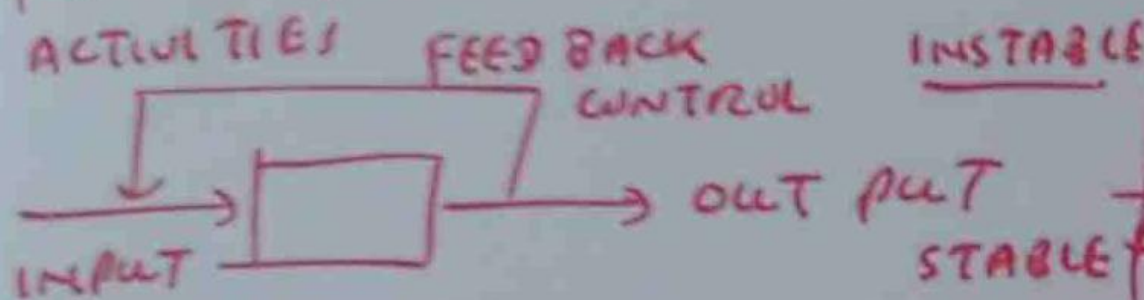
STABLE

QUALITY

MANAGEMENT RESPONSIBILITY, ESTABLISH & MAINTAIN QUALITY SYSTEM, REVIEWING CUSTOMER CONTACT DECISION PROCESS, DOCUMENT CONTROL.

Decision making

1. Define and clarify the issue - does it warrant action? If so, now? Is the matter urgent, important or both.
2. Gather all the facts and understand their causes.
3. Think about or brainstorm possible options and solutions.
4. Consider and compare the pros and cons of each option - consult if necessary - it probably will be.
5. Select the best option - avoid vagueness or 'foot in both camps' compromise.
6. Explain your decision to those involved and affected, and follow up to ensure proper and effective implementation.

Pre planning actions

- Managing and coordinating the planning development process
- Ensuring that all stakeholders, potential partners and the broad local community are involved and informed in a timely and meaningful fashion
- Coordinating information
- Ensuring accountability for the planning process
- Keeping it on track.

General aspects of management

Four general aspects of management are deemed to be crucial in order for operational entities to succeed in developing vibrant work forces that effectively and efficiently support the mission, goals and objectives of that entity. These include:

- 1. *Program Planning* -- The degree to which management has developed a cohesive, practical planning structure or proper planning mechanism that sets forth the missions, goals and objectives for the organization.
- 2. *Functional Management Direction* -- The degree to which management has provided day-to-day operative direction to staff in line with responsibilities established by statutory or regulatory authority.
- 3. *Innovative Management* -- The degree to which management has provided creative work options to meet the dynamic needs of the work force and the innovative identification of potential funding sources and alternate actions that accomplish identified goals within current funding resources.

- 4. *Work Ethics* -- The degree to which the work ethics of operational staff has failed to meet stated goals and objectives and the relation of such ethics to the management of the organization.

Sketch the flow diagram of systematic problem solving model.

Step 1
Define the Problem

Pareto, Brainstorming, PFD, Control Charts

Step 10
Celebrate!

Step 2
Measure the Problem

Histograms
Control Charts

Step 9
Continuous Improvement

Feedback
Internal Audit

Step 3
Set the Goal

Step 8
Implement Changes

Revise SOP/JWI
Training

Cause & Effect
FMEA
Scatter Diagrams

Step 4
Determine Root Causes

Step 7
Evaluate Results

Step 5
Select Best Strategy

Control Charts
Customer Feedback

Step 6
Implement Best Strategy

Brainstorming
Consensus

Action Plan –
Who, What, When

Decision making

Decision Making

- Objectives must first be established
- Objectives must be classified and placed in order of importance
- Alternative actions must be developed
- The alternative must be evaluated against all the objectives
- The alternative that is able to achieve all the objectives is the tentative decision
- The tentative decision is evaluated for more possible consequences
- The decisive actions are taken, and additional actions are taken to prevent any adverse consequences from becoming problems and starting both systems (problem analysis and decision making) all over again
- There are steps that are generally followed that result in a decision model that can be used to determine an optimal production plan.

Decision making

1. Establishing community: creating and nurturing the relationships, norms, and procedures that will influence how problems are understood and communicated. This stage takes place prior to and during a moral dilemma
2. Perception: recognizing that a problem exists
3. Interpretation: identifying competing explanations for the problem, and evaluating the drivers behind those interpretations
4. Judgment: sifting through various possible actions or responses and determining which is more justifiable
5. Motivation: examining the competing commitments which may distract from a more moral course of action and then prioritizing and committing to moral values over other personal, institutional or social values
6. Action: following through with action that supports the more justified decision. Integrity is supported by the ability to overcome distractions and obstacles, developing implementing skills, and ego strength

7. Reflection in action
8. Reflection on action

Decision making

The **first step** - Outline your goal and outcome. This will enable decision makers to see exactly what they are trying to accomplish and keep them on a specific path.

The **second step** - Gather data. This will help decision makers have actual evidence to help them come up with a solution.

The **third step** - Brainstorm to develop alternatives. Coming up with more than one solution ables you to see which one can actually work.

The **fourth step** - List pros and cons of each alternative. With the list of pros and cons, you can eliminate the solutions that have more cons than pros, making your decision easier.

