# 04. Project Integration Management

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| --- | --- | --- | --- |
| **Processes** | **Inputs** | **Tools & Techniques** | **Outputs** |
| 1. Develop Project Charter | 04.1.1 Business documents  04.1.2 Agreements  04.1.3 Enterprise environmental factors  04.1.4 Organizational process assets | 04.1.1 Expert judgment  04.1.2 Data gathering  04.1.3 Interpersonal and team skills  04.1.4 Meetings | 04.1.1 Project charter  04.1.2 Assumption log |
| 2. Develop Project Management Plan | 04.2.1 Project charter  04.2.2 Outputs from other processes  04.2.3 Enterprise environmental factors  04.2.4 Organizational process assets | 04.2.1 Expert judgment  04.2.2 Data gathering  04.2.3 Interpersonal and team skills  04.2.4 Meetings | 04.2.1 Project management plan |
| 3. Direct and Manage Project Work | 04.3.1 Project management plan  04.3.2 Project documents  04.3.3 Approved change requests  04.3.4 Enterprise environmental factors  04.3.5 Organizational process assets | 04.3.1 Expert judgment  04.3.2 Project management information system  04.3.3 Meetings | 04.3.1 Deliverables  04.3.2 Work performance data  04.3.3 Issue log  04.3.4 Change requests  04.3.5 Project management plan updates  04.3.6 Project documents updates  04.3.7 Organizational process assets updates |
| 4. Manage Project Knowledge | 04.4.1 Project management plan  04.4.2 Project documents  04.4.3 Deliverables  04.4.4 Enterprise environmental factors  04.4.5 Organizational process assets | 04.4.1 Expert judgment  04.4.2 Knowledge management  04.4.3 Information management  04.4.4 Interpersonal and team skills | 04.4.1 Lessons learned register  04.4.2 Project management plan updates  04.4.3 Organizational process assets updates |
| 5. Monitor and Control Project Work | 04.5.1 Project management plan  04.5.2 Project documents  04.5.3 Work performance information  04.5.4 Agreements  04.5.5 Enterprise environmental factors  04.5.6 Organizational process assets | 04.5.1 Expert judgment  04.5.2 Data analysis  04.5.3 Decision making  04.5.4 Meetings | 04.5.1 Work performance reports  04.5.2 Change requests  04.5.3 Project management plan updates  04.5.4 Project documents updates |
| 6. Perform Integrated Change Control | 04.6.1 Project management plan  04.6.2 Project documents  04.6.3 Work performance reports  04.6.4 Change requests  04.6.5 Enterprise environmental factors  04.6.6 Organizational process assets | 04.6.1 Expert judgment  04.6.2 Change control tools  04.6.3 Data analysis  04.6.4 Decision making  04.6.5 Meetings | 04.6.1 Approved change requests  04.6.2 Project management plan updates  04.6.3 Project documents updates |
| 7. Close Project or Phase | 04.7.1 Project charter  04.7.2 Project management plan  04.7.3 Project documents  04.7.4 Accepted deliverables  04.7.5 Business documents  04.7.6 Agreements  04.7.7 Procurement documentation  04.7.8 Organizational process assets | 04.7.1 Expert judgment  04.7.2 Data analysis  04.7.3 Meetings | 04.7.1 Project documents updates  04.7.2 Final product, service, or result transition  04.7.3 Final report  04.7.4 Organizational process assets updates |

# 05. Project Scope Management

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| --- | --- | --- | --- |
| **Processes** | **Inputs** | **Tools & Techniques** | **Outputs** |
| 1.Plan Scope Management | 05.1.1 Project charter  05.1.2 Project management plan  05.1.3 Enterprise environmental factors  05.1.4 Organizational process assets | 05.1.1 Expert judgment  05.1.2 Data analysis  05.1.3 Meetings | 05.1.1 Scope management plan  05.1.2 Requirements management plan |
| 2. Collect Requirements | 05.2.1 Project charter  05.2.2 Project management plan  05.2.3 Project documents  05.2.4 Business documents  05.2.5 Agreements  05.2.6 Enterprise environmental factors  05.2.7 Organizational process assets | 05.2.1 Expert judgment  05.2.2 Data gathering  05.2.3 Data analysis  05.2.4 Decision making  05.2.5 Data representation  05.2.6 Interpersonal and team skills  05.2.7 Context diagram  05.2.8 Prototypes | 05.2.1 Requirements documentation  05.2.2 Requirements traceability matrix |
| 3. Define Scope | 05.3.1 Project charter  05.3.2 Project management plan  05.3.3 Project documents  05.3.4 Enterprise environmental factors  05.3.5 Organizational process assets | 05.3.1 Expert judgment  05.3.2 Data analysis  05.3.3 Decision making  05.3.4 Interpersonal and team skills  05.3.5 Product analysis | 05.3.1 Project scope statement  05.3.2 Project documents updates |
| 4. Create WBS | 05.4.1 Project management plan  05.4.2 Project documents  05.4.3 Enterprise environmental factors  05.4.4 Organizational process assets | 05.4.1 Expert judgment  05.4.2 Decomposition | 05.4.1 Scope baseline  05.4.2 Project documents updates |
| 5. Validate Scope | 05.5.1 Project management plan  05.5.2 Project documents  05.5.3 Verified deliverables  05.5.4 Work performance data | 05.5.1 Inspection  05.5.2 Decision making | 05.5.1 Accepted deliverables  05.5.2 Work performance information  05.5.3 Change requests  05.5.4 Project documents updates |
| 6. Control Scope | 05.6.1 Project management plan  05.6.2 Project documents  05.6.3 Work performance data  05.6.4 Organizational process assets | 05.6.1 Data analysis | 05.6.1 Work performance information  05.6.2 Change requests  05.6.3 Project management plan updates  05.6.4 Project documents updates |

# 06. Project Schedule Management

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| --- | --- | --- | --- |
| **Processes** | **Inputs** | **Tools & Techniques** | **Outputs** |
| 1.Plan Schedule Management | 06.1.1 Project charter  06.1.2 Project management plan  06.1.3 Enterprise environmental factors  06.1.4 Organizational process assets | 06.1.1 Expert judgment  06.1.2 Data analysis  06.1.3 Meetings | 06.1.1 Schedule management plan |
| 2. Define Activities | 06.2.1 Project management plan  06.2.2 Enterprise environmental factors  06.2.3 Organizational process assets | 06.2.1 Expert judgment  06.2.2 Decomposition  06.2.3 Rolling wave planning  06.2.4 Meetings | 06.2.1 Activity list  06.2.2 Activity attributes  06.2.3 Milestone list  06.2.4 Change requests  06.2.5 Project management plan updates |
| 3. Sequence Activities | 06.3.1 Project management plan  06.3.2 Project documents  06.3.3 Enterprise environmental factors  06.3.4 Organizational process assets | 06.3.1 Precedence diagramming method  06.3.2 Dependency determination and integration  06.3.3 Leads and lags  06.3.4 Project management information system | 06.3.1 Project schedule network diagrams  06.3.2 Project documents updates |
| 4. Estimate Activity Durations | 06.4.1 Project management plan  06.4.2 Project documents  06.4.3 Enterprise environmental factors  06.4.4 Organizational process assets | 06.4.1 Expert judgment  06.4.2 Analogous estimating  06.4.3 Parametric estimating  06.4.4 Three-point estimating  06.4.5 Bottom-up estimating  06.4.6 Data analysis  06.4.7 Decision making  06.4.8 Meetings | 06.4.1 Duration estimates  06.4.2 Basis of estimates  06.4.3 Project documents updates |
| 5. Develop Schedule | 06.5.1 Project management plan  06.5.2 Project documents  06.5.3 Agreements  06.5.4 Enterprise environmental factors  06.5.5 Organizational process assets | 06.5.1 Schedule network analysis  06.5.2 Critical path method  06.5.3 Resource optimization  06.5.4 Data analysis  06.5.5 Leads and lags  06.5.6 Schedule compression  06.5.7 Project management information system  06.5.8 Agile release planning | 06.5.1 Schedule baseline  06.5.2 Project schedule  06.5.3 Schedule data  06.5.4 Project calendars  06.5.5 Change requests  06.5.6 Project management plan updates  06.5.7 Project documents updates |
| 6. Control Schedule | 06.6.1 Project management plan  06.6.2 Project documents  06.6.3 Work performance data  06.6.4 Organizational process assets | 06.6.1 Data analysis  06.6.2 Critical path method  06.6.3 Project management information system  06.6.4 Resource optimization  06.6.5 Leads and lags  06.6.6 Schedule compression | 06.6.1 Work performance information  06.6.2 Schedule forecasts  06.6.3 Change requests  06.6.4 Project management plan updates  06.6.5 Project documents updates |

