PMKI Taxonomy

Information Structure:

PMKI Sub-Index (1 page) – shows the sections of the PMKI with a list of subjects in each and direct links to each ‘subject page’.

1. Sections (6 off pages) – annotated list of subjects in each section and topics within each subject.

1.1 Subject (n pages) – describes the subject and its related topics.

1.1.1 Topic – describes a ‘topical information set’ within the subject, with links to the related papers and other web resources for accessing or downloading.

Page URL Structure:

Main Index: PMKI.php

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Definition of document types (linked from Knowledge Clusters):

PP: Published Papers: Written conference papers, journal articles, significant magazine articles and books.

Prs: Presentations: Conference presentations (PowerPoint only).

DP: Discussion Papers: An in-depth discussion of a topic, including third party resources.


Art: Articles: Short topical discussions published in a variety of media.

Blg: Blogs: Selected blog posts from Mosaic and SRMM websites.

To access the PMKI website, go to: https://mosaicprojects.com.au/PMKI.php
1. Organisations & Governance  Subjects covered in this section focus on the way organisations interface with and benefit from project, program and portfolio management, including both a general management and a governance perspective.

1.1. Corporate/Organisational Governance  PMKI-ORG-005.php
This subject covers the creation and implementation of the organisational objectives, policies, practices and systems that are responsible for ensuring organisational resources are utilised effectively and the work of the organisation is aligned with its strategy and objectives. The concepts outlined in these papers are consistent with ISO 21505 Project, programme and portfolio management - Guidance on governance and ISO/IEC 38500:2010 Corporate governance of information technology.

  1.1.1. The Function of Governance and Governing
  1.1.2. Governance and Stakeholders
  1.1.3. Governance systems
  1.1.4. Governing the organisation's Projects, Programs & Portfolios
  1.1.5. Governance failure
  1.1.6. Differentiating Governance and Management

1.2. Ethics and Culture in Organisations  PMKI-ORG-010.php
This subject looks at the central role of ethics, culture and associated outcomes such as CSR, sustainability and the 'triple bottom line', in successful organisations.

  1.2.1. The Importance of Ethics in Governance
  1.2.2. The Culture of Organizations

1.3. Corporate/Organisational Management  PMKI-ORG-015.php
This subject covers aspects of general management and the overall management of projects that are primarily the responsibility of the organisation’s Directors supported by senior executives.

  1.3.1. General Management
  1.3.2. The Strategic Management of Project and Program Management
  1.3.3. Sponsorship and Project Control Boards

1.4. Aligning Projects, Programs and Strategy  PMKI-ORG-020.php
This subject looks at the strategic alignment of projects, programs and portfolios in support of organisational objectives.

  1.4.1. Organizational strategy
  1.4.2. Strategic Planning
  1.4.3. Strategic Alignment

1.5. Portfolio Management  PMKI-ORG-025.php
This subject focuses on the function of project portfolio management.

  1.5.1. Portfolio Management Overview
  1.5.2. Project/Program Selection Processes
1.6. Program Management
This subject looks at the function of program management and how it differs from project management. Basic program management skills are included in Section 2.

1.6.1. Program Management Overview
1.6.2. Differentiating Programs from Projects

1.7. Defining Projects and Programs
This subject focuses on defining the different types of program and developing a definition of precisely what projects and programs are.

1.7.1. Project Definition and Typology
1.7.2. Program Definition and Typology

1.8. Complexity & Mega Projects (and Programs)
This subject considers the effect of complexity theory on the management of project and programs of all sizes with a focus on ‘complex project management’ and ‘mega projects’.

