Essence of Project Management

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WHAT IS A PROJECT

A PROJECT:

- Any task which has a beginning and an end.
- A Project is a problem Scheduled for solution.

Should have objectives for:

- Quality
- Time
- Cost

A PROJECT

A Project is a Multi-task Job That has Performance, Cost, Time, and Scope Requirements and That is Done Only One Time.

CHARACTERISTICS OF PROJECTS

- Involve people
- Unique
- Limited and defined duration
- Change
- Defined outcomes & targets
- Variety of resources

Definition of Project Management

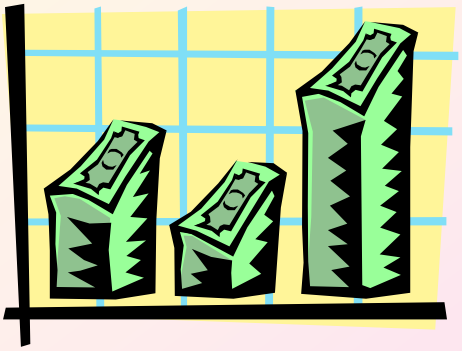
Project Management is the gathering together of the available talent to accomplish a specific and complex undertaking within Time, Cost, and/or Quality parameters, followed by the disbanding of the team upon completion of the task.

Definition of Project Management

Project Management is facilitating the planning, scheduling, and controlling of all activities that must be done to achieve project objectives.

Project Management is the process of guiding your project from its beginning through its performance to its closure.

Project Management is concerned with:



1. Planning
2. Organization
3. Control

Project management is an art and every artist needs a vision

Characteristics of a Sound Objective:

1. A Focused Attribute
2. Measurable
3. Realistically Attainable
4. A Time-scale

THE FIRST LAW OF PROJECT MANAGEMENT

All decisions must be made with their effect on the objectives for the project considered

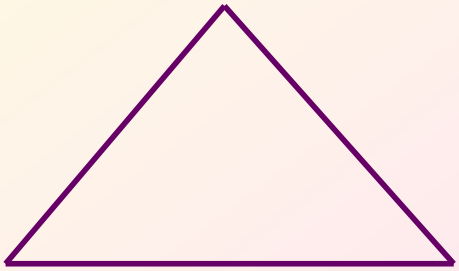
THE SECOND LAW OF PROJECT MANAGEMENT

Only the remaining work in the project can be managed – you cannot manage what has already happened

MANAGING A PROJECT EFFICIENTLY:

TRADE-OFF AMONG THREE OBJECTIVES

COST (Budget: Resources)



TIME

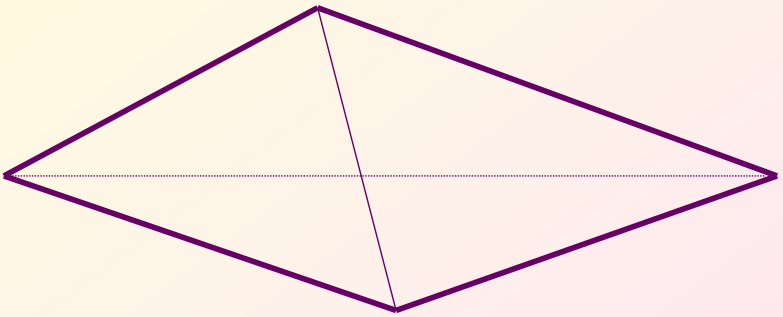
(Schedule: Deadlines)

QUALITY

(Performance: Product)

