

Project Management & Logistics Support

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- **What is a Project?**
- **What is Project Management?**
- **What is a Project Manager?**
- **What is a Project Lifecycle?**
- **What are the Project Lifecycle (Phases), Processes and Project Management Knowledge Areas**

- **Projects are unique undertakings, with specific parameters.**
- **Project management involves a defined process within a project life cycle to manage scope, schedule, cost, the team, and linked expectations.**
- **The project manager is tasked with managing the process, and the knowledge areas.**
- **Project management is required to avoid project failure.**

- **Project Management allows us to manage/control/influence:**
 - Scope, time, cost, quality and other project objectives.
 - Stakeholders with differing requirements.
 - Identified requirements *and unidentified requirements or expectations*, and changes to these.



Reasons Why Projects Fail

Incomplete Requirements	- 13.1%
Lack of Client Involvement	- 12.4%
Lack of Resources	- 10.6%
Unrealistic Expectations	- 9.9%
Lack of Executive Support	- 9.3%
Changing Requirements	- 8.7%
Lack of Planning	- 8.1%
No Longer Needed	- 6.2%
Technology Illiteracy	- 4.3%



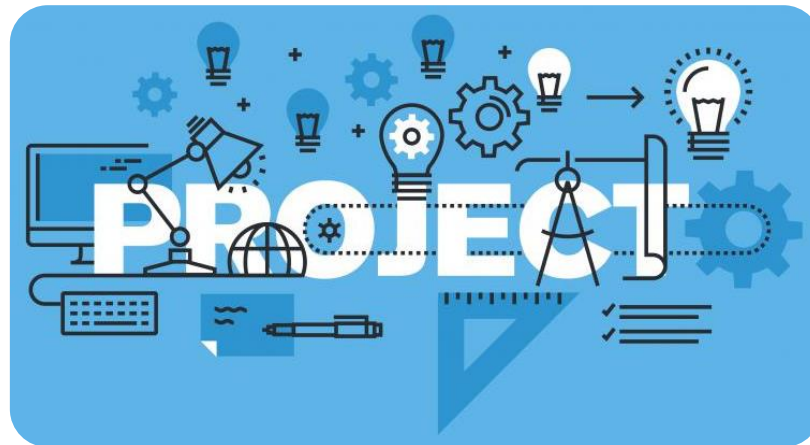
Reasons Why Projects Succeed

Client Involvement	- 15.9%
Executive Management Support	- 13.9%
Clear Requirements	- 13.0%
Proper Planning	- 9.6%
Realistic Expectations	- 8.2%
Smaller Milestones	- 7.7%
Competent Staff	- 7.2%
Ownership	- 5.3%
Clear Vision and Objectives	- 2.9%
Hard Work and Focused	- 2.4%



A Project Is:

- An infrequent or unique undertaking.
- Constrained by start and end dates, a budget and limited resources.
- Multidisciplinary requiring integrating many different functional elements of the corporation.
- Complex due to new technology and conflicting objectives between the many different functional elements.

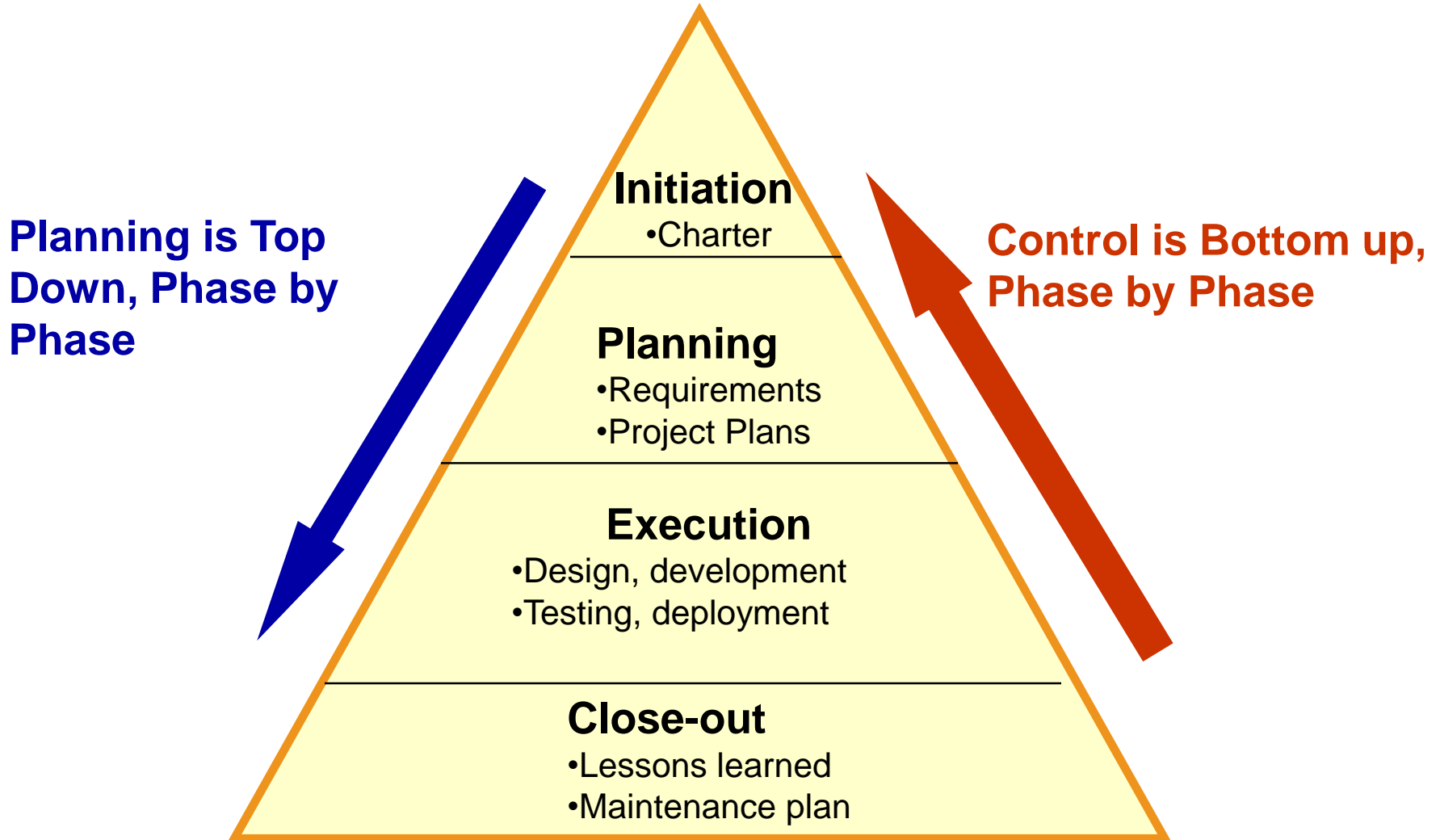


- **Capable of dynamic response to changes.**
 - Both internal and external changes
- **More likely to succeed if:**
 - It has substantial support and commitment from an executive sponsor.
 - The impact of the project (the outcome) on the corporation is understood.
 - It is based on a organization-wide project life cycle.

