



# **SNS COLLEGE OF TECHNOLOGY**

Vazhiyampalayam, Coimbatore, Tamil Nadu, 641035

**An Autonomous Institution**

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## **DEPARTMENT CIVIL ENGINEERING**

### **19CEB302 - CONSTRUCTION MANAGEMENT**

#### **III YEAR / V SEMESTER**

#### **Unit 2 : CONSTRUCTION PLANNING**

#### **Topic 1 : Choice of Technology and Construction Method**





# Choice of Technology and Construction Method



## Basic Concepts

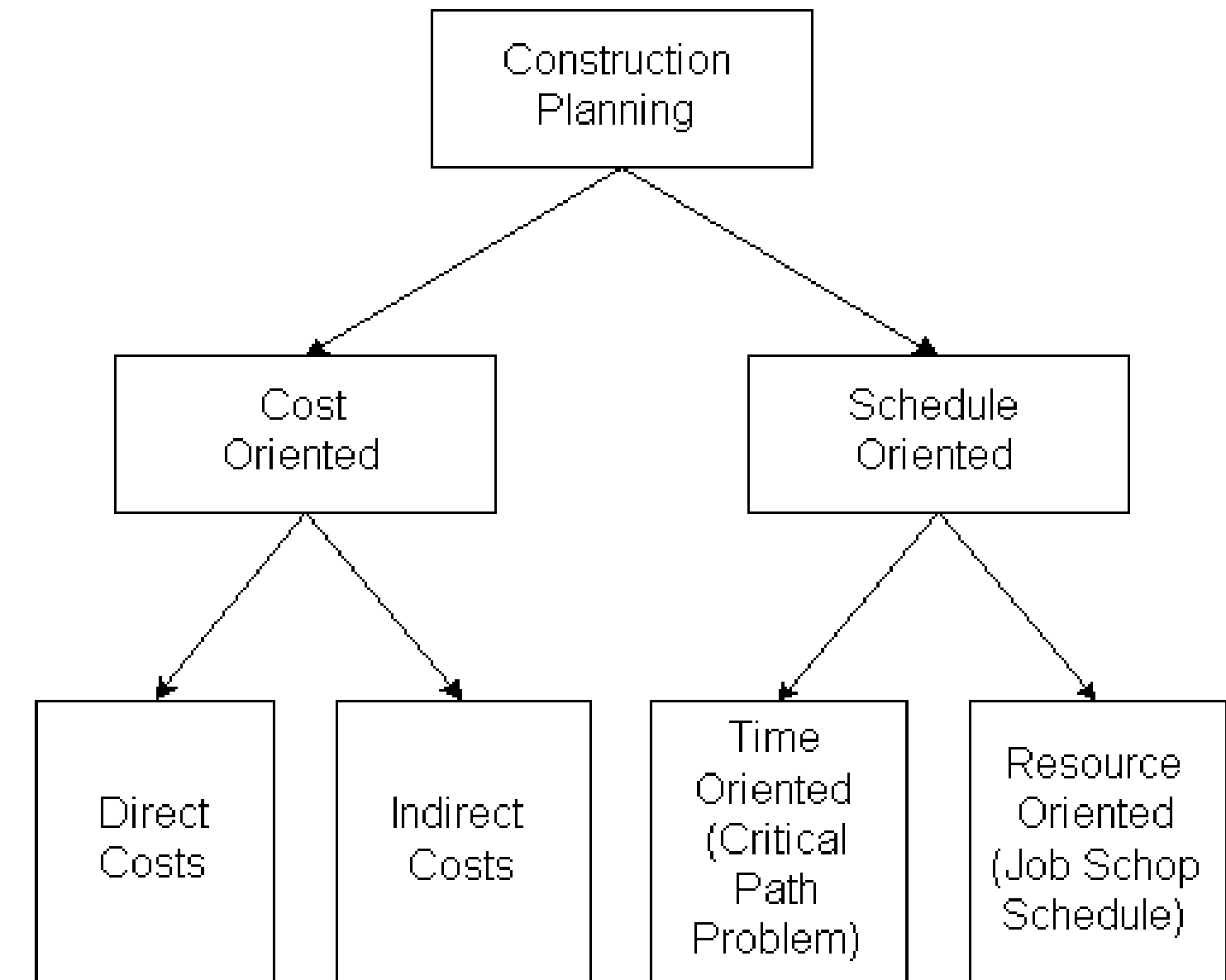
- Construction planning is a fundamental and challenging activity in the management and execution of construction projects.
- It involves the choice of technology, the definition of work tasks, the estimation of the required resources and durations for individual tasks, and the identification of any interactions among the different work tasks.
- In addition to these technical aspects, it may also be necessary to make organizational decisions about the relationships between project participants (Sub Contractors) and even which organizations to include in a project.



# Choice of Technology and Construction Method



- Like a detective, a planner begins with a result (i.e. a facility design) and must synthesize the steps required to yield this result
- Managing project risks, contingency and mitigation plans
- Choosing the best among numerous alternative plans





# Choice of Technology and Construction Method



Choices of appropriate technology and methods for construction are critical ingredients in the success of the project.

**For example,**

A decision whether to pump or to transport concrete in buckets will directly affect the cost and duration of tasks involved in building construction.

It involves relative costs, reliabilities, and availability of equipment for the two transport methods. It should be fixed during the planning phase, based on experience and expertise of workers or the particular work site condition.



# Choice of Technology and Construction Method



In selecting among alternative methods and technologies,

- It may be necessary to formulate a number of construction plans based on alternative methods or assumptions.
- Once the full plan is available, then the cost, time and reliability impacts of the alternative approaches can be reviewed.
- This should be explicit in bidding competitions in which several alternative designs may be proposed or value engineering for alternative construction methods may be permitted.



# Choice of Technology and Construction Method

- In this case, potential constructors may wish to prepare plans for each alternative design using the suggested construction method as well as to prepare plans for alternative construction methods which would be proposed as part of the value engineering process.





# Choice of Technology and Construction Method



## For example,

- A decision to use a particular piece of equipment for an operation immediately leads to the question of whether or not there is sufficient access space for the equipment.
- Three dimensional geometric models in a **computer aided design** (CAD) system may be helpful in simulating space requirements for operations and for identifying any interferences.



# Choice of Technology and Construction Method



## Example,

- RMC – Ready Mix Concrete Pumping of Concrete with Boom
- Precast Concrete Elements usages
- Cast-in-site Concrete Structural Elements





**Thank you....**