# 07. Project Cost Management

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| --- | --- | --- | --- |
| **Processes** | **Inputs** | **Tools & Techniques** | **Outputs** |
| 1.Plan Cost Management | 07.1.1 Project charter  07.1.2 Project management plan  07.1.3 Enterprise environmental factors  07.1.4 Organizational process assets | 07.1.1 Expert judgment  07.1.2 Data analysis  07.1.3 Meetings | 07.1.1 Cost management plan |
| 2. Estimate Costs | 07.2.1 Project management plan  07.2.2 Project documents  07.2.3 Enterprise environmental factors  07.2.4 Organizational process assets | 07.2.1 Expert judgment  07.2.2 Analogous estimating  07.2.3 Parametric estimating  07.2.4 Bottom-up estimating  07.2.5 Three-point estimating  07.2.6 Data analysis  07.2.7 Project management information system  07.2.8 Decision making | 07.2.1 Cost estimates  07.2.2 Basis of estimates  07.2.3 Project documents updates |
| 3. Determine Budget | 07.3.1 Project management plan  07.3.2 Project documents  07.3.3 Business documents  07.3.4 Agreements  07.3.5 Enterprise environmental factors  07.3.6 Organizational process assets | 07.3.1 Expert judgment  07.3.2 Cost aggregation  07.3.3 Data analysis  07.3.4 Historical information review  07.3.5 Funding limit reconciliation  07.3.6 Financing | 07.3.1 Cost baseline  07.3.2 Project funding requirements  07.3.3 Project documents updates |
| 4. Control Costs | 07.4.1 Project management plan  07.4.2 Project documents  07.4.3 Project funding requirements  07.4.4 Work performance data  07.4.5 Organizational process assets | 07.4.1 Expert judgment  07.4.2 Data analysis  07.4.3 To-complete performance index  07.4.4 Project management information system | 07.4.1 Work performance information  07.4.2 Cost forecasts  07.4.3 Change requests  07.4.4 Project management plan updates  07.4.5 Project documents updates |

# 08. Project Quality Management

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| --- | --- | --- | --- |
| **Processes** | **Inputs** | **Tools & Techniques** | **Outputs** |
| 1. Plan Quality Management | 08.1.1 Project charter  08.1.2 Project management plan  08.1.3 Project documents  08.1.4 Enterprise environmental factors  08.1.5 Organizational process assets | 08.1.1 Expert judgement  08.1.2 Data gathering  08.1.3 Data analysis  08.1.4 Decision making  08.1.5 Data representation  08.1.6 Test and inspection planning  08.1.7 Meetings | 08.1.1 Quality management plan  08.1.2 Quality metrics  08.1.3 Project management plan updates  08.1.4 Project documents updates |
| 2. Manage Quality | 08.2.1 Project management plan  08.2.2 Project documents  08.2.3 Organizational process assets | 08.2.1 Data gathering  08.2.2 Data analysis  08.2.3 Decision making  08.2.4 Data representation  08.2.5 Audits  08.2.6 Design for X  08.2.7 Problem solving  08.2.8 Quality improvement methods | 08.2.1 Quality reports  08.2.2 Test and evaluation documents  08.2.3 Change requests  08.2.4 Project management plan updates  08.2.5 Project documents updates |
| 3.Control Quality | 08.3.1 Project management plan  08.3.2 Project documents  08.3.3 Approved change requests  08.3.4 Deliverables  08.3.5 Work performance data  08.3.6 Enterprise environmental factors  08.3.7 Organizational process assets | 08.3.1 Data gathering  08.3.2 Data analysis  08.3.3 Inspection  08.3.4 Testing/product evaluations  08.3.5 Data representation  08.3.6 Meetings | 08.3.1 Quality control measurements  08.3.2 Verified deliverables  08.3.3 Work performance information  08.3.4 Change requests  08.3.5 Project management plan updates  08.3.6 Project documents updates |

# 09. Project Resource Management

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| --- | --- | --- | --- |
| **Processes** | **Inputs** | **Tools & Techniques** | **Outputs** |
| 1. Plan Resource Management | 09.1.1 Project charter  09.1.2 Project management plan  09.1.3 Project documents  09.1.4 Enterprise environmental factors  09.1.5 Organizational process assets | 09.1.1 Expert judgment  09.1.2 Data representation  09.1.3 Organizational theory  09.1.4 Meetings | 09.1.1 Resource management plan  09.1.2 Team charter  09.1.3 Project documents updates |
| 2. Estimate Activity Resources | 09.2.1 Project management plan  09.2.2 Project documents  09.2.3 Enterprise environmental factors  09.2.4 Organizational process assets | 09.2.1 Expert judgment  09.2.2 Bottom-up estimating  09.2.3 Analogous estimating  09.2.4 Parametric estimating  09.2.5 Data analysis  09.2.6 Project management information system  09.2.7 Meetings | 09.2.1 Resource requirements  09.2.2 Basis of estimates  09.2.3 Resource breakdown structure  09.2.4 Project documents updates |
| 3.Aquire Resources | 09.3.1 Project management plan  09.3.2 Project documents  09.3.3 Enterprise environmental factors  09.3.4 Organizational process assets | 09.3.1 Decision making  09.3.2 Interpersonal and team skills  09.3.3 Pre-assignment  09.3.4 Virtual teams | 09.3.1 Physical resource assignments  09.3.2 Project team assignments  09.3.3 Resource calendars  09.3.4 Change requests  09.3.5 Project management plan updates  09.3.6 Project documents updates  09.3.7 Enterprise environmental factors updates  09.3.8 Organizational process assets updates |
| 4. Develop team | 09.4.1 Project management plan  09.4.2 Project documents  09.4.3 Enterprise environmental factors  09.4.4 Organizational process assets | 09.4.1 Colocation  09.4.2 Virtual teams  09.4.3 Communication technology  09.4.4 Interpersonal and team skills  09.4.5 Recognition and rewards  09.4.6 Training  09.4.7 Individual and team assessments  09.4.8 Meetings | 09.4.1 Team performance assessments  09.4.2 Change requests  09.4.3 Project management plan updates  09.4.4 Project documents updates  09.4.5 Enterprise environmental factors updates  09.4.6 Organizational process assets updates |
| 5. Manage Team | 09.5.1 Project management plan  09.5.2 Project documents  09.5.3 Work performance reports  09.5.4 Team performance assessments  09.5.5 Enterprise environmental factors  09.5.6 Organizational process assets | 09.5.1 Interpersonal and team skills  09.5.2 Project management information system | 09.5.1 Change requests  09.5.2 Project management plan updates  09.5.3 Project documents updates  09.5.4 Enterprise environmental factors updates |
| 6. Control Resources | 09.6.1 Project management plan  09.6.2 Project documents  09.6.3 Work performance data  09.6.4 Agreements  09.6.5 Organizational process assets | 09.6.1 Data analysis  09.6.2 Problem solving  09.6.3 Interpersonal and team skills  09.6.4 Project management information system | 09.6.1 Work performance information  09.6.2 Change requests  09.6.3 Project management plan updates  09.6.4 Project documents updates |

# 10. Project Communication Management

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| --- | --- | --- | --- |
| **Processes** | **Inputs** | **Tools & Techniques** | **Outputs** |
| 1. Plan Communications Management | 10.1.1 Project charter  10.1.2 Project management plan  10.1.3 Project documents  10.1.4 Enterprise environmental factors  10.1.5 Organizational process assets | 10.1.1 Expert judgment  10.1.2 Communication requirements analysis  10.1.3 Communication technology  10.1.4 Communication models  10.1.5 Communication methods  10.1.6 Interpersonal and team skills  10.1.7 Data representation  10.1.8 Meetings | 10.1.1 Communications management plan  10.1.2 Project management plan updates  10.1.3 Project documents update |
| 2. Manage Communications | 10.2.1 Project management plan  10.2.2 Project documents  10.2.3 Work performance reports  10.2.4 Enterprise environmental factors  10.2.5 Organizational process assets | 10.2.1 Communication technology  10.2.2 Communication methods  10.2.3 Communication skills  10.2.4 Project management information system  10.2.5 Project reporting  10.2.6 Interpersonal and team skills  10.2.7 Meetings | 10.2.1 Project communications  10.2.2 Project management plan updates  10.2.3 Project documents updates  10.2.4 Organizational process assets updates |
| 3. Monitor Communications | 10.3.1 Project management plan  10.3.2 Project documents  10.3.3 Work performance data  10.3.4 Enterprise environmental factors  10.3.5 Organizational process assets | 10.3.1 Expert judgment  10.3.2 Project management information system  10.3.3 Data representation  10.3.4 Interpersonal and team skills  10.3.5 Meetings | 10.3.1 Work performance information  10.3.2 Change requests  10.3.3 Project management plan updates  10.3.4 Project documents updates |

# 11. Project Risk Management

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| --- | --- | --- | --- |
| **Processes** | **Inputs** | **Tools & Techniques** | **Outputs** |
| 1. Plan Risk Management | 11.1.1 Project charter  11.1.2 Project management plan  11.1.3 Project documents  11.1.4 Enterprise environmental factors  11.1.5 Organizational process assets | 11.1.1 Expert judgment  11.1.2 Data analysis  11.1.3 Meetings | 11.1.1 Risk management plan |
| 2.Identify Risks | 11.2.1 Project management plan  11.2.2 Project documents  11.2.3 Agreements  11.2.4 Procurement documentation  11.2.5 Enterprise environmental factors  11.2.6 Organizational process assets | 11.2.1 Expert judgment  11.2.2 Data gathering  11.2.3 Data analysis  11.2.4 Interpersonal and team skills  11.2.5 Prompt lists  11.2.6 Meetings | 11.2.1 Risk register  11.2.2 Risk report  11.2.3 Project documents updates |
| 3. Perform Qualitative Risk Analysis | 11.3.1 Project management plan  11.3.2 Project documents  11.3.3 Enterprise environmental factors  11.3.4 Organizational process assets | 11.3.1 Expert judgment  11.3.2 Data gathering  11.3.3 Data analysis  11.3.4 Interpersonal and team skills  11.3.5 Risk categorization  11.3.6 Data representation  11.3.7 Meetings | 11.3.1 Project documents updates |
| 4. Perform Quantitative Risk Analysis | 11.4.1 Project management plan  11.4.2 Project documents  11.4.3 Enterprise environmental factors  11.4.4 Organizational process assets | 11.4.1 Expert judgment  11.4.2 Data gathering  11.4.3 Interpersonal and team skills  11.4.4 Representations of uncertainty  11.4.5 Data analysis | 11.4.1 Project documents updates |
| 5.Plan Risk Responses | 11.5.1 Project management plan  11.5.2 Project documents  11.5.3 Enterprise environmental factors  11.5.4 Organizational process assets | 11.5.1 Expert judgment  11.5.2 Data gathering  11.5.3 Interpersonal and team skills  11.5.4 Strategies for threats  11.5.5 Strategies for opportunities  11.5.6 Contingent response strategies  11.5.7 Strategies for overall project risk  11.5.8 Data analysis  11.5.9 Decision making | 11.5.1 Change requests  11.5.2 Project management plan updates  11.5.3 Project documents updates |
| 6. Implement Risk Responses | 11.6.1 Project management plan  11.6.2 Project documents  11.6.3 Organizational process assets | 11.6.1 Expert judgment  11.6.2 Interpersonal and team skills  11.6.3 Project management information system | 11.6.1 Change requests  11.6.2 Project documents updates |
| 7. Monitor Risks | 11.7.1 Project management plan  11.7.2 Project documents  11.7.3 Work performance data  11.7.4 Work performance reports | 11.7.1 Data analysis  11.7.2 Audits  11.7.3 Meetings | 11.7.1 Work performance information  11.7.2 Change requests  11.7.3 Project management plan updates  11.7.4 Project documents updates  11.7.5 Organizational process assets updates |