1.8.1. Complexity Theory
1.8.2. Complex Project (and Program) Management
1.8.3. Megaproject Issues and Challenges

1.9. PMOs (Project, Program or Portfolio Management Offices)
This subject looks at the challenges faced in setting up and managing PMOs (Project, Program or Portfolio Management Offices). Organisational entities responsible for aspects of the support and monitoring of projects and programs within their area of responsibility:

1.9.1. Developing and Managing a PMO
1.9.2. Setting and using performance targets
1.9.3. Enterprise PMOs

1.10. Organisational Inputs, Methodologies & Maturity Models
This subject looks at the various inputs, methodologies and maturity models organisations can use (typically supported by a PMO) to improve the management of their projects and programs including: EEF & OPAs, OPM3, CMMI, PRINCE2, MSP, Lean, Agile, PMBoK based and other methodologies.

1.10.1. Organizational Inputs to Project Management
1.10.2. Methodologies for Project and Program Management
1.10.3. Maturity Models–

1.11. Value and Benefits Realisation
This subject focuses on the process of creating value for the organisation through the measurement and management of benefits from identification to realisation and understanding the link between delivering benefits and creating value.

1.11.1. Value and Benefits Overview
- Defining project success
1.11.2. Benefits Management
1.11.3. Value Management and Value Engineering–

To access the PMKI website, go to: https://mosaicprojects.com.au/PMKI.php
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1.12. Organisational Change Management
PMKI-ORG-060.php
This subject focuses on the management of change created by projects and programs within the organisation to maximise the realisation of value.

1.12.1. Organisational Change Management

2. PMBoK Knowledge Areas – This section of the PMKI focuses on the core project and program management skills needed to support the efficient delivery of the objectives of the project or program. Subjects within this section are organised to align with the traditional subdivisions of project management processes.

2.1. Project Initiation
PMKI-PBK-005.php
This subject covers the work undertaken to develop the concept of a project or program to the point where it can be formally initiated and the project charter approved.

2.1.1. Initiation Overview
2.1.2. Opportunity Identification: innovation, requirements gathering, front end loading, viability and feasibility
2.1.3. Project or Program Initiation: documenting the business case and the charter.

2.2. Integration Management
PMKI-PBK-010.php
This subject covers the work undertaken by the project/program manager and the core team to manage the planning, execution, monitoring and control of work of a project or program in a coordinated way from initiation to closure.

2.2.1. Develop project management plan
2.2.2. Direct and manage project work
2.2.3. Manage project knowledge, including lessons learned
2.2.4. Monitor and control project work
2.2.5. Perform integrated change control
2.2.6. Close project or phase

2.3. Scope Management
PMKI-PBK-015.php
This subject covers the work required to ensure the project/program includes all of the work needed, and only the work needed, to achieve its objectives and that the work is successfully delivered to the client.

2.3.1. Scope management overview
2.3.2. Collect and manage requirements
2.3.3. Define and manage scope
2.3.4. Create WBS & other Breakdown structures

To access the PMKI website, go to: https://mosaicprojects.com.au/PMKI.php
2.4. **Schedule Management**  
This subject covers the processes required to plan, estimate, manage and control the work of the project to achieve its timely completion. This page focuses on core processes, more advanced scheduling information is contained in section 3 below.

2.4.1. Schedule management overview  
2.4.2. Planning the planning - Schedule design & Project strategy  
2.4.3. Develop the CPM schedule  
2.4.4. Control the schedule  
2.4.5. General scheduling links and information

2.5. **Cost Management**  
This subject covers the processes involved in planning, estimating, budgeting, financing, funding, managing and controlling costs so the project can be completed within the approved budget. Earned Value Management is a key technique.

2.5.1. Cost management overview  
2.5.2. Estimating costs  
2.5.3. Determining the budget and price  
2.5.4. Earned Value basics – see Section 3.8 for more  
2.5.5. Controlling costs

2.6. **Quality Management**  
This subject focuses on the processes needed to incorporate the organisation’s quality policies into the work of the project (or program) to satisfy the needs the project was chartered to fulfil, and to meet stakeholder requirements.