The **fifth step** - Make the decision. Once you analyze each solution, you should pick the one that has many pros (or the pros that are most significant), and is a solution that everyone can agree with.

The **sixth step** - Immediately take action. Once the decision is picked, you should implement it right away.

The **seventh step** - Learn from, and reflect on the decision making. This step allows you to see what you did right and wrong when coming up, and putting the decision to use.

Problem analysis

Problem Analysis
- Analyze performance, what should the results be against what they actually are
- Problems are merely deviations from performance standards
- Problem must be precisely identified and described
- Problems are caused by some change from a distinctive feature
- Something can always be used to distinguish between what has and hasn't been effected by a cause
- Causes to problems can be deducted from relevant changes found in analyzing the problem
- Most likely cause to a problem is the one that exactly explains all the facts.

Stress management

5 Simple Steps Managing Stress Strategy

MIND YOUR WORDs

KEEP SMILING

RECOGNIZE YOUR VICTORIEs

JUST EAT THE RIGHT FOODs

MOVE

Time management

- Managing the decision making process, not the decisions.
- Concentrating on doing only one task at a time.
- Establishing daily, short-term, mid-term, and long-term priorities.
- Handling correspondence expeditiously with quick, short letters and memos.
- Throwing unneeded things away.
- Establishing personal deadlines and ones for the organization.
- Not wasting other people's time.
- Ensuring all meetings have a purpose, time limit, and include only essential people.
- Getting rid of busywork.
- Maintaining accurate calendars; abide by them.
- Knowing when to stop a task, policy, or procedure.
- Delegating everything possible and empowering subordinates.
- Keeping things simple.
- Ensuring time is set aside to accomplish high priority tasks.
- Setting aside time for reflection.
- Using checklists and To-Do lists.
- Adjusting priorities as a result of new tasks.

Factors affecting motivation

Group Size

A group should neither be too large (impersonal) nor too small (overworked).

Group Goals

Even if the purpose of the group is predetermined, it is important that group members be a part of the organizational goal setting process and help establish the group's direction.

Competencies of Members

Leaders must attempt to match individual skills or interests with group tasks. Members should also be provided with the proper resources and information to do those tasks.

Leadership

Participatory and empowering leadership motivates best. A leader should know his/her leadership style and let his/her group members know it also. Leaders must also be cognizant of the stages of group/team development (i.e., forming, storming, norming, performing, and adjourning). Public and private praise, rewards, and/or recognition must be given to group members at appropriate times.

Meeting Time and Length

The meeting time and length should be conducive to the group members attendance. Meetings should be productive, and when necessary, ice breakers should be used to promote team building within the group. If there is nothing to cover — then don't meet.

Factors affecting motivations

Publicity

The group's activities and its respective membership should be visible to everyone on campus. Improper publicity, or lack thereof, will diminish the significance or importance of the group's contributions to the campus.

Social Interaction/Fun

Groups should be as informal as possible with plenty of opportunities for relaxed interaction among group members. It is important for individual members to develop a sense of belonging and acceptance with the other group members and group goals.

Cultural implication

Traditional projects, as national projects, may be affected by personality conflicts. Cultural differences among project team members may create additional misunderstanding throughout the project life cycle. The impact of cultural factors such as language barriers, time differences, and socio-economic, political, and religious diversity may result in a normative pattern prescribing a range of permissible actions so as to encourage self-interest.

Motivating project team members may encounter significant barriers in multi-cultural project communications. The context of international projects includes cultural diversity, where participants are continuously learning. This fact influences training and educational approaches and has an impact on attitudes toward the use of technology, the amount of practice, reinforcement, and level of interaction with the instructor to which learners from other educational systems are accustomed.

Cultural patterns at work reflect cultural patterns in the wider society. Project managers share the cultures of their society and of their organization with their project teams. For instance, project management techniques and training packages have been developed almost exclusively in individualist countries, first of all in the USA, and are based on cultural assumptions that may not hold in collectivist cultures. For instance, the ability to communicate "bad news" and to manage performance are considered key skills for a successful project manager.

Management thinking

The objective of development is to improve the organization's capacity to handle its internal and external functioning and relationships. This would include such things as improved interpersonal and group processes, more effective communication, enhanced ability to cope with organizational problems of all kinds, more effective decision processes, more appropriate leadership style, improved skill in dealing with destructive conflict, and higher levels of trust and cooperation among organizational members. These objectives stem from a value system based on an optimistic view of the nature of man — that man in a supportive environment is capable of achieving higher levels of development and accomplishment. Essential to organization development and effectiveness is the scientific method — inquiry, a rigorous search for causes, experimental testing of hypotheses, and review of results.

Project review

This Project Management Review form helps you document the results of your *Project Review*, at the end of the Execution Project Phase.

The *Project Management Review* is conducted to measure the deliverables produced by the project, and the results of the review are documented on this Project Review Form which is presented to the sponsor for approval.

Project review

- Project is currently delivering to schedule
- Budget allocated was sufficient at this point
- Deliverables have been produced and approved
- Risks have been controlled and mitigated
- Issues were identified and resolved
- Changes were properly managed
- Project is on track

Project review

Objective

To complete all outstanding project work, in a way that

reviews outstanding project items,

resolves outstanding project items,

so that the project can be formally closed.

Overview