KEY DIMENSIONS

QUALITY

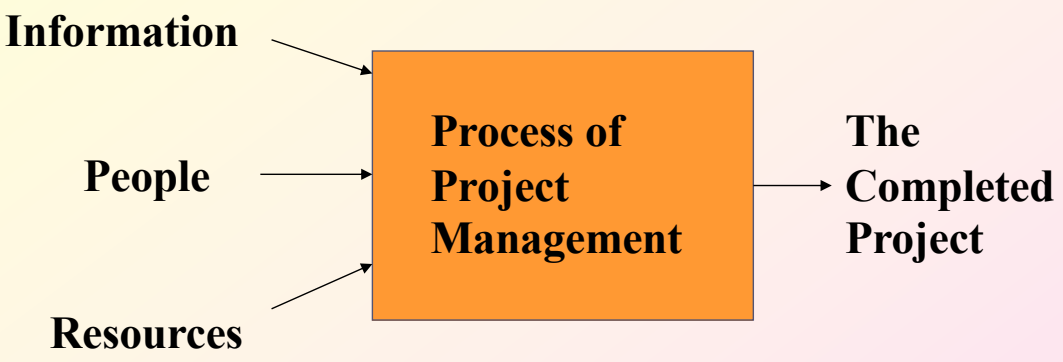


TIME

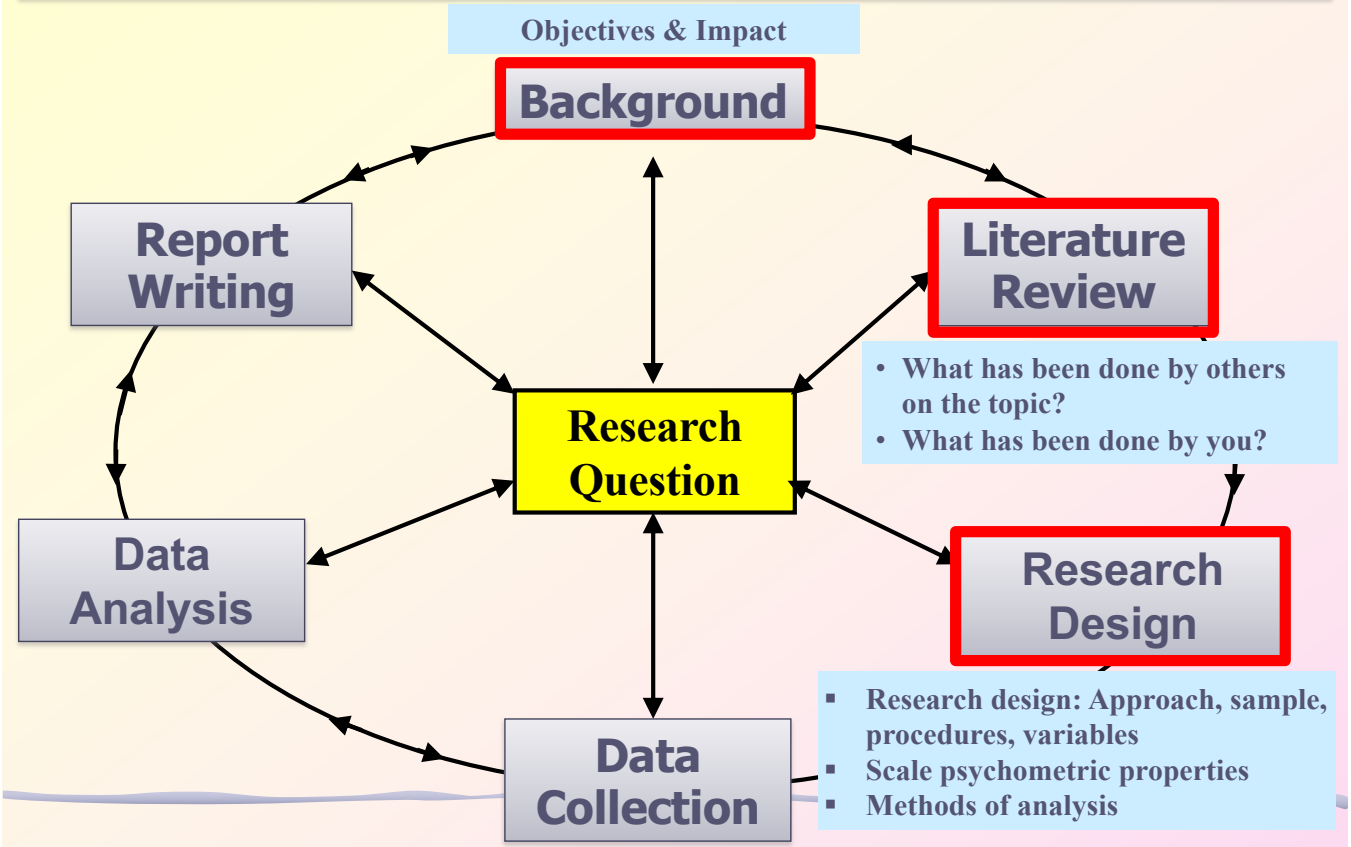
COST

PERFORMANCE

CONVERSION PROCESS



Proposal: Research Process



Project Title

- Informative: highlights the key issues/topics of the study
- Short, concise, and precise
- No abbreviations, no jargons

Example of a good title:

An exploration on the relationship between self-efficacy and mathematics achievement of primary students

Impact and Objectives

- What do you want to achieve through this study?
- What are the key issues and problems being addressed?
- Why do you undertake this project?
- Objectives must be presented in point form
- The "so what" question
- The possible outcome of the research project, its relevance, significance and value, such as contribution to academic, educational, scientific or professional development or potential for practical application

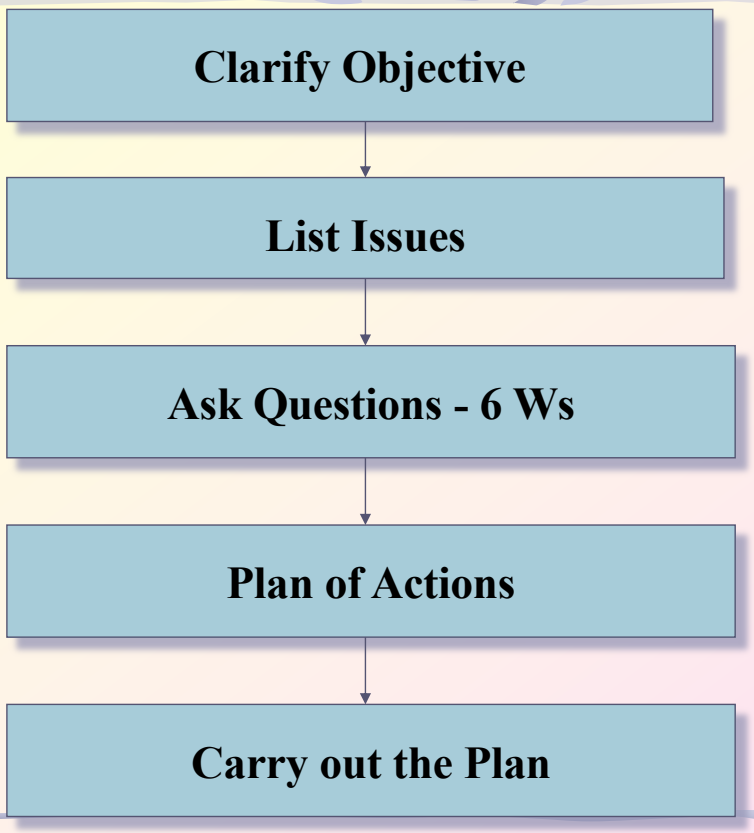
Source: http://ugc.edu.hk/eng/rgc/sf/sf.htm

Example: objectives Project 844011 (2 of 2)
Mok, MMC (HKIED)

1. **Identify effective approaches** for the implementation of self-directed learning in schools;
2. **Establish a conceptual framework** on feedback, self-directed learning, and school achievement that aligns with Hong Kong's education aims;
3. **Evaluate the quality** of teacher feedback practice and students' self-directed learning in local primary classrooms;
4. **Determine** whether **the combined effect** of feedback and self-directed learning can improve the school achievement of primary students.

Research Plan and Methodology

- Design
- Variables or Data to be Collected
- Sample and Sampling
- Data Collection Instruments
- Analysis



Project study process

Asking important questions: The 6 Ws

- **Why** is the project being initiated?
- **What** is the problem?
- **When** the project has to be done?
- **Where** can materials be obtained?
- **Who** might do what?
- **How** should it be done?

ROLE OF PROJECT MANAGER

Balance the demands of

- Client
- Project
- Project Team

INTRODUCTION TO THE PROJECT

- Brainstorming
- Redefine the problem
- Review previous studies
- Visit clients / sites
- Decide the title and scope
- Establish project framework
- Choose study methodology

PROJECT PLANNING

Begin with the end in mind

- Define project objectives
- List the activities
- Understand the relationships
- Establish timing
- Define start and finish time

BRAINSTORMING PROCEDURES

- List all ideas offered by group members.
- Do not evaluate or judge ideas at this time.
- Do not discuss ideas at this time except to clarify understanding.
- Welcome "blue sky" ideas. It's easier to eliminate ideas later.

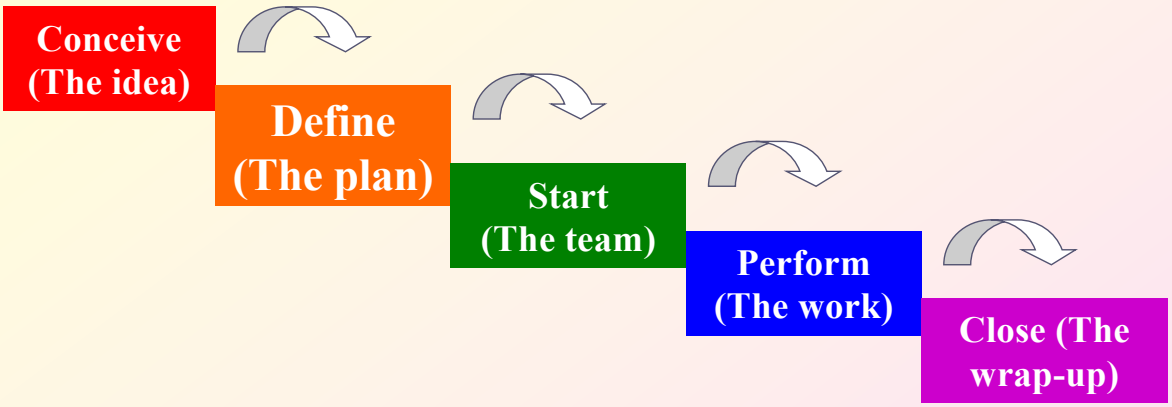
BRAINSTORMING PROCEDURES

- Repetition is okay. Don't waste time sorting out duplication.
- Encourage quantity. The more ideas you generate, the greater your chance of finding a useful one.
- Don't be too anxious to close the process. When a plateau is reached, let things rest and then start again.
- Select the most useful ideas to follow up.

FIVE PHASES OF A PROJECT

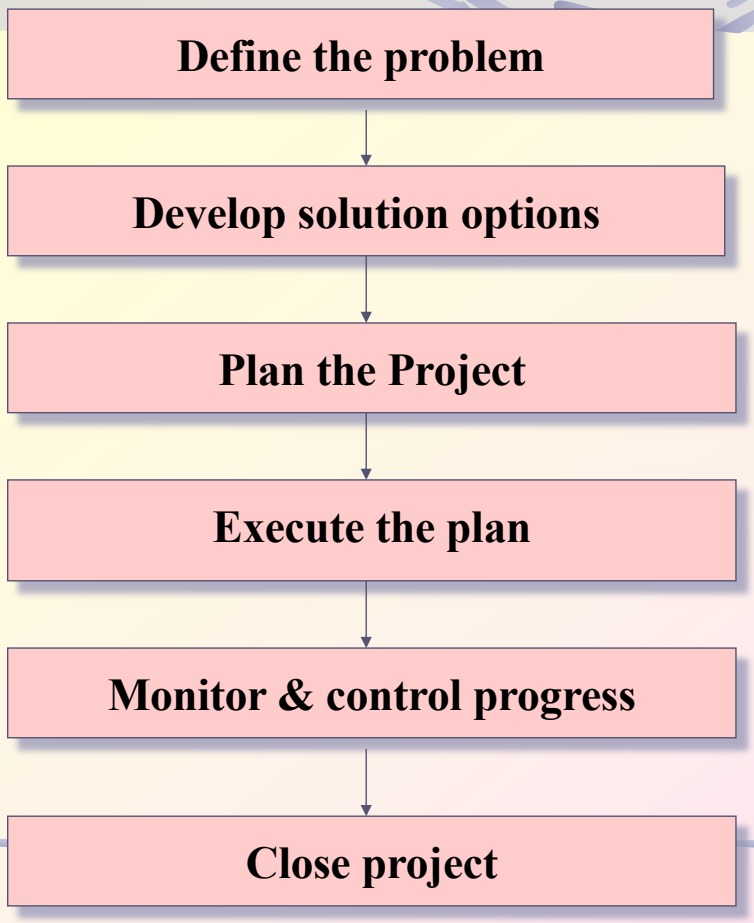
- **Conceive:** An idea is born.
- **Define:** A plan is developed.
- **Start:** A team is formed.
- **Perform:** The work is done.
- **Close:** The project is ended.

FIVE PHASES OF A PROJECT



Guide your project through the five phases of its life.

The steps in managing a project.



What must be done?
Who will do it?
How will it be done?
When must it be done?
How much will it cost?
What do we need to do it?

Are we on target?
If not, what must be done?
Should the plan be changed?

What was done well?
What should be improved?
What else did we learn?

GANTT CHARTS

- A Gantt chart is a horizontal bar chart that graphically displays the time relationship of the steps in a project.
- To create a Gantt chart, list the steps required to complete a project and estimate the time required for each step.

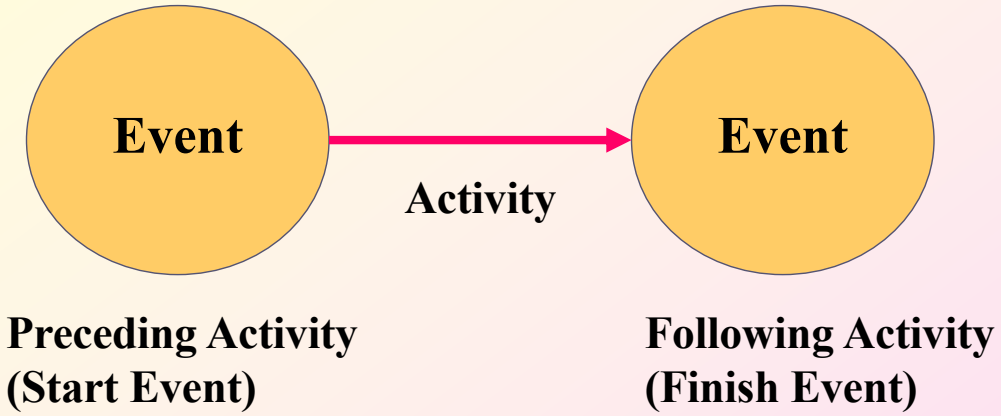
CRITICAL PATH

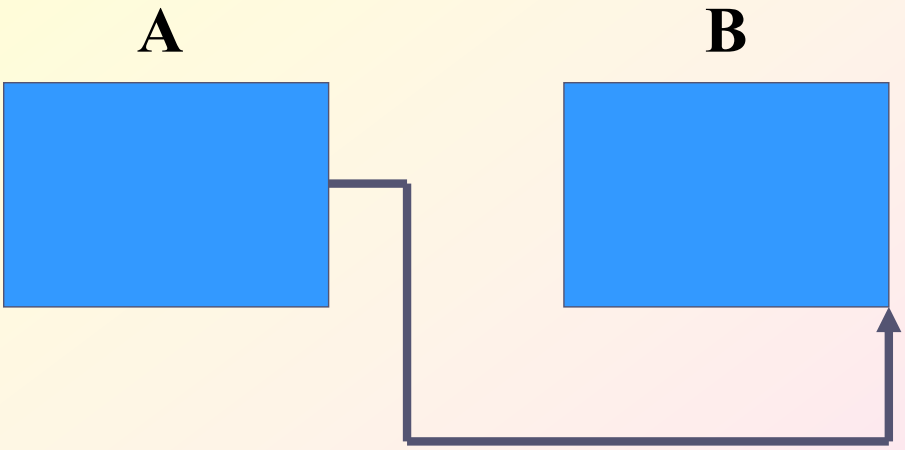
- The sequence of activities that leads to the shortest project completion time.
- Any delay of activities along the path will result in the delay of the completion of the project.

EVENTS AFFECTING SUCCESS

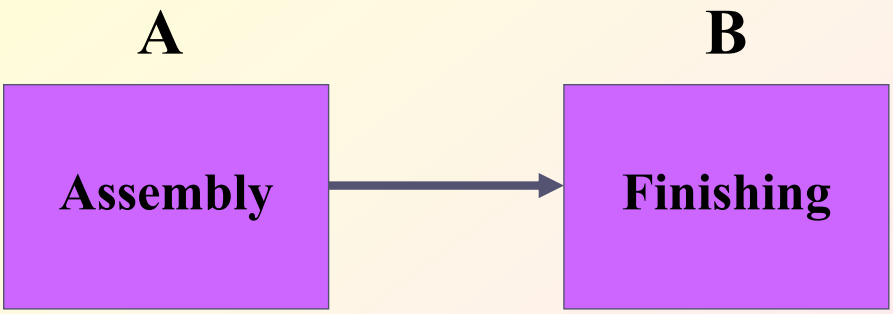
- Critical event-time or bottlenecks (refer to critical path)
- Costs incurred and resources used
- Quality assurance or performance specification
- Personal success criteria of stakeholders

Programme Evaluation & Review Technique (PERT) DIAGRAMS

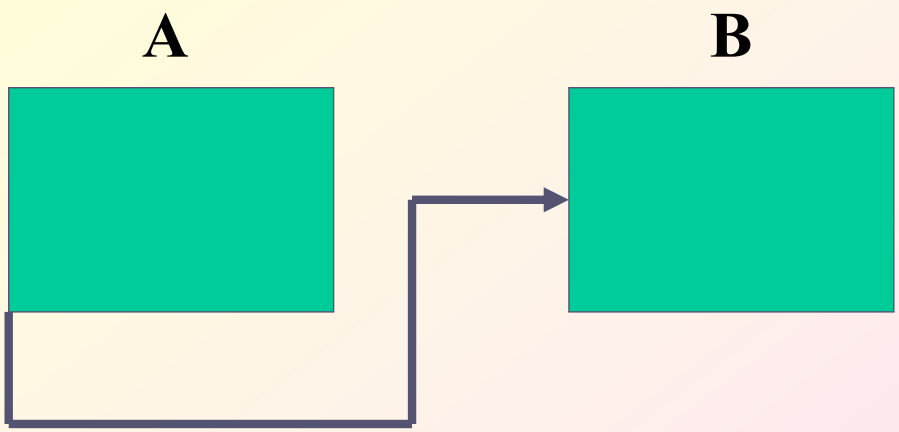




Finish of B depends on completion of A

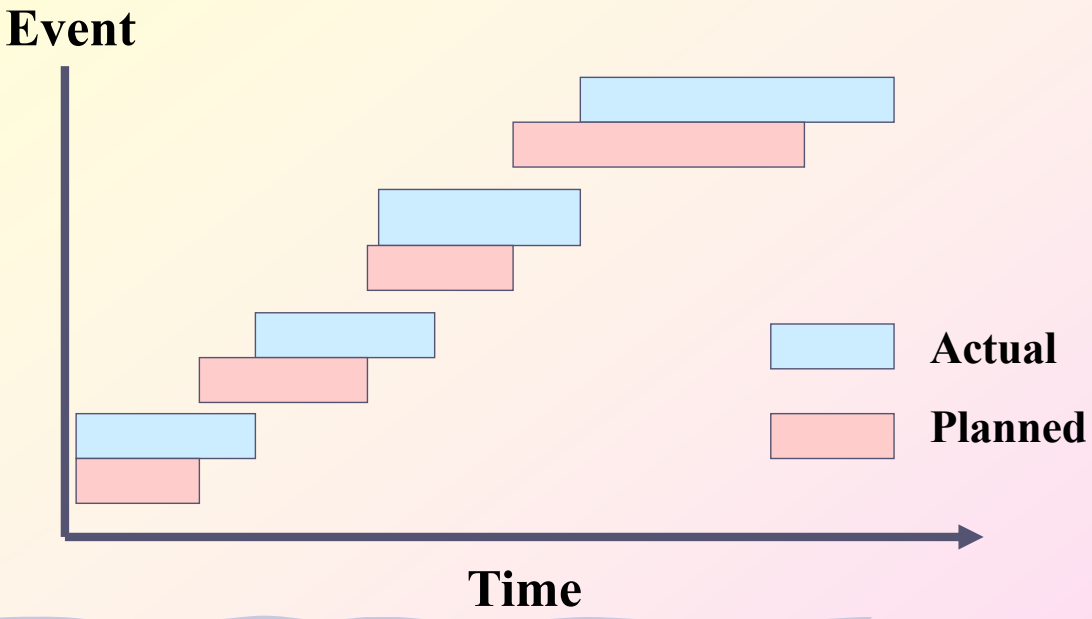


Start of B depends on completion of A

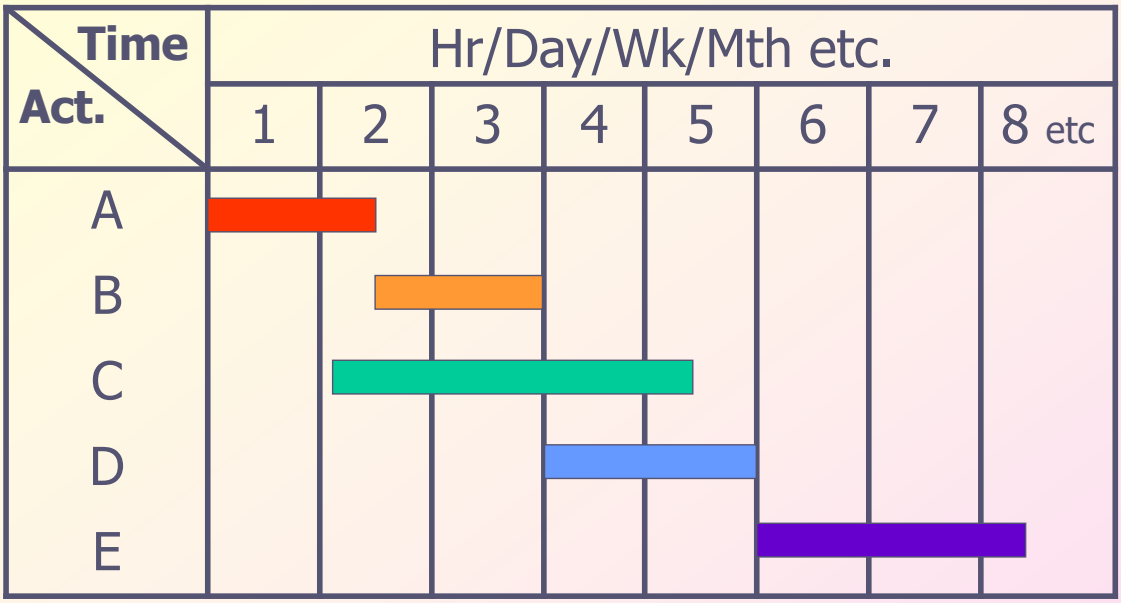


Start of B depends upon the start of A

GANTT CHART TO HELP KEEP TRACK



PARALLEL ACTIVITIES & CRITICAL PATH: A > B > D > E

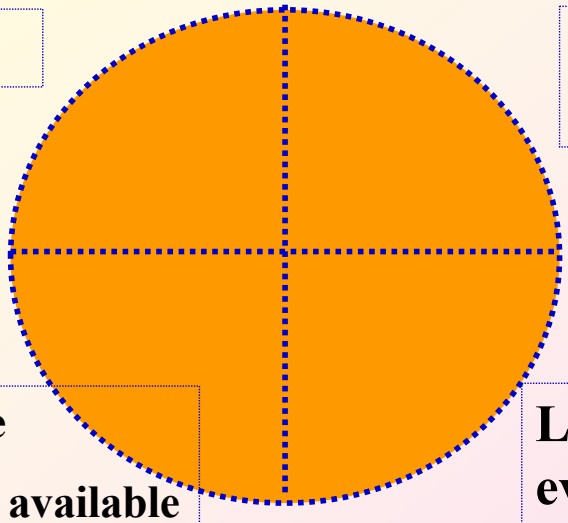


Gantt Chart

ACTIVITY ON ARROW (AOA)
NODE COMOSITION

Event Number

EET (earliest event time)

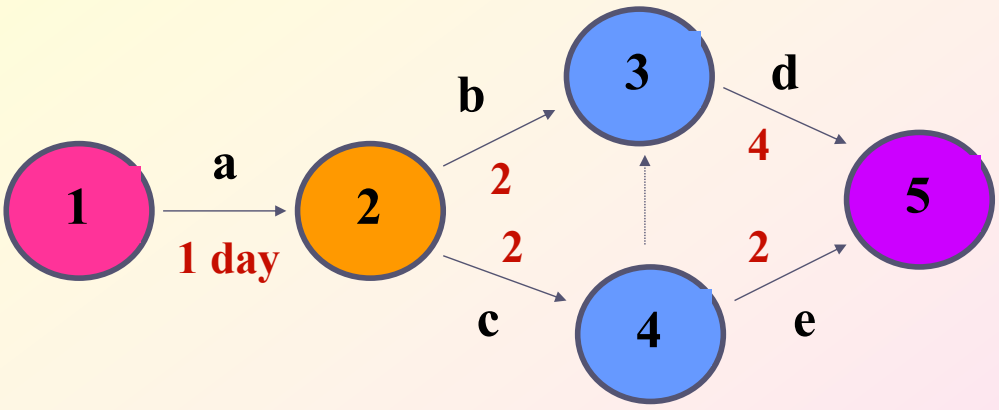


Float

(Diff between time required and time available for an activity)

LET (latest event time)

AOA NETWORK
Critical path: 1> 2> 3> 5



1, 2 .. nodes

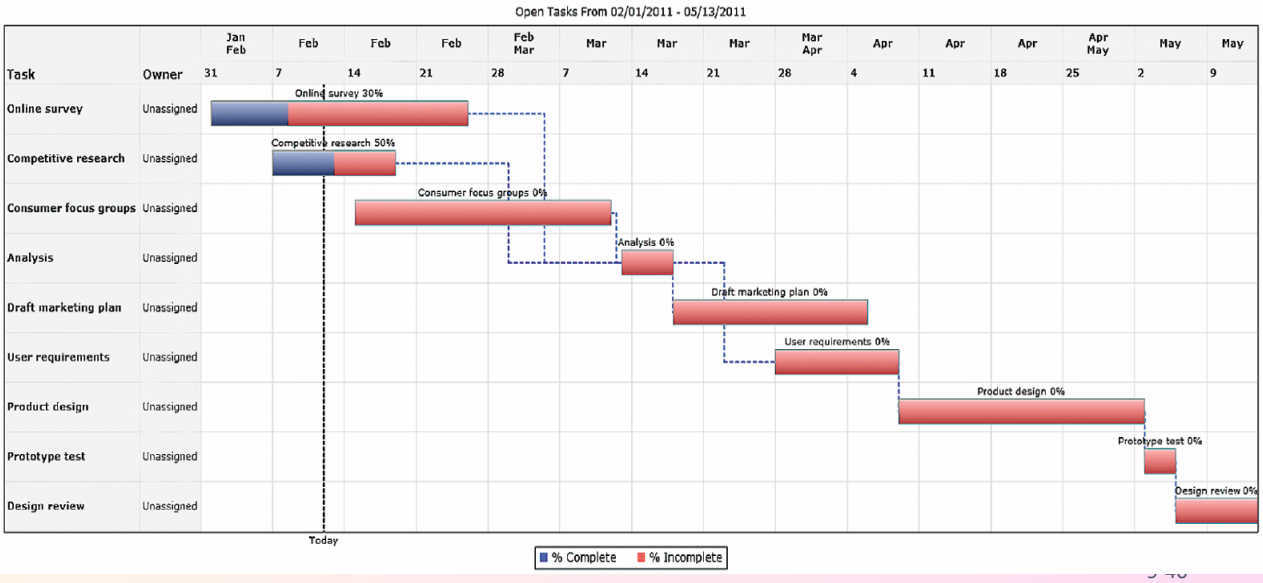
a, b, … activities

Programme Evaluation & Review Technique (PERT)