2.6.1. Quality overview  
2.6.2. Quality planning & standards  
2.6.3. Quality assurance & control

2.7. **Resource Management**  
This subject focuses the processes needed to identify, acquire and manage the resources, including human resources, needed to accomplish the work of the project or program.

2.7.1. Resource overview  
2.7.2. Resource planning, acquisition & control  
2.7.3. Human resources & teams  
2.7.4. Personal attributes

2.8. **Communication Management**  
This subject covers the purpose and effect of communication to influence stakeholders, and the processes needed to plan, collect, create, distribute, store, and ultimately archive or dispose of project information in a timely and appropriate manner.

2.8.1. Communication overview  
2.8.2. Communication theory

To access the PMKI website, go to: [https://mosaicprojects.com.au/PMKI.php](https://mosaicprojects.com.au/PMKI.php)
2.8.3. Communication processes & skills
2.8.4. Communicating for effect

2.9. Risk Management
This subject covers the processes involved in the identification and management of risk within a project or program to achieve and maintain a risk profile acceptable to the key stakeholders. Advanced risk theory, see: section 3.9.

2.9.1. Risk overview
2.9.2. Assessing risk (identification)
2.9.3. Managing risk (treatment)

2.10. Procurement Management
This subject covers the processes involved in acquiring goods and services from outside of the performing organisations.

2.10.1. Procurement overview
2.10.2. Procurement & contract administration
2.10.3. Negotiation
2.10.4. Basic contract law.

2.11. Stakeholder Management
This subject covers the processes involved in the identification and engagement of stakeholders from the perspective of a project or program to achieve a successful outcome. For more on stakeholder theory and methodologies see: Section 4.6 below.

2.11.1. Stakeholder overview
2.11.2. Manage Stakeholder Engagement
2.11.3. Useful External Web-links & Resources.

3. Project Controls and Scheduling. Subjects covered in this section take an in-depth look at the function of project controls and scheduling, in part to support out PMI-SP courses.

3.1. Integrated Project Controls
Project controls is an integrated process that include the data gathering, management and analytical processes used to predict, understand and constructively influence the time and cost outcomes of a project or program through the communication of useful information. This subject focuses on the overall integrated process of ‘controlling’ a project or program.

3.1.1. Project Controls Overview
3.1.2. Project Control Functions & Techniques
3.1.3. Future Trends in Project Controls
3.1.4. Project Control & CPM Failures and Challenges.

To access the PMKI website, go to: https://mosaicprojects.com.au/PMKI.php
### 3.2. Scheduling Good Practice

This subject focuses on core scheduling practice and looks at what makes a good CPM schedule, what makes a good planner, and what should they do; the ‘good practices’ needed to create and manage an effective schedule.

- 3.2.1. Mosaic’s Core Scheduling Papers
- 3.2.2. Planners and Schedulers, competency & training
- 3.2.3. Schedule Management - Overview
  - Schedule Challenges & Issues
  - Industry Focuses
- 3.2.4. Schedule Strategy & Design
  - Complexity
- 3.2.5. Schedule Development & Analysis
  - Building a CPM Schedule
  - CPM Calculations, Float & the Critical Path
- 3.2.6. Resources & Costs
- 3.2.7. Authorizing & Maintaining the Schedule
  - Statusing & Updating
- 3.2.8. Reporting & Communication

### 3.3. Schedule Risk Assessment

Every estimate about a future outcome is uncertain! This subject looks at the effect of uncertainty on schedule predictions and the tools and techniques available to manage the consequences of uncertainty and improve the accuracy of projected completion dates.

- 3.3.1. Schedule Risk Overview
- 3.3.2. Risk Assessment and Analysis
- 3.3.3. Schedule Risk Tools

### 3.4. Schedule Quality Assessment

This subject focuses on the emerging science of measuring schedule quality and conformance to ‘good practice’ and the automated tools that are now available to assist in this process. There is a strong correlation between a well-constructed schedule and a desirable project outