

# Project Planning, Monitoring & Control A Finance Perspective

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# Some Data - Global

- As per the 2021 edition of PMI's annual Pulse of the Profession survey, it was found that nearly 10 percent of every dollar is wasted due to poor project performance, which translates to USD 99 million for every USD 1 billion invested.

# Govt Projects Status – Dec 2022

Ministry of Statistics & Project Implementation

- Total No. of Projects : 1476  
(Rs.150 cr. & above)
- Total Original Cost : Rs. 20.84 lakh crores
- Total Anticipated Cost: Rs. 25.36 lakh crores
- % Of Cost Over Run With Respect to Latest Sanctioned Estimates : 21.69%
- Total cost Overrun = Rs 4.52 lakh crores
- Actual Cost Incurred = Rs 13.67 lakh crores

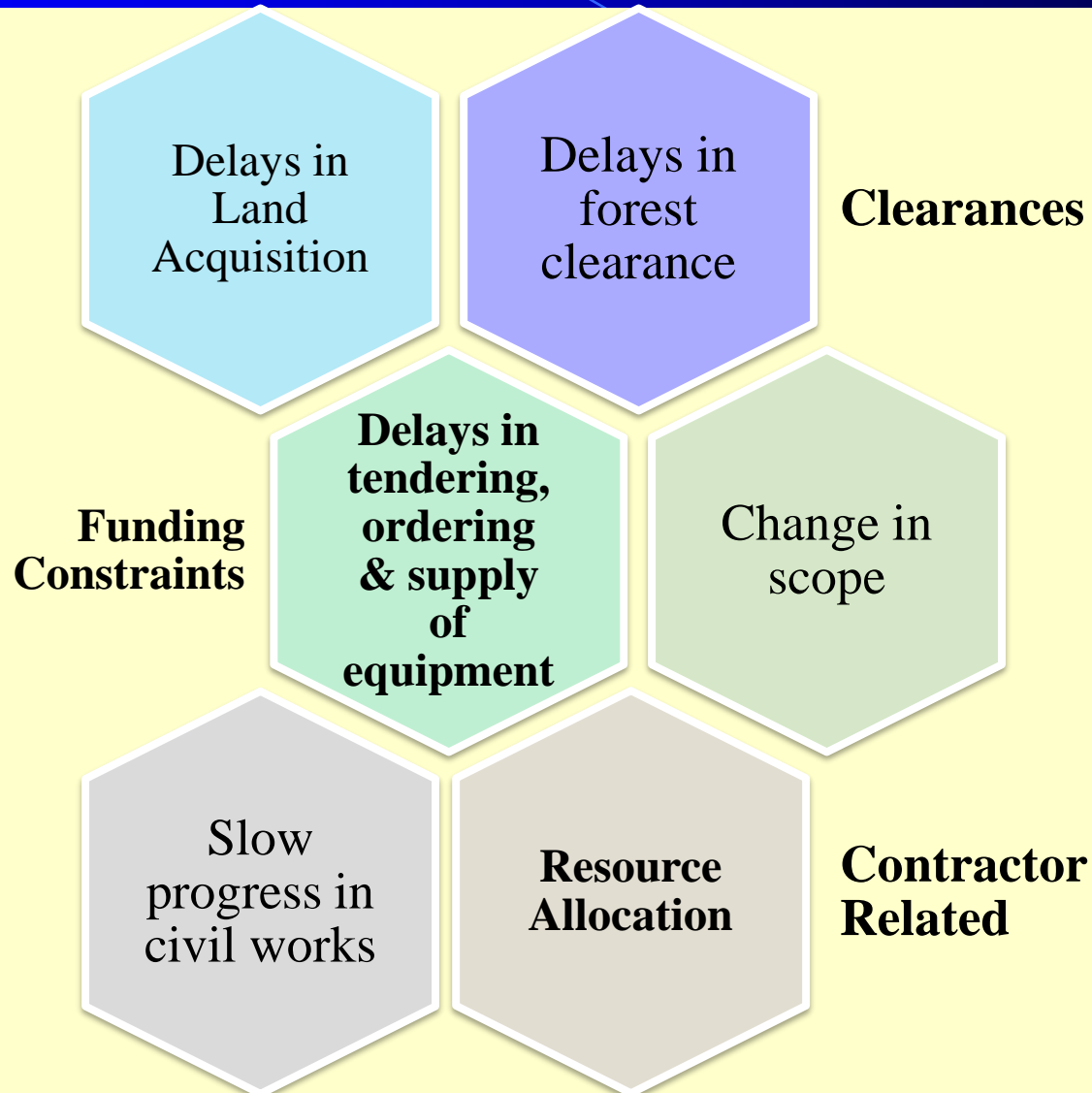
# Project Time Overruns

<b>S No</b>	<b>No of Projects</b>	<b>Delay in Months</b>
1	144	1-12 months
2	117	13-24 months
3	363	25-60 months
4	132	more than 61 months
<b>Total</b>	<b>756</b>	<b>42 months average</b>

# Project Delays

- Top three sectors with maximum number of delayed projects are –
- Ministry of petroleum with 91 (65%) out of 139 projects delayed;
- Ministry of railways follows next with 127 (60%) projects delayed out of 211;
- Ministry of road transport and highways with 301 (36%) projects delayed out of 843.

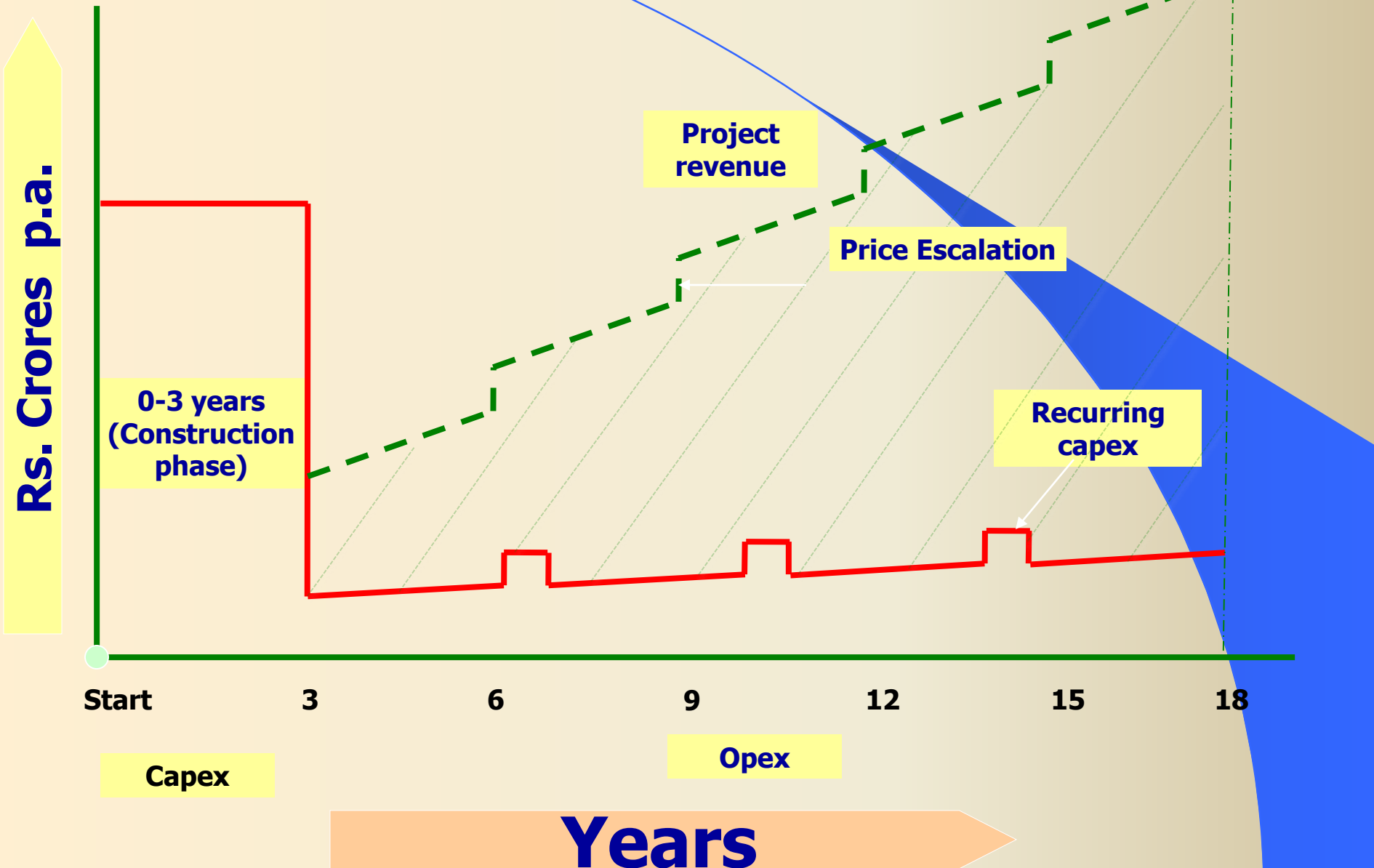
# Reasons for the delays



# Critical issues with large projects

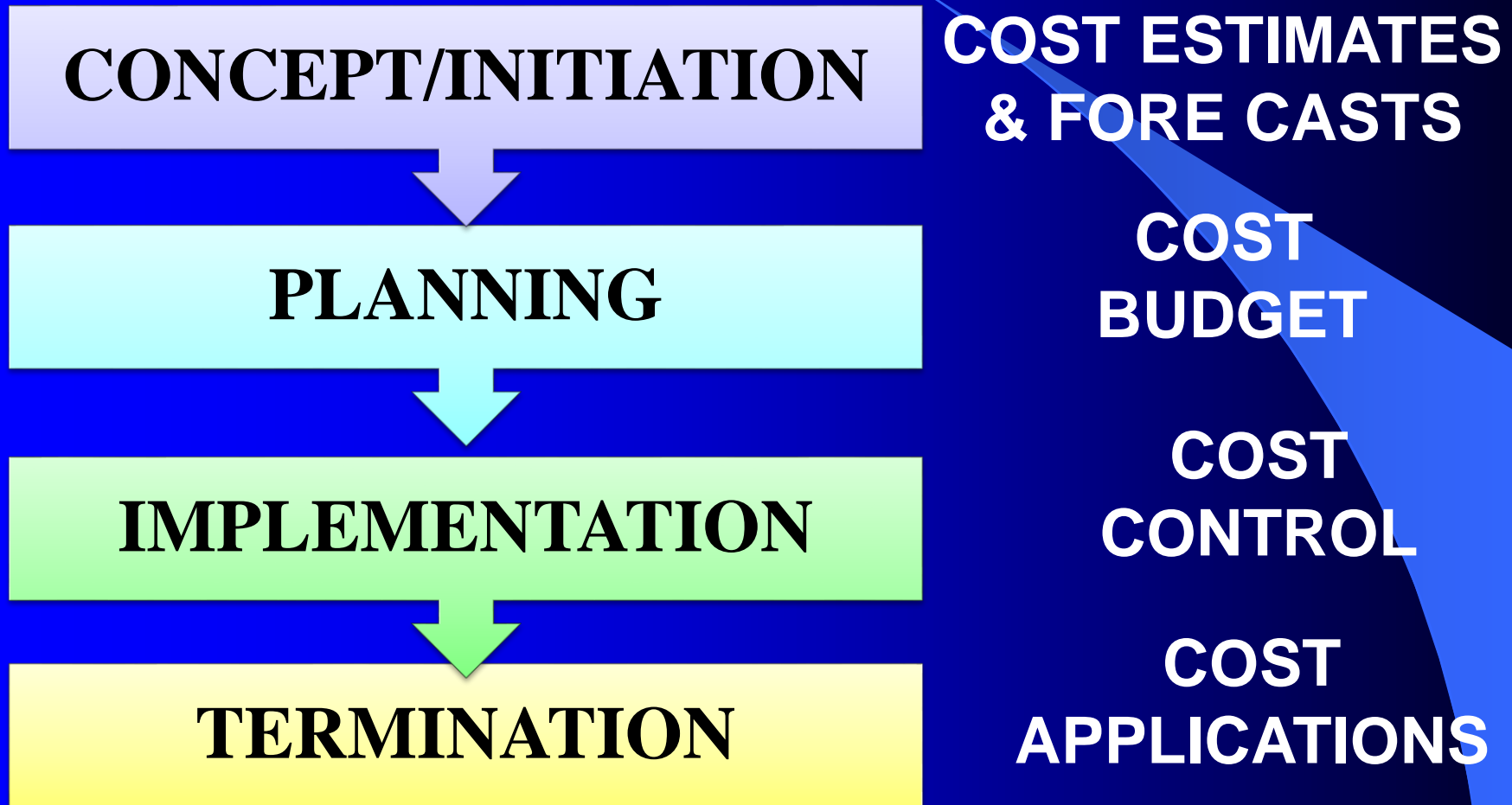
- **Cost and time overruns have often been a key reason for failure of projects**
- **Manage the above through**
  - **Fixed time, fixed price EPC contract with adequate liquidated damages for under-performance/delays**
- **More stringent monitoring during both construction and operation**

# Typical cash flows in a Project





# **COST MANAGEMENT THROUGH PROJECT LIFE CYCLE**



# PROJECT MANAGEMENT

- **MEASURABLE OBJECTIVES**
- **LIFE – CYCLE – START & FINISH**
- **TASKS**
- **BUDGET**
- **LIMITED RESOURCES**
- **COMPLEX, UNCERTAIN & URGENT**

# Project Planning

# Planning

It is a logical integration of techniques to gather and use information.

Planning

Motivate

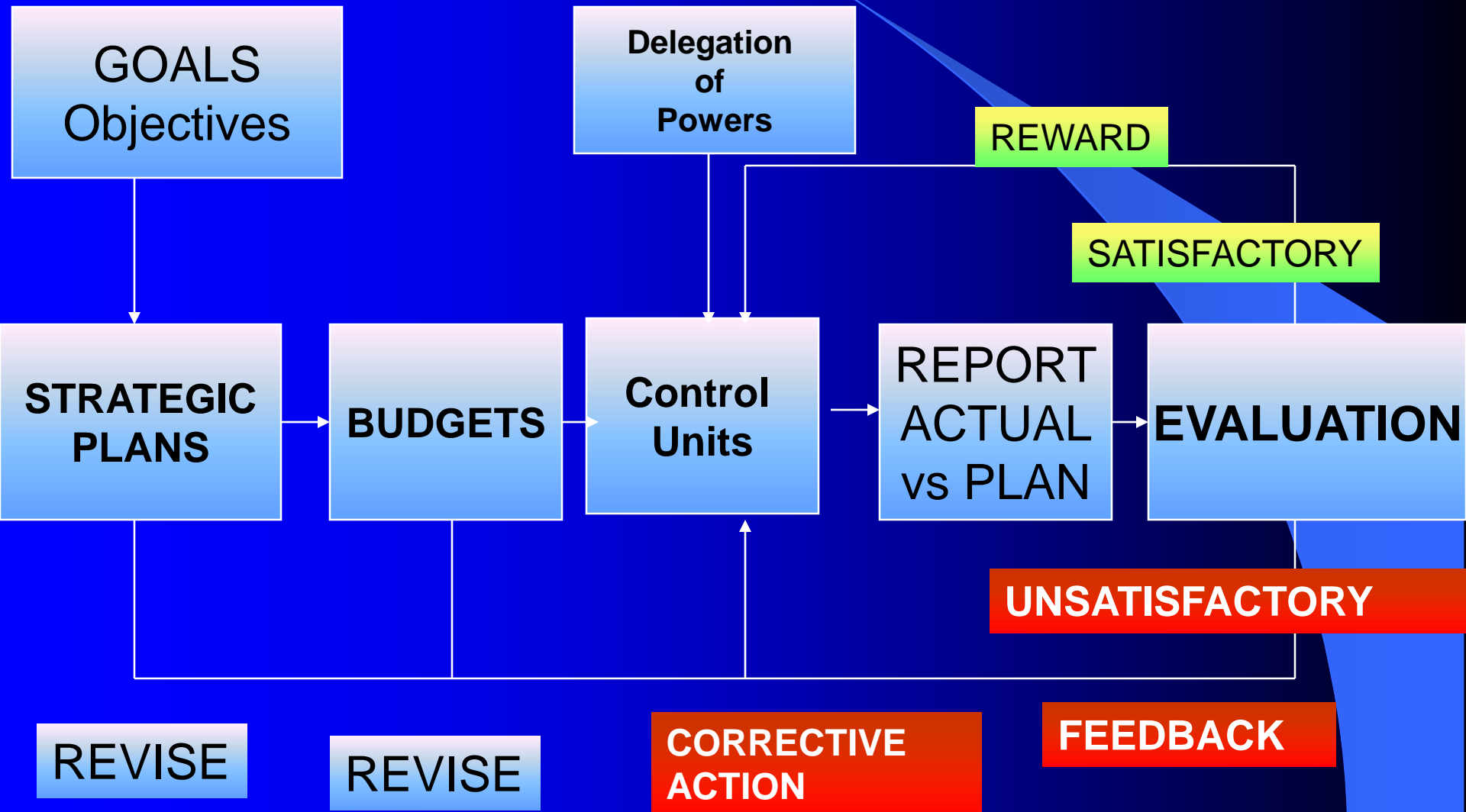
Evaluate

# Planning Process

**Four questions in the project planning process:**

- **Where am I going?**
- **Where am I now?**
- **How will I get there?**
- **How much will it cost to get there?**

# Planning & Control System



# Organizational culture



In three different organizations, Sears, Shell and the U.S. Army, the 800 pound gorilla that impaired performance and stifled change was “culture”

Source: HBR, 2021

# Tools in a Project Planning System

- Budgets and
- Performance reports

To focus resources and individuals in an organization on achievement of goals.



# What Is a Budget?

Planning  
Tool

Justification  
for Funding

Monitoring  
Expenditure

Evaluating  
Performance

# Planning Module

- Technology and life of Project
- Inputs – Quantities and Prices
- Labor – Skills and Time and Rate
- Inputs – Sources of Supply

# Overview

- What should be in a budget?
- How do you know how much is needed?
- How do you get your budget approved?

# Project Cost the Key to Successful Completion

- Project Cost the key element of project management
- Project Cost determines project success

# PLANNING & CONTROL SYSTEM

- FREQUENCY OF REPORTING
- EXCEPTION REPORTING
- EARLY WARNING SIGNALS
- ESTIMATED FORECAST OF PROJECT BUDGET
- BUDGETARY CONTROL BASED ON ACCOMPLISHMENT OF WORK & MONITORING BY SECTIONS

# FACTORS RESPONSIBLE FOR POOR PERFORMANCE

- **UNREALISTIC PROJECT PLAN**
- **FREQUENT CHANGES IN SCOPE OF PROJECT**
- **INSUFFICIENT FRONT END PLANNING**
- **UNDERESTIMATION OF PROJECT SCOPE**

**SOURCE PMI**

# SUCCESSFUL PROJECTS

- **GOAL COMMITMENT (TOP)**
- **TEAM MOTIVATION**
- **SCOPE/WORK DEFINITION**
- **CONTROL SYSTEM**

**ACCURATE, TIMELY, CO-ORDINATED ON  
STRATEGIC FACTORS  
NO INFO OVERLOAD**

**BUDGET, TIME, PERFORMANCE  
SPECIFICATIONS, CLIENT SATISFACTION**

# Management of Project Cost

## □ Change in Scope

- Change In design
- Change due to site specific reasons.
- Change in layout
- Geological surprises

## □ Management of Change

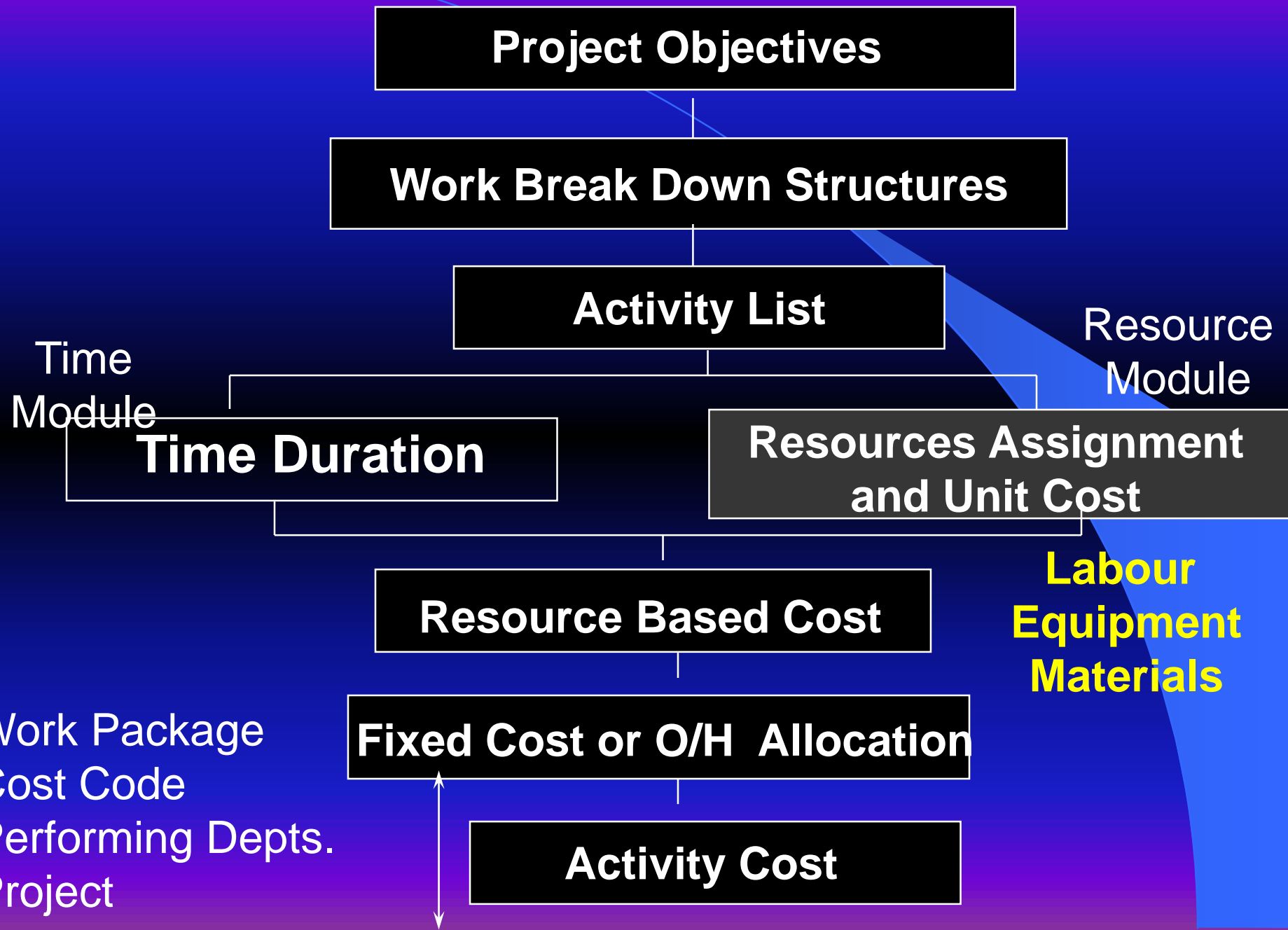
- Detailed planning before start
- Leveraging experience
- Well laid down procedures.
- Quick decisions