Gantt Charts for Project Management

EXHIBIT 9.5 Gantt Charts for Project Management

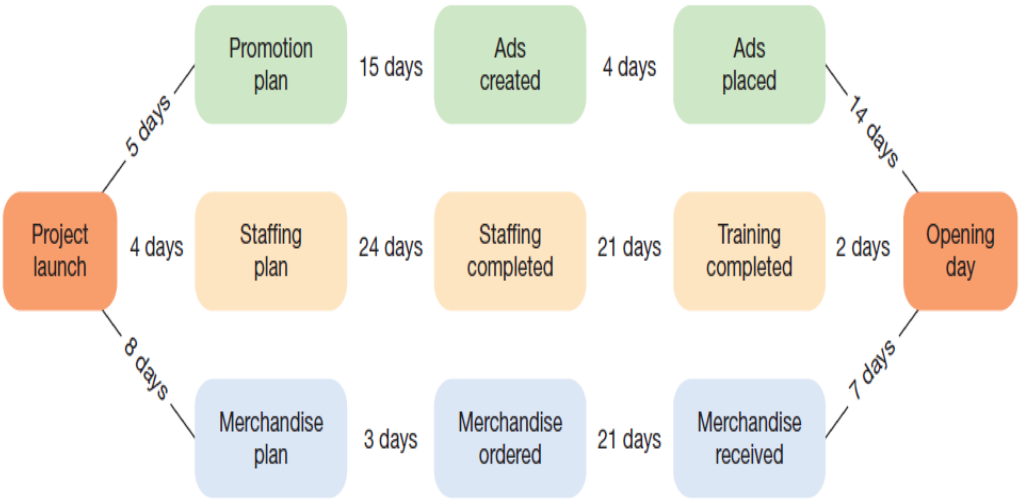
A Gantt chart is a handy tool in project and production management because it shows the order in which tasks must be completed and which tasks are dependent on other tasks. For the new product launch shown here, for example, the analysis task is dependent on all three tasks before it, which means those tasks must be completed before analysis can begin. With periodic updates, it's also easy to show a team exactly where the project stands at any particular moment.



Simplified PERT Diagram for a Store Opening

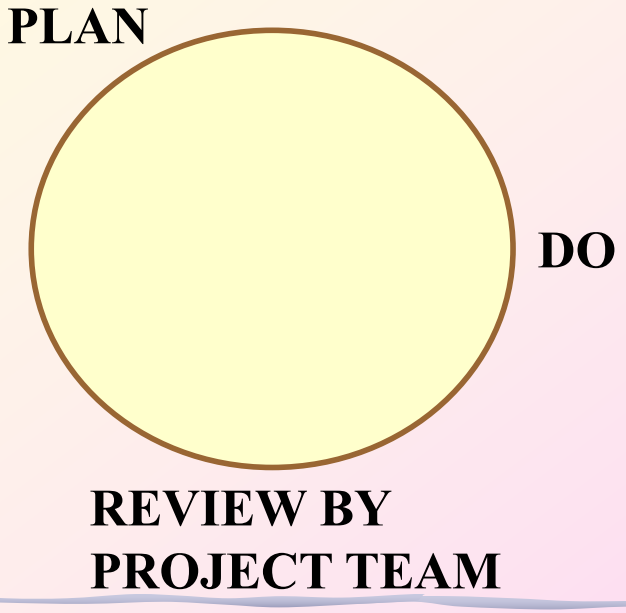
EXHIBIT 9.6 Simplified PERT Diagram for a Store Opening

This PERT diagram shows a subset of the many tasks involved in opening a new retail store. The tasks involved in staffing are on the critical path because they take the longest time to complete (51 days), whereas the promotion tasks can be completed in 38 days, and the merchandise tasks can be completed in 39 days. In other words, some delay can be tolerated in the promotion or merchandise tasks, but any delay in any of the staffing tasks will delay the store's opening day.



PLANNING REVIEW SYSTEM

Discussions with stakeholders – revisions, potential problems, renegotiate resources



Report Writing Phases

Content Formats

SAMPLE A

1. Statement of problem
2. Description of methodology
3. Data collection and analysis
4. Review of findings
5. Conclusions
6. Recommendations

Report Writing Phases

Content Formats

SAMPLE B

1. Statements of problem
2. Analysis of problem
3. Possible solutions
4. Evaluation of options
5. Conclusions
6. Recommendations

Your Project may result in making recommendations to your clients on improvements. It is important that:

- a) Your recommendations specifically address problems, opportunities for improvements identified in your conclusions;
- b) The conclusions you draw are specifically supported by your findings.

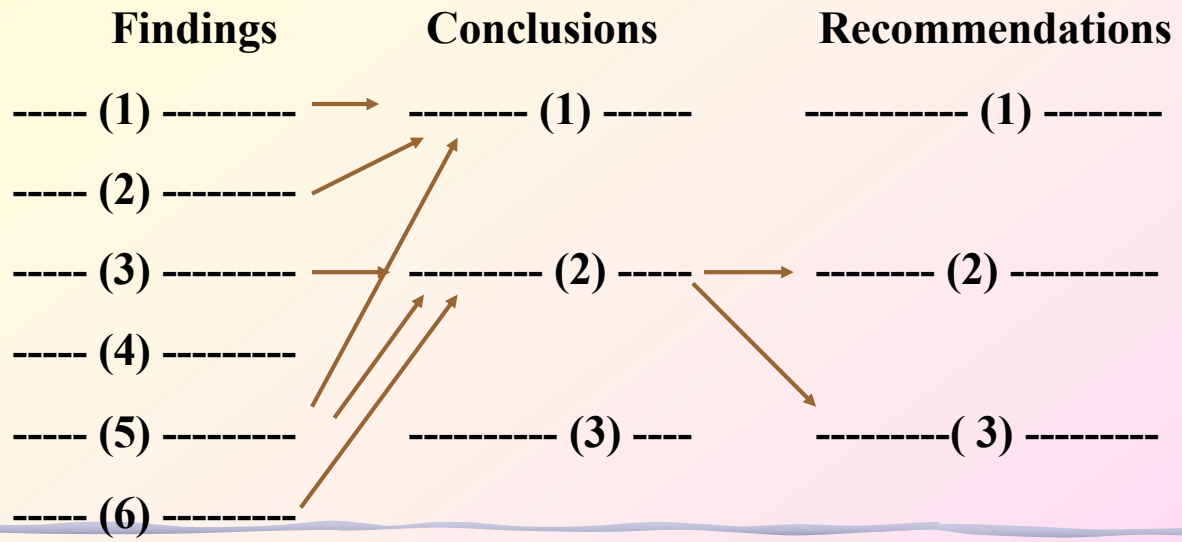
Be vigorous and make sure that:

- a) Your observations and data are factual information and not assumptions;
- b) Your findings are 'findings' and not 'conclusions' and vice versa;
- c) Your conclusions are backed by findings;
- d) Your recommendations do lead on from your conclusions.