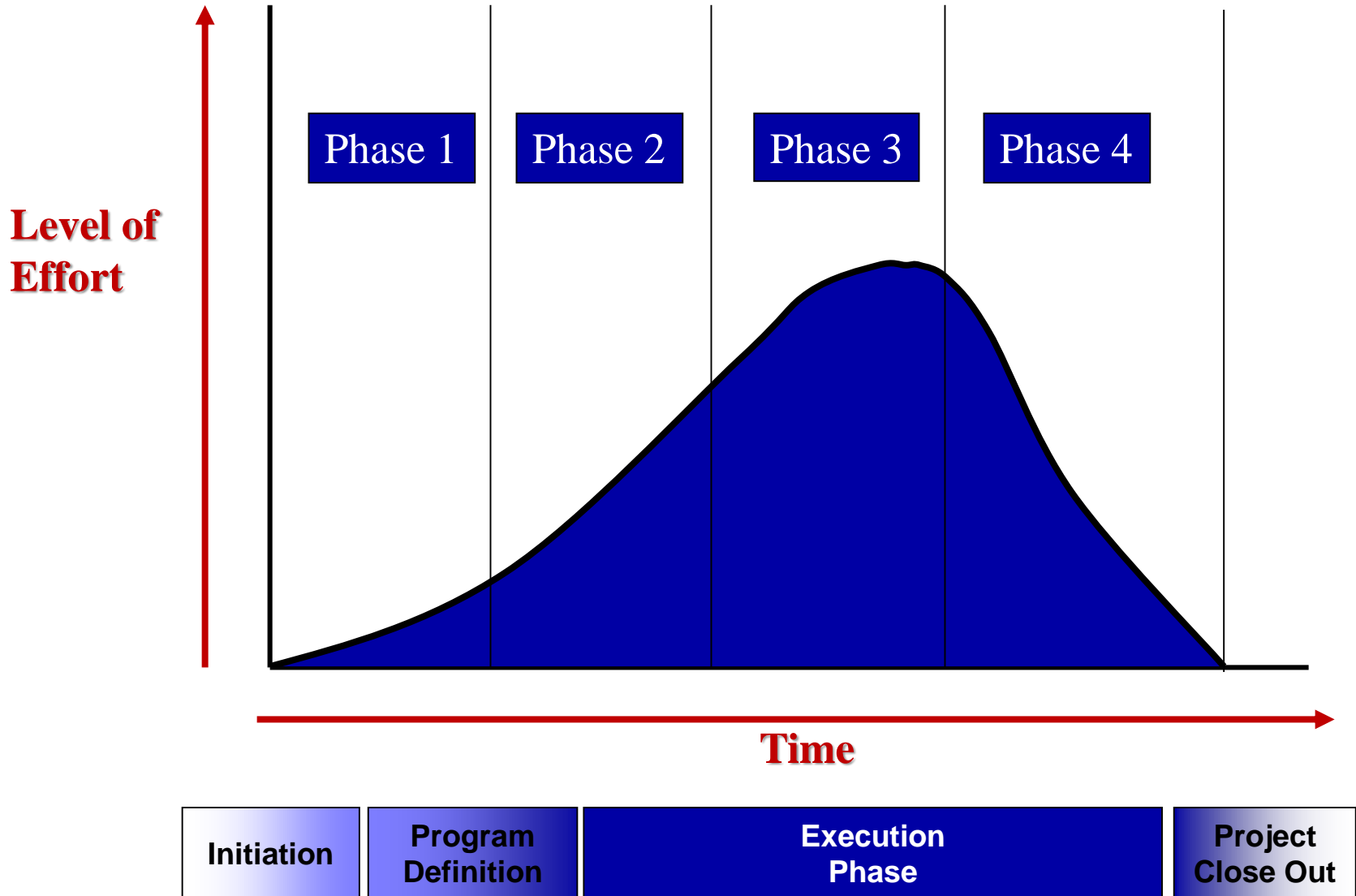


- **A Project Life Cycle defines:**
 - **Project Phases**
 - **Project Governance – approval and reporting procedures**
 - **Project Management Procedures**
 - **Mandatory Project Outputs – documents, reports, data**

Typical Project Lifecycle Phases



A Project Life Cycle



Project Management Is...

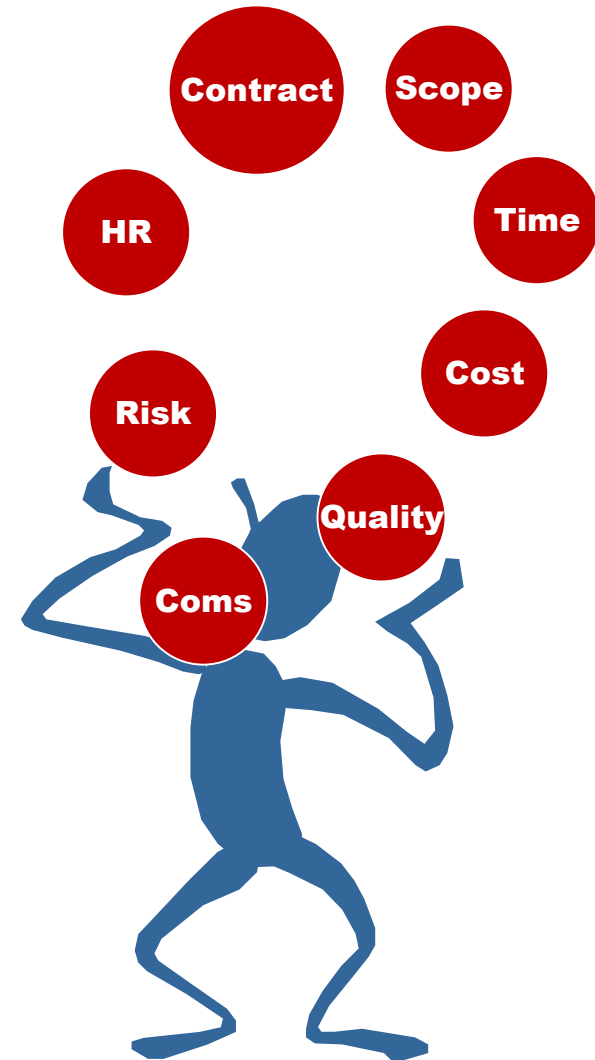
- A discipline, with its own knowledge base, professional associations, tools, techniques, and procedures.
- The application of knowledge, skills, tools and techniques in order to meet or exceed stakeholder requirements from a project.
- In order to accomplish this, three constraints must be balanced and managed:

- ***Cost***
- ***Time***
- ***Scope***



What is a Project Manager ?

- **The Project Manager is assigned to:**
 - **Manage the project management process.**
 - **Manage changes to the project.**
 - **Balance trade-offs between scope, schedule, and cost.**
 - **Manage the Team.**
 - **Manage client/customer/stakeholder expectations.**



If one changes...
the others must change.

If we increase
scope, we must:

- Get more money
- Take longer



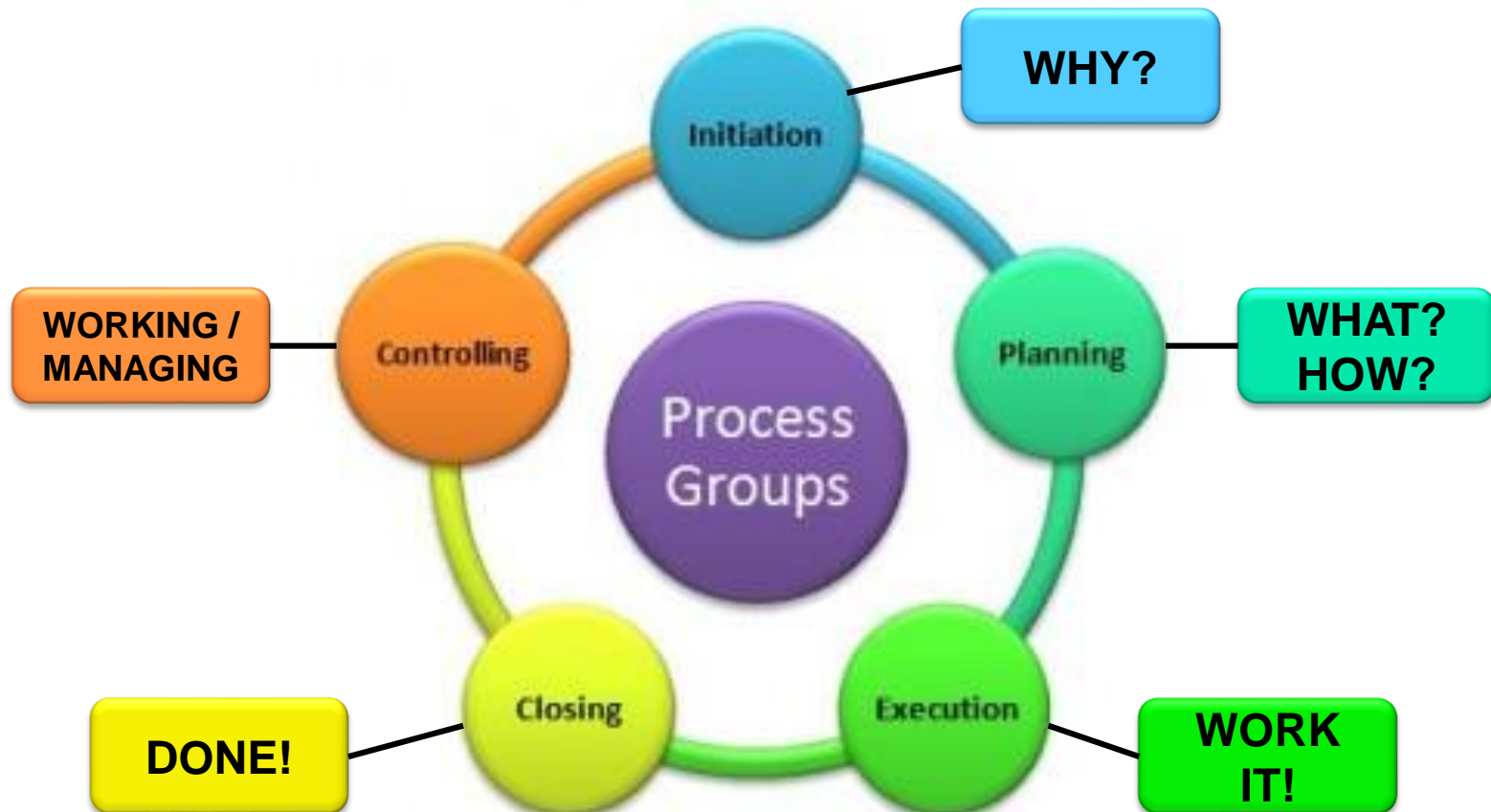
To get done
faster, we must:

- Do less
- Get more resources

If we decrease
funds, we
must:

- Do less
- Take longer

- There are Five Management Processes which are applied to each life cycle phase and the project as a whole.

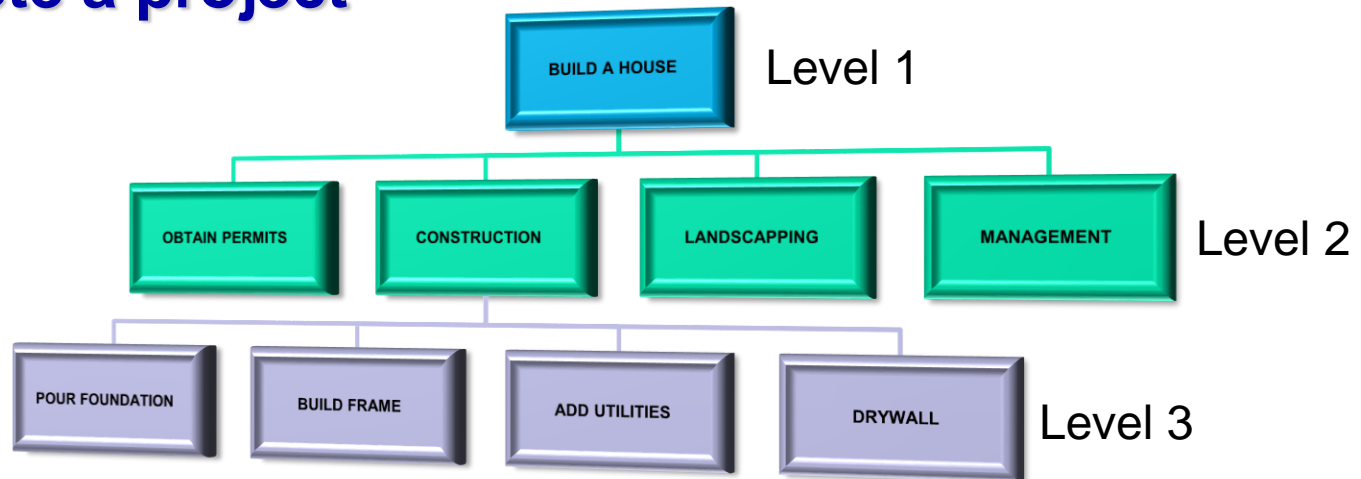


- **Scope Management is:**
 - Definition of Work
 - Definition of Requirements
 - Requirements Management
 - Configuration Management
 - Management of Work
- **Scope Management involves ensuring that the project does all the work required, and only the work required, to achieve the purpose of the project.**