# ESTIMATING PROJECT COST

- WORK BREAKDOWN STRUCTURES
- COORDINATION OF ACTIVITY , RESOURCES & COSTS
- REALISTICALLY ALLOW FOR INFLATION & UNEXPECTED CHANGES
- TREND ANALYSIS ESPECIALLY FOR LONG-TERM COMMITMENTS
- FIRM COMMITMENTS ON TIME & COST
- POSSIBILITY OF RESOURCE SHARING
- PAST PROJECTS
- EDUCATE ESTIMATORS (TOP-DOWN)
- REWARDS FOR SURPLUS (BOTTOM-UP)
- BUDGET ESTIMATE FROM -10% TO +25%

# BUDGETING WITH SOFTWARE – MS PROJECT



# COST COLLECTION

**DESIGN**  
**Rs 31000**

**MATERIALS**  
**Rs 85000**

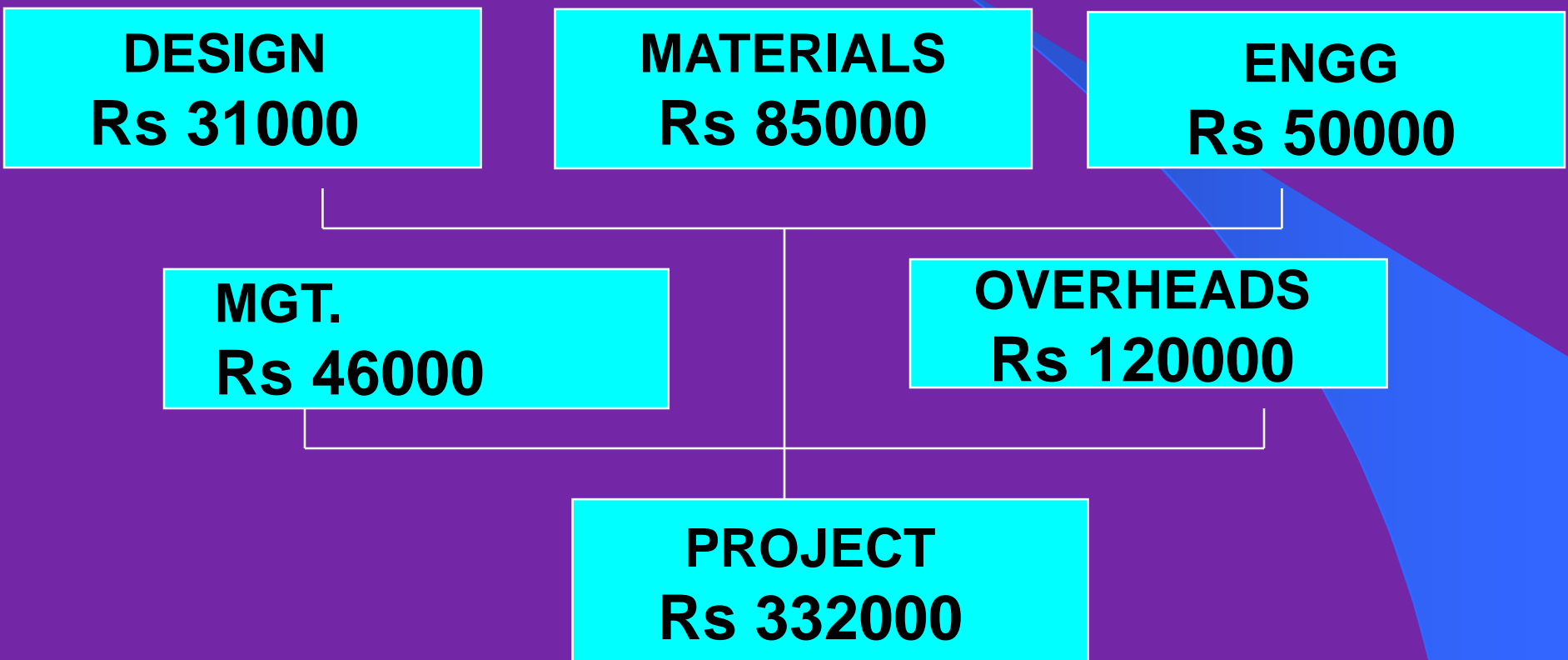
**ENGG**  
**Rs 50000**

**MGT.**  
**Rs 46000**

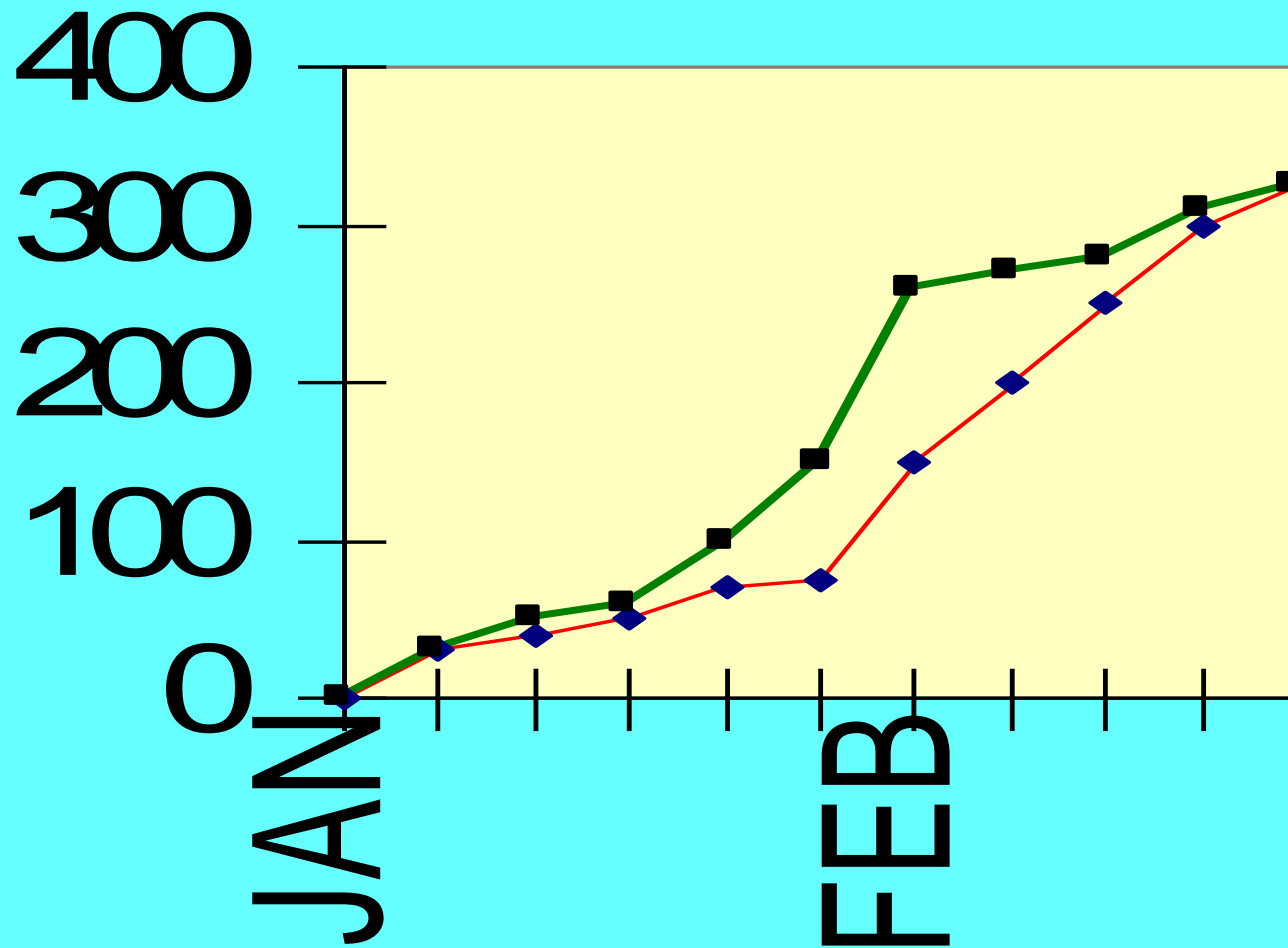
**OVERHEADS**  
**Rs 120000**

**PROJECT**  
**Rs 332000**

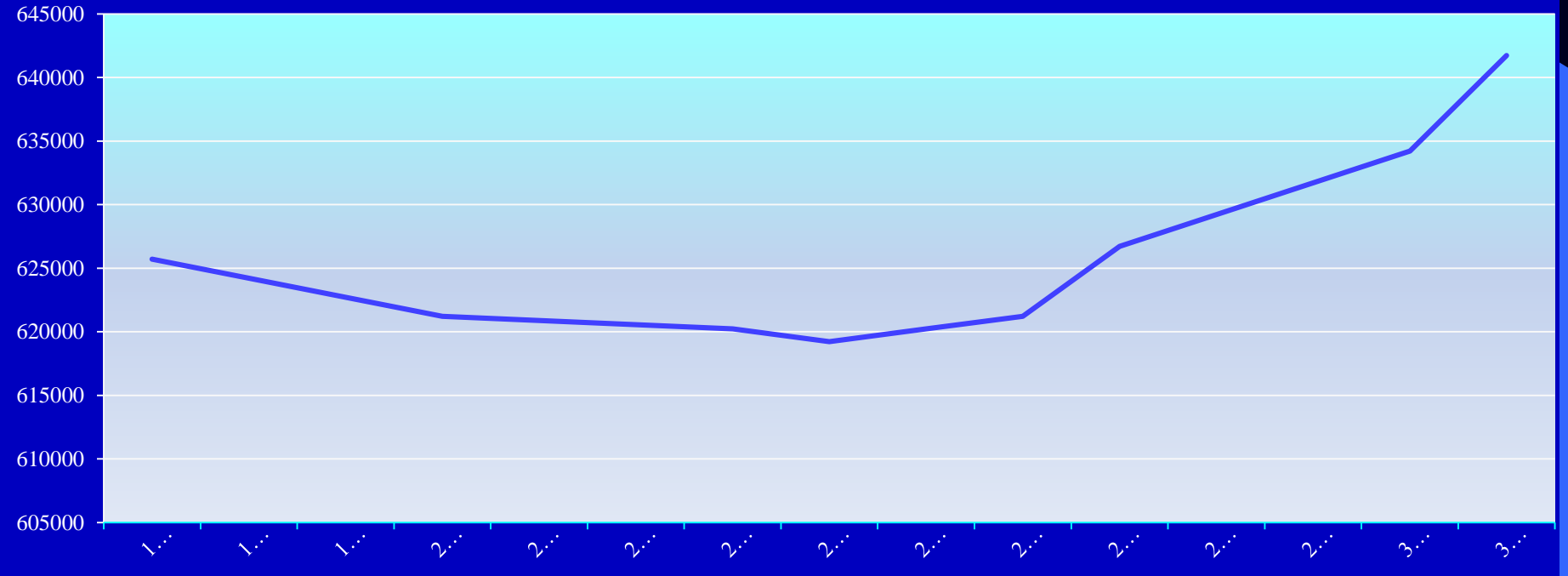
**BUDGET**



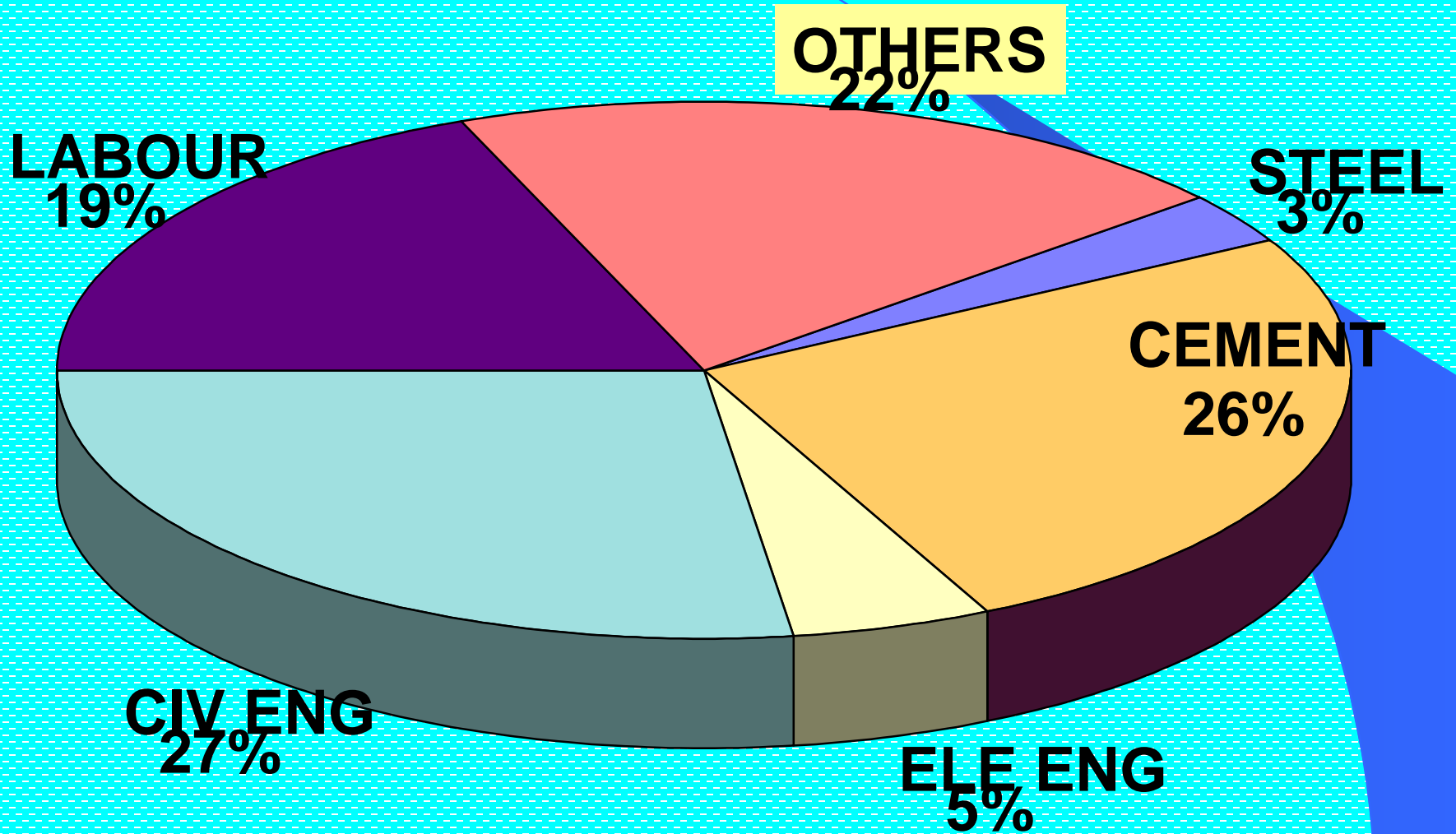
# PROJECT CASHFLOW



<b>Project Finish</b>	<b>Project Direct Costs</b>	<b>Project Fixed Costs</b>	<b>Project Total Costs</b>
<b>3/17/2022</b>	<b>415725</b>	<b>210000</b>	<b>625725</b>
<b>3/18/2022</b>	<b>404225</b>	<b>220000</b>	<b>624225</b>
<b>3/19/2022</b>	<b>392725</b>	<b>230000</b>	<b>622725</b>
<b>3/20/2022</b>	<b>381225</b>	<b>240000</b>	<b>621225</b>
<b>3/23/2022</b>	<b>370225</b>	<b>250000</b>	<b>620225</b>
<b>3/24/2022</b>	<b>359225</b>	<b>260000</b>	<b>619225</b>
<b>3/25/2022</b>	<b>350225</b>	<b>270000</b>	<b>620225</b>
<b>3/26/2022</b>	<b>341225</b>	<b>280000</b>	<b>621225</b>
<b>3/27/2022</b>	<b>336725</b>	<b>290000</b>	<b>626725</b>
<b>3/30/2022</b>	<b>334225</b>	<b>300000</b>	<b>634225</b>
<b>3/31/2022</b>	<b>331725</b>	<b>310000</b>	<b>641725</b>



# RESOURCE WISE BREAKUP OF PROJECT COST



# Project Monitoring & Control

# FINANCIAL CONTROLS - VARIANCES

<b>Expenditure Category</b>	<b>Budget</b>	<b>Actual</b>	<b>Variance</b>
<b>Salaries</b>	<b>30000</b>	<b>30432</b>	<b>(432)</b>
<b>Transport</b>	<b>800</b>	<b>536</b>	<b>264</b>
<b>Supply</b>	<b>4000</b>	<b>2418</b>	<b>1582</b>
<b>Consultants</b>	<b>500</b>	<b>99</b>	<b>401</b>
<b>Overhead</b>	<b>19500</b>	<b>18919</b>	<b>581</b>
<b>Fee</b>	<b>4950</b>	<b>4192</b>	<b>758</b>
<b>Total</b>	<b>59750</b>	<b>56596</b>	<b>3154</b>



# CONTROL – TRACK PROGRESS

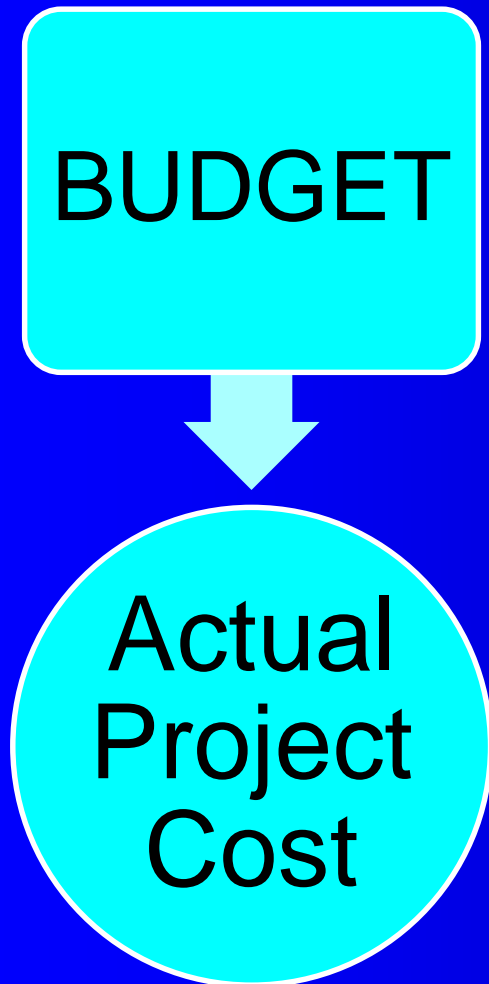
Work  
Progress

```
graph TD; A[Work Progress] --> B((Actual Project Cost));
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Actual  
Project  
Cost

- **EVALUATION OF PERFORMANCE**
- **FORECAST BUDGET AT COMPLETION**

# CONTROL – COMPARE VIS A VIS BUDGETS



- **CORRECTIVE ACTION**
- **REVISE BUDGET**
- **EVALUATE IMPACT OF ALTERNATIVES**

**REVIEW  
PERIOD**

**BCWS ACWP  
BCWP**

**COST VARIANCE = BCWP - ACWP**

**COST INDEX = BCWP / ACWP**

**SCHEDULE VARIANCE = BCWP - BCWS**

**SCHEDULE INDEX = BCWP / BCWS**

**BAC**

**EAC**

**Prev. Budget**

**ETC =  $\frac{CRW}{CI}$**

Rolling up

Activity Level

Work Package Level

Cost Account Level

Department Level

Project Level

Exception Reporting

**VARIANCE AT  
COMPLETION**

Choice of Database  
Fields

**TIME DURATION 10 DAYS**

**BUDGET = RS 10,000**

**REVIEW PERIOD 5 DAYS**

**PROGRESS = 40%**

DEVELOPMENT  
↓  
**ACWP = RS 6,000**

PLANNING  
**BCWP = RS 4,000**

EXECUTION  
**BCWS = RS 5,000**

**CV = RS 2,000**    **CI = 4000/6000 = 66%**

**SV = RS 1,000**    **SI = 4000/5000 = 80%**

**EAC = RS 6,000 + 6,000 = RS 12,000**

**EAC = RS 6,000 + 9,000 = RS 15,000**