Healthcare Facilities Management

Module 2: Planning, Design & Construction
Student Workbook

Lesson 7 ~ P D & C 4

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PLANNING, DESIGN & CONSTRUCTION
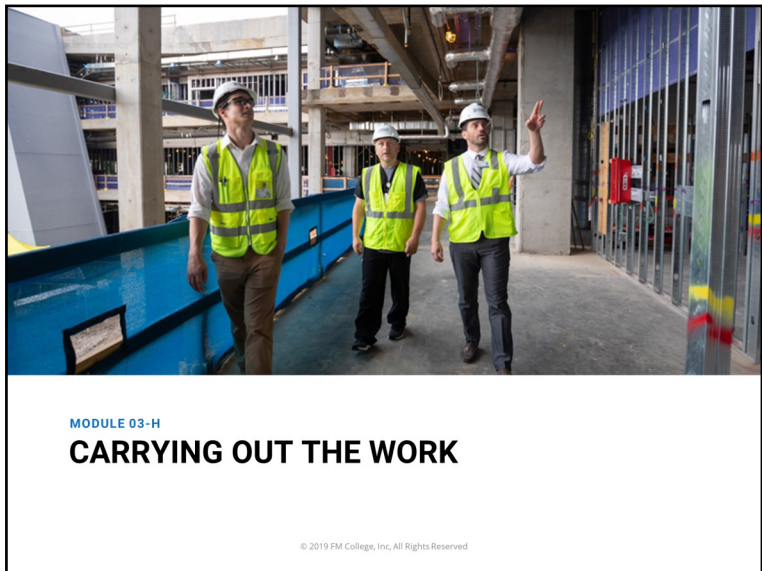
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MODULE 03-H
CARRYING OUT THE WORK

Direct and Manage the Project

Inputs	Tools & Techniques	Outputs
1. Project management plan	1. Expert judgement	1. Deliverables
2. Project documents	2. Project management information system	2. Work performance data
3. Approved change requests	3. Meetings	3. Issue log
4. Enterprise environmental factors		4. Change requests
5. Organizational process assets		5. Project management plan updates
		6. Project document updates
		7. Organizational process assets updates

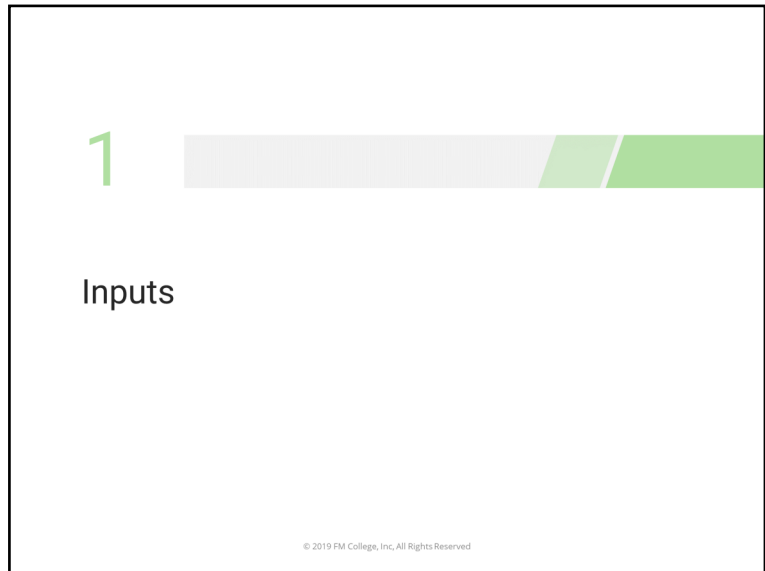© 2019 FM College, Inc, All Rights Reserved

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Inputs

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Project Management Plan

Any component of the project management plan may be input to this process
(See previous discussion)

Project Documents

➢ Change log
  • Status of all change requests
➢ Lessons learned register
  • Used to improve the performance of the project
  • Used to avoid repeating mistakes
  • Helps to identify where to set rules or guidelines
➢ Milestone list
  • Show schedule dates for specific milestones
➢ Project communications
  • Performance reports, deliverable status, and other information
➢ Project schedule

Project Documents (cont'd)

- ➤ Requirements traceability matrix
  - Links product requirements to the deliverables satisfied
- ➤ Risk register
  - Provides information on threats and opportunities that may impact project execution
- ➤ Risk report
  - Sources of overall project risk
  - Summary information on identified individual project risks

Approved change requests

- ➤ An output of the perform integrated change control process
- ➤ Includes requests reviewed and approved for implementation by the project manager or the change control board
- ➤ Approved change requests may be:
  - A corrective action
  - A preventative action
  - Or a defect repair
- ➤ Approved change requests are scheduled and implemented by the project team
- ➤ Can impact in the area of the project or the project plan
- ➤ Can also modify the formally controlled project management plan components or documents

Enterprise Environmental Factors

- ➤ Organizational structure, culture, management practices, and sustainability
- ➤ Infrastructure (e.g. existing facilities and capital equipment)
- ➤ Stakeholder risk thresholds (e.g. allowable cost of percentage)

Organizational Process Assets

- ➤ Organizational standard policies, processes, and procedures
- ➤ Issue and defect management procedures
- ➤ Issuing defect management databases containing historical issue and defect status
- ➤ Performance measurement database
- ➤ Change control and risk procedures
- ➤ Project information from previous projects

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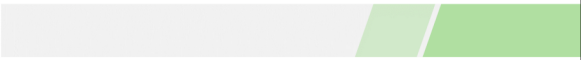
Tools & Techniques

Expert Judgment

Expertise should be considered from individuals or groups with specialized knowledge of:
- Technical knowledge on the industry focus area
- Cost and budget management
- Legal and procurement
- Legislation and regulations
- Organizational governance

Project Management Information System (PMIS)

Provides access to information technology software tools:

➢ Scheduling software tools
➢ Work authorization systems
➢ Configuration management systems
➢ Information collection and distribution systems
➢ Interfaces to other online automated systems
➢ Automated gathering and reporting on key performance indicators (KPI) can be part of the system

Meetings

➢ Discuss and address pertinent topics of the project
➢ Directing and managing project attendees may include:
  • Project manager
  • Project team
  • Appropriate stakeholders
➢ Types of meetings include, but are not limited to:
  • Kickoff,
  • Technical,
  • Sprint or
  • Iteration planning,
  • Etc.

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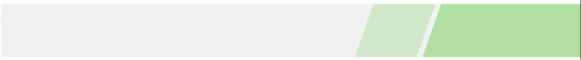
Outputs

Deliverables

A deliverable is in any unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, phase, or project.

Change control should be applied towards the first version of a deliverable has been completed
➢ Versioning
➢ Supported by configuration management tools and procedures

Work Performance Data

➢ Raw observations and measurements identified during activities being performed

➢ Data are often viewed as lowest level of detail from which information is derived by other processes

➢ Data gathered through work execution and pass to the controlling processes for further analysis

➢ Examples
  • Work completed
  • Key performance indicators
  • Technical performance measures

Issue Log

➢ Issue type
➢ Who raised the issue when
➢ Description
➢ Priority
➢ Who is assigned to the issue
➢ Target resolution date
➢ Status
➢ Final solution

Change Requests

The change request is a formal proposal to modify any document, deliverable, or baseline.

Change requests may include:
- Corrective action
- Preventative action
- Defect repair
- Updates

Project Management Plan Updates

Any change to the project management plan goes through the organizations change control process via a change request.

Any component of the project management plan may require a change request as a result of this process.

Project Documents Updates

➤ Activity list
➤ Assumption log
➤ Lessons learned register
➤ Requirements documentation
➤ Risk register
➤ Stakeholder register

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Organizational Process Assets Updates

Any organizational process assets can be updated as a result of this process
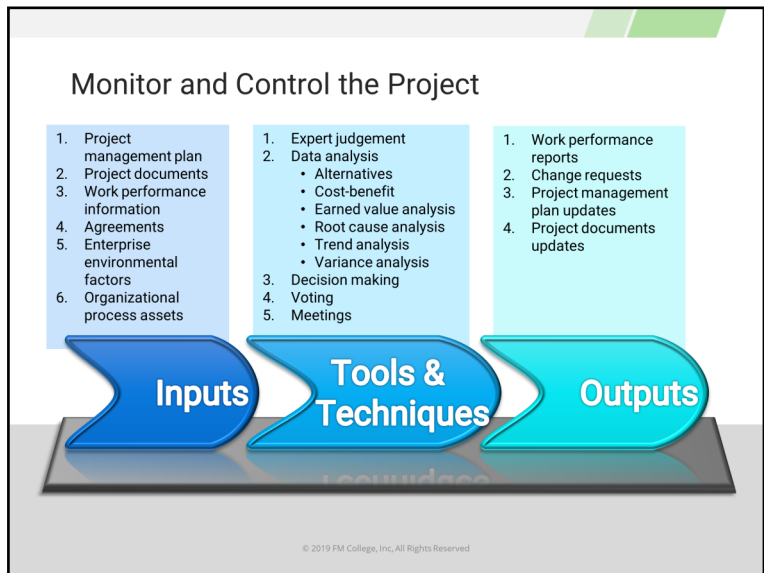
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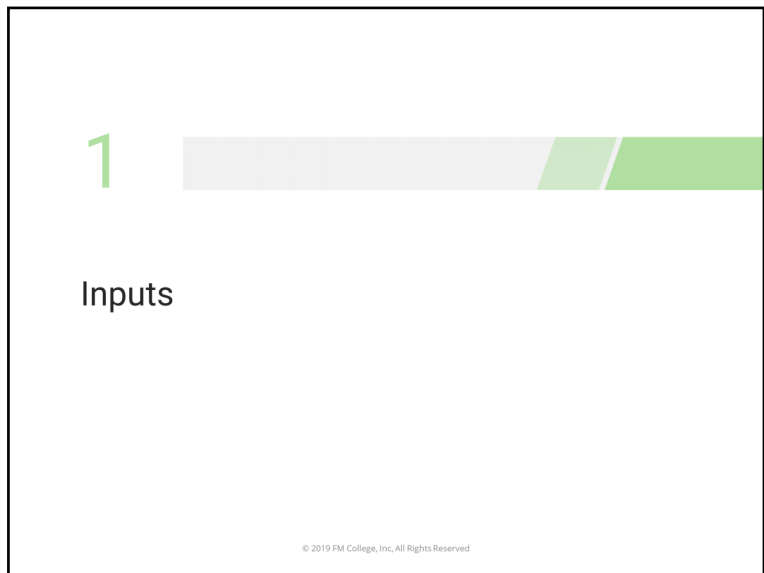## Monitor and Control the Project

Inputs	Tools & Techniques	Outputs

1. Project management plan
2. Project documents
3. Work performance information
4. Agreements
5. Enterprise environmental factors
6. Organizational process assets
	1. Expert judgement
	2. Data analysis
	  • Alternatives
	  • Cost-benefit
	  • Earned value analysis
	  • Root cause analysis
	  • Trend analysis
	  • Variance analysis
	3. Decision making
	4. Voting
	5. Meetings
		1. Work performance reports
		2. Change requests
		3. Project management plan updates
		4. Project documents updates

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Inputs

Project Management Plan

Any component

Project Documents

➢ Assumption log
➢ Basis of estimates
➢ Cost forecasts
➢ Issue log
➢ Lessons learned register
➢ Milestone list
➢ Quality reports
➢ Risk register
➢ Risk report
➢ Schedule forecasts

Work Performance Information

➢ Gathered through work execution pass to the controlling processes

➢ Compared to the project management plan components, project documents, and other project variables

➢ Specific work performance metrics for scope, schedule, budget and quality are defined start of the project as part of the plan

Agreements

➢ Terms and conditions

➢ Specifications line

➢ Oversight of contractor by project manager

➢ Agreement meets specific needs project

➢ Adheres to organizational procurement policies

Enterprise Environmental Factors

➢ PMIS - project management information systems
➢ Infrastructure (e.g. existing facilities and equipment, organization's telecommunications channels)
➢ Stakeholders' expectations and risk thresholds
➢ Government or industry standards

Organizational Process Assets

➢ Organizational standard policies, processes, and procedures
➢ Financial controls procedures
➢ Monitoring and reporting methods
➢ Issue management procedures defining issue controls, identification, resolution and action item tracking
➢ Defect management procedures defining controls, identification, resolution and action item tracking
➢ Organizational knowledge base, in particular process measurement and the lessons learned repository

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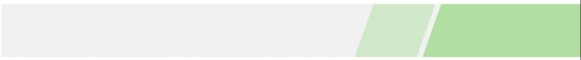
Tools & Techniques

Expert Judgment

➢ Earned value analysis
➢ Interpretation of data
➢ Techniques to estimate durations and costs
➢ Trend analysis
➢ Technical knowledge on the industry and focus area of the project
➢ Risk management
➢ Contract management

Data Analysis

- Alternatives analysis
- Cost-benefit analysis
- Earned value analysis
- Root cause analysis
- Trend analysis
- Variance analysis

Decision-making

Voting
- Unanimity
- Majority
- Plurality
- Consensus

Meetings

- ➤ Face to face
- ➤ Virtual
- ➤ Formal
- ➤ Informal

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Outputs

Work Performance Requests

Performance information is:
- Combined
- Recorded
- Distributed

Purpose
- Awareness
- Generate decisions or actions

Circulated through project defined communication processes

Change Requests

As described earlier

Changes include but are not limited to:
- Corrective action
- Preventative action
- Defect repair

Project Management Plan Updates

All changes to project management plan go through the organization's change control process via a change request

Changes identified during the monitor and control project work process may affect the overall project management plan

Project Documents Updates

➤ Cost forecasts
➤ Issue log
➤ Lessons learned register
➤ Risk register
➤ Schedule forecasts

Integrated Change Control
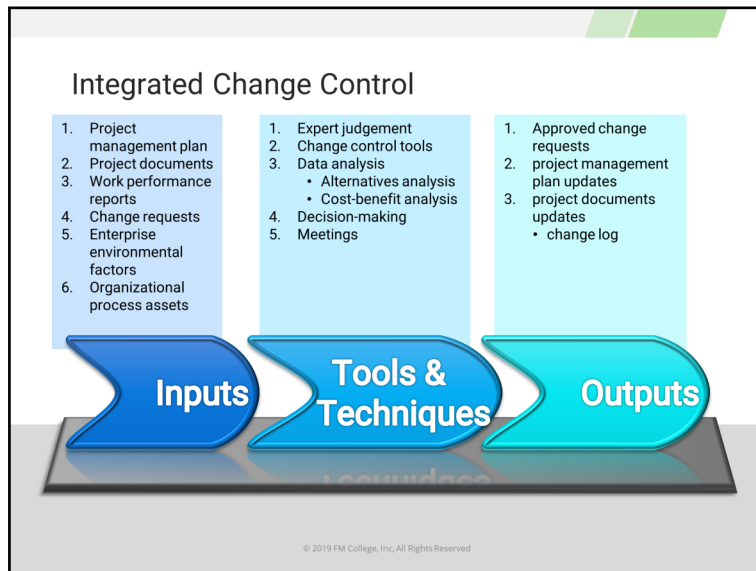
Inputs
1. Project management plan
2. Project documents
3. Work performance reports
4. Change requests
5. Enterprise environmental factors
6. Organizational process assets

Tools & Techniques
1. Expert judgement
2. Change control tools
3. Data analysis
   • Alternatives analysis
   • Cost-benefit analysis
4. Decision-making
5. Meetings

Outputs
1. Approved change requests
2. project management plan updates
3. project documents updates
   • change log

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Inputs

Project Management Plan

➢ Change management plan
➢ Configuration management plan
➢ Scope baseline
➢ Schedule baseline
➢ Cost-baseline

Project Documents

➢ Basis of estimates
➢ Change log
➢ Requirements traceability matrix
➢ Risk report

Work Performance Reports

Work reports of particular interest:
- ➤ Resource availability
- ➤ Schedule and cost data
- ➤ Earned value reports
- ➤ Burn up or burn down charts

Change Requests

Change requests that have an impact on the project baselines should include information:
- ➤ The cost of implementing the change
- ➤ Modifications schedule dates
- ➤ Resource requirements
- ➤ Risks

Only approved changes should be incorporated into a revised baseline

Enterprise Environmental Factors

➤ Legal restrictions, such as country or local regulations
➤ Government or industry standards
➤ Legal and regulatory requirements and/or constraints
➤ Organizational governance framework
➤ Contracting purchasing constraints

Organizational Process Assets

➤ Change control procedures including the steps by which organizational standards policies plans procedures etc. Are modified
➤ Procedures for approving and issuing change authorizations
➤ Configuration management knowledge base containing versions and baselines of organizational standards policies etc.

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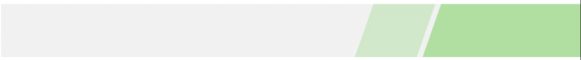
Tools & Techniques

Expert Judgment

Individuals specialized knowledge of or training in
➤ Technical knowledge of the industry and focus area of the project
➤ Legislation and regulations
➤ Legal and procurement
➤ Configuration management
➤ Risk management

Change Control Tools

Tools should support the following configuration management activities:

- ➢ identify configuration item
- ➢ record and report configuration items status
- ➢ perform configuration item verification and audit

Tools should support the following change management activities as well:

- ➢ identify changes
- ➢ document changes
- ➢ decide on changes
- ➢ track changes

Data Analysis

- ➢ Alternatives analysis
- ➢ Cost-benefit analysis

Decision Making

Techniques
- ➤ Voting
- ➤ Autocratic decision-making
- ➤ Multi-criteria decision analysis

Meetings

Change control board
- ➤ Reviewing
- ➤ Approving
- ➤ Rejecting
- ➤ Deferring

Assessing the impact of changes is an essential part

Alternatives to the requested changes may also be discussed and proposed

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Outputs

Approved Change Requests

Implemented through the Direct & Manage project work process

➢ Deferred or rejected change requests are communicated to the person requesting the change

➢ The disposition of all change requests are recorded in the change log as a project document update

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Project Management Plan Updates

➤ Any formally controlled component of the project management plan may be changed as a result of this process

➤ Changes to baselines are only made from the last baseline forward

➤ Past performance is not changed

Project Documents Updates

➤ Any formally controlled project document may be changed as result of this process

➤ A project document that is normally updated as a result of this process is the change log

THANK YOU