Example

- 1) We found that ….. (it is raining)
- 2) We conclude that ….. (you will get wet if you go outside)
- 3) We recommend that …… (you get an umbrella)

- To achieve the above, a structured analysis showing the relationship between your findings, conclusions and recommendations should be mapped out. A 'map' of the process is as follows:



The above example shows:

- Finding in (4) does not lead to a conclusion. Is there a material conclusion that can be drawn from this finding?
- Conclusion (3) is not supported by findings. Either get findings to support it or discard it.
- Conclusion (2) supports two recommendations. Check again to see if either the conclusion is really two conclusions or the two recommendations are really only one.

Final Parts of a Report

1. <u>Findings</u>

- Accurate
- Factual
- Descriptive information

Final Parts of a Report

2. Conclusions

- Interpretations
- Evaluations
- Explain what happened
- Make value-judgments

Final Parts of a Report

3. Recommendations

- What need to happen
- Why it needs to happen
- Steps to solve the problem

ESSENCE OF A GOOD PROJECT REPORT

- Clear & concise
- Sound methodology
- Comprehensive analysis of information & data
- Conclusions & recommendations based on well-reasoned analysis
- Contents arranged in logical sequence
- Professionally presented

Essence of a High Quality Project Report

1. The report should be clear, concise and easily understood;

2. It should demonstrate the appropriate methods of assembling and processing information;

3. It should include a comprehensive analysis of available information and distinguish facts from opinions;

Essence of a High Quality Project Report

4. Alternative courses of action related to the analysis should be presented where appropriate;

5. Conclusions and recommendations should be based on well-reasoned arguments and analyses;

6. The materials and analyses should be arranged in a logical sequence by sections or chapters, including supportive information in appendices, if necessary;

7. There should be a Table of Contents indicating page numbers;

Essence of a High Quality Project Report

8. Statistics should illustrate, substantiate or explain the text;
9. Technical terms should be defined;
10. Sources of all statistics, information and quotations must be stated and a bibliography of books and papers consulted should be included.

Recommended writing reference:

Strunk, White, Angell (2014), *The Elements of Style*, 4th Ed. Pearson.

Essence of Successful Project Management

1. Avoiding the Most Common Project Pitfalls

- Vague project objectives
- Vague or missing assumptions
- Key commitments not in writing
- Key audiences overlooked
- Lack of team-member commitment
- Failure to hold people accountable
- Backing into project schedules
- Failure to define and sustain a team identity

1. Avoiding the Most Common Project Pitfalls

- Insufficient monitoring
- No formal risk identification and management
- Poor communication
- No organized approach to evaluating and introducing requested changes
- Failure to improve your performance on the next project by incorporating the lessons gained on the last one

2. Developing Meaningful Project Objectives

- Focus on outcome rather than activities.
- Use clear language – no technical jargon or acronyms.
- Make sure that every objective has at least one measure.
- Make sure every measure has at least one performance target.

2. Developing Meaningful Project Objectives

- Make sure every objective is time-specific.
- Make sure it's possible to achieve each objective.
- Check with all project drivers to be sure you've identified their expectations.

3. Developing Achievable Schedules

- Identify all required activities.
- Break activities down into sufficient details.
- Always consider both duration and interdependencies.
- Factor in resource availability.
- Recognize and record all assumptions.
- Reexamine your original schedule after your project is approved but before you start work on it.

3. Developing Achievable Schedules

- Keep in mind that a duration estimate is your best sense of how long an activity will take to perform, as opposed to how long people want the activity to take.
- Consider the impact of other projects and work activities that are going on at the same time as your project.
- Develop contingency plans for high-risk activities.

4. Improving Your HR Estimates

- Distinguish between person effort and duration.
- Specify HR requirements by needed skills and knowledge.
- Describe clearly the work to be done on all activities.
- Revise your estimates, if necessary, after people have actually been assigned to your team.

4. Improving Your HR Estimates

- When estimating the work effort required, consult the people who'll be performing the activities.
- Consider your past experience with similar activities.
- Factor in productivity, availability, and efficiency.
- To support future estimates, record the work effort actually invested in activities.

5. Eliciting and Sustaining Commitment

- Clarify how your project will benefit the organization and individual team members.
- Involve team members in the planning process.
- Demonstrate to people that the plan is feasible.
- Address issues, concerns, and questions promptly and openly.

5. Eliciting and Sustaining Commitment

- Provide frequent and meaningful feedback on project progress and people's performance.
- Recognize people's contributions.
- Encourage team members to get to know each other.
- Focus on people's strengths rather than their limitations.

6. Communicating Effectively

- Keep project meetings to one hour or less.
- Always prepare and distribute minutes or notes of meetings.
- Highlight important information on the first page of a report.
- **Don't assume.**

6. Communicating Effectively

- Reinforce important messages by using different media.
- Always verify with people that they've received your communication and understand the message.
- Use meetings to brainstorm, explain important information, and reinforce relationships.