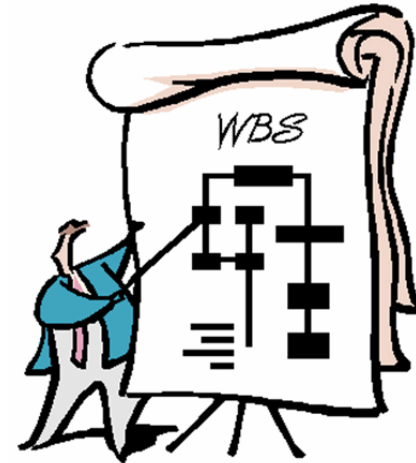
■ Work Breakdown Structure

- A deliverable oriented grouping of project elements that organizes and defines the total scope of the project.
- Each descending level represents an increasingly detailed definition of the project work
- Deliverables are any measurable, tangible, verifiable outcome, result or item that must be produced to complete a project





- The “backbone” of the project.
- Most other elements flow from the WBS:
 - Schedule
 - Budget
 - Resources
 - Quality Plan
 - Risk Identification

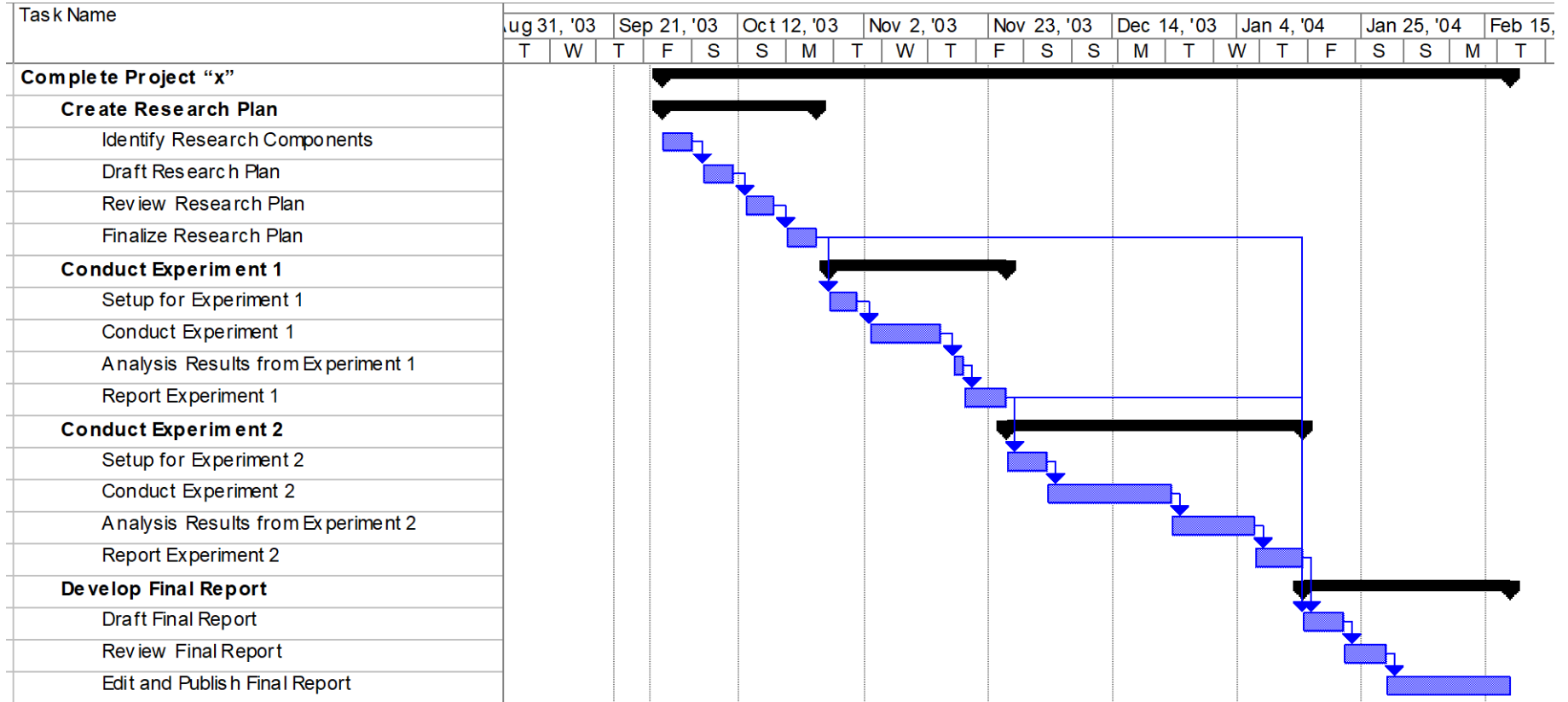


- **The scope statement bounds the project by defining what is included and what is not included**
- **Scope is defined across project documents:**
 - Charter
 - Plan
 - Requirements Document (if warranted)
- **Work Breakdown Structure – what work will be accomplished**
 - Backbone for project management process
- **Scope is monitored and managed by team.**

- **Schedule is based on work to be performed.**
- **Those who do the work should estimate the work.**
- **Creating the Schedule may change the WBS.**
- **The schedule is monitored and controlled regularly throughout the project.**



GANTT Chart



- **The processes required to ensure the project is completed within the approved budget.**
- **Cost Management is concerned with:**
 - Resources required.
 - Cost of resources.
 - Budgeted expenditure of resources across project.
 - Monitoring cost expenditures.
 - Controlling cost expenditures.
 - Earned Value (if required)



- **Cost is estimated based on WBS**
- **Cost Management involves a:**
 - **Budget**
 - **Spend Plan**
- **Documented in Project Plan**
- **Monitored and Reported in Regular Progress Reports**
- **Earned Value**



- **HR Management includes the activities required to ensure the most effective use of all the people involved with the project, including team members, sponsors and clients.**
- **HR Management is concerned with:**
 - **Identifying project roles**
 - **Identifying project personnel**
 - **Assigning work and responsibilities**
 - **Establishing Team, building Team**
 - **Training Personnel**
 - **Managing Personnel Change**



Weak Matrix Project Team