# 12. Project Procurement Management

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| --- | --- | --- | --- |
| **Processes** | **Inputs** | **Tools & Techniques** | **Outputs** |
| 1.Plan Procurement Management | 12.1.1 Project charter  12.1.2 Business documents  12.1.3 Project management plan  12.1.4 Project documents  12.1.5 Enterprise environmental factors  12.1.6 Organizational process assets | 12.1.1 Expert judgment  12.1.2 Data gathering  12.1.3 Data analysis  12.1.4 Source selection analysis  12.1.5 Meetings | 12.1.1 Procurement management plan  12.1.2 Procurement strategy  12.1.3 Bid documents  12.1.4 Procurement statement of work  12.1.5 Source selection criteria  12.1.6 Make-or-buy decisions  12.1.7 Independent cost estimates  12.1.8 Change requests  12.1.9 Project documents updates  12.1.10 Organizational process assets updates |
| 2. Conduct Procurements | 12.2.1 Project management plan  12.2.2 Project documents  12.2.3 Procurement documentation  12.2.4 Seller proposals  12.2.5 Enterprise environmental factors  12.2.6 Organizational process assets | 12.2.1 Expert judgment  12.2.2 Advertising  12.2.3 Bidder conferences  12.2.4 Data analysis  12.2.5 Interpersonal and team skills | 12.2.1 Selected sellers  12.2.2 Agreements  12.2.3 Change requests  12.2.4 Project management plan updates  12.2.5 Project documents updates  12.2.6 Organizational process assets updates |
| 3.Control Procurements | 12.3.1 Project management plan  12.3.2 Project documents  12.3.3 Agreements  12.3.4 Procurement documentation  12.3.5 Approved change requests  12.3.6 Work performance data  12.3.7 Enterprise environmental factors  12.3.8 Organizational process assets | 12.3.1 Expert judgment  12.3.2 Claims administration  12.3.3 Data analysis  12.3.4 Inspection  12.3.5 Audits | 12.3.1 Closed procurements  12.3.2 Work performance information  12.3.3 Procurement documentation updates  12.3.4 Change requests  12.3.5 Project management plan updates  12.3.6 Project documents updates  12.3.7 Organizational process assets updates |

# 13. Project Stakeholder Management

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| --- | --- | --- | --- |
| **Processes** | **Inputs** | **Tools & Techniques** | **Outputs** |
| 1. Identify Stakeholders | 13.1.1 Project charter  13.1.2 Business documents  13.1.3 Project management plan  13.1.4 Project documents  13.1.5 Agreements  13.1.6 Enterprise environmental factors  13.1.7 Organizational process assets | 13.1.1 Expert judgment  13.1.2 Data gathering  13.1.3 Data analysis  13.1.4 Data representation  13.1.5 Meetings | 13.1.1 Stakeholder register  13.1.2 Change requests  13.1.3 Project management plan updates  13.1.4 Project documents updates |
| 2.Plan Stakeholder Management | 13.2.1 Project charter  13.2.2 Project management plan  13.2.3 Project documents  13.2.4 Agreements  13.2.5 Enterprise environmental factors  13.2.6 Organizational process assets | 13.2.1 Expert judgment  13.2.2 Data gathering  13.2.3 Data analysis  13.2.4 Decision making  13.2.5 Data representation  13.2.6 Meetings | 13.2.1 Stakeholder engagement plan |
| 3. Manage Stakeholder Engagement | 13.3.1 Project management plan  13.3.2 Project documents  13.3.3 Enterprise environmental factors  13.3.4 Organizational process assets | 13.3.1 Expert judgment  13.3.2 Communication skills  13.3.3 Interpersonal and team skills  13.3.4 Ground rules  13.3.5 Meetings | 13.3.1 Change requests  13.3.2 Project management plan updates  13.3.3 Project documents updates |
| 4. Monitor Stakeholder Engagement | 13.4.1 Project management plan  13.4.2 Project documents  13.4.3 Work performance data  13.4.4 Enterprise environmental factors  13.4.5 Organizational process assets | 13.4.1 Data analysis  13.4.2 Decision making  13.4.3 Data representation  13.4.4 Communication skills  13.4.5 Interpersonal and team skills  13.4.6 Meetings | 13.4.1 Work performance information  13.4.2 Change requests  13.4.3 Project management plan updates  13.4.4 Project documents updates |