Introduction to Construction Management

Basic Concepts

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Basic Concepts

Project is defined as the set of production activities that:

- is fulfilled just once (unique),
- is not repeated (non-repetitive)
- has a pre-defined duration and start and finish time,
- has a pre-defined budget,
- is fulfilled by a temporary organization
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Project

(batch size)

low

medium

high

low

medium

high

(volume)

mass production systems

batch systems

projects
Phases of building production process

- Initiation,
- Pre-design,
- Design,
- Bidding,
- Tendering,
- Contracting,
- Construction,
- Close out,
- Operating,
- Demolition.
Alternative processes

TRADITIONAL
- PREDESIGN
- DESIGN
- TENDER
- CONSTRUCTION

ACCELERATED
- PREDESIGN
- DESIGN
- TENDER
- CONSTRUCTION

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Participants of building production

- Entrepreneurs
- Designers
- Consultancy Companies
- Suppliers / Vendors
- Contractors / Sub-contractors
- Software Developers
- Education Foundations
- Research Foundations
- Information Providers
- Public Authorities
- etc.
Participants and their roles

Consultancy Group

Owner/Entrepreneur/Investor

Design Group

General Contractor

Project Manager

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Participants of design stage

HVAC Systems
Architectural Design

Sanitary Systems
Lighting Systems

Structural System
Electronic Systems

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Participants and roles (design+build)

Participants and roles (separate trades)

- Owner
- Design & Management

Construction

Teams (subconstr)
Participants and roles (general constructor)

- **Owner**
- **Design**
- **Construction & Management**
  - subconst
  - subconst
  - subconst
Participants and roles (construction manag.)

Owner

Design

Maangement

Teams

Construction
Management of Construction Projects

Management of Construction Projects is defined as:
- planning,
- organizing,
- executing, and
- controlling,
of a construction project from beginning to the end of building production process by considering,
- duration,
- cost, and
- quality

limitations given by the client.
Basic problem areas in CM

Scope  Cost  Organiz.  Quality  Risk

Project Planning & Programming

Time  Resource  Procurem  Commun.