- Project team is drawn from a multi-disciplinary group of personnel, all belonging to different functional organizations and groups, none of whom report to Project Manager on a day to day basis.

Functional Project Team

- Project assigned to one functional area (e.g.: software engineering) with other functional areas supporting.
- Part of team dedicated to project, others still report to their own functional managers.

Projectized Project Team

- Project is self contained unit, with all personnel assigned to project, and all reporting to a single Project Manager
- Strongest team.

- **Team must be defined.**
- **Structure and composition of team will impact project success (e.g., matrix vs. projectized).**
- **Responsibility Assignment Matrix is a key tool to clearly link the team members to the tasks.**



- **Project Communications includes the processes required to ensure timely and appropriate project information:**

- generation
- collection
- dissemination
- storage
- disposition



- **Links people, ideas, and information**
- **Everyone in the project must be prepared to send and receive communications**

- **Communications management establishes the critical links between people, ideas, and information**
- **Everyone involved on the project must be willing to share project related information**
- **The communications needs to be documented and managed just like any other project work element.**
 - **Usually documented in Project Plan.**



- Risk Management is the systematic process of identifying, analyzing, and responding to project risk.
- A risk is defined variously as follows:
 - The potential inability to achieve overall program objectives within defined cost, schedule, and technical constraints and has two components: (1) the probability/likelihood of failing to achieve a particular outcome; and (2) the consequence/impacts of failing to achieve that outcome.
 - An uncertain event or condition that, if it occurs, has a positive or negative effect on a project objective.
 - Risk, n. 1. Possibility of suffering harm or loss: Danger. 2. A factor, course, or element involving uncertain danger: Hazard.
- A risk should not be confused with normal programmatic or engineering issues that are part of the design of any system.



- **A risk is different from issues or actions in that it is a future event that may or may not occur.**
 - They have future consequences, and can be “closed” only after successful mitigation through avoiding, controlling, transferring, or assuming the risk.
- **Risk Management is the systematic process of identifying, analyzing, and responding to project risk.**
- **Why?**
 - Maximize the probability and consequences of positive events
 - Minimize the probability and consequences of adverse events
- **How?**
 - Identify Risks
 - Analyze Risks
 - Plan Risk Response
 - Track Risks
 - Control Risks
 - Communicate Risks Continuously Throughout Project



- Risk Identification
- Risk Analysis
- Risk Response Planning
- Risk Tracking and Control



- **Example Responses:**
 - **Avoidance:**
 - by changing the product design or schedule.
 - **Mitigation:**
 - by developing a risk action plan, thus controlling the risk should it occur. This choice requires that decision points are defined and an action plan is developed.
 - **Acceptance:**
 - by taking no further action, thus accepting the consequence if the risk occurs.
 - **Sharing or Transfer of Resources (\$, equip)**
 - from one project having a low-probability/impact risk to support the resolution of a high-probability/impact risk on another project. This may also include transferring the risk to the customer.

- Risks should be identified, analyzed, planned, monitored and controlled continuously throughout project.
- Response strategies should form part of overall project plan.



- Processes to ensure that the project will satisfy the needs for which it was undertaken.
- Includes quality planning, quality control, quality assurance and quality improvement.
- Key Activities:
 - Quality Planning
 - Based on WBS, required quality activities
 - Quality Assurance
 - Program to integrate quality into work methods
 - Quality Control
 - Monitor and control quality outputs.



- **Procurement management includes the processes required to acquire goods and services from outside the performing organization.**
- **These are contracts that your team awards to others, to get the goods and services you need to help get your project completed.**



- **Solicitation Planning**
 - e.g., Develop Request for Proposal, establish evaluation criteria.
- **Solicitation**
 - e.g., Release RFP, receive bids, evaluate bids, negotiate contract, award contract.
- **Contract Management**
 - Monitor contract performance, amend contract if necessary, cancel contract if necessary.
- **Contract Close Out**
 - Evaluate final performance, release holdback if relevant, finalize any intellectual property agreements.

- **A decision to contract is part of Project planning process.**
- **Service contracting is based on WBS, and determining what work tasks need to be contracted out – this forms the basis of the contract’s Statement of Work.**
- **Material procurement is based on WBS, and determining what materiel, hardware, software, and equipment will be needed to accomplish the work.**
- **Subcontract/procurement management continues through all project management processes.**

- The processes or activities that ensure that all of the elements of the project are adequately considered and integrated.
- The bulk of the integration effort involves creating a realistic, comprehensive plan and then implementing processes to manage change to that plan in an integrated fashion.
- Project Integration is concerned principally with:
 - Project Planning
 - Project Change Management



- **Project Integration pulls all the project management knowledge areas and processes together.**
- **Key processes include project planning, change management and project governance**
- **Specific and focused effort is applied to Project Integration during the project by the Project Manager and the Team.**

- **Project Management is a distinct discipline.**
- **The Project Management Process has 5 Phases:**
 - **Initiate, Plan, Execute, Control, Close**
- **Project Management has 9 Knowledge Areas:**
 - **Scope**
 - **Time**
 - **Cost**
 - **Human Resources**
 - **Communications**
 - **Risk**
 - **Quality**
 - **Contracting & Procurement**
 - **Integration**
- **All knowledge areas are managed throughout the 5 phases**
- **There are basic, standard techniques applied to manage each knowledge area.**
- **Organizations will define their own specific procedures, using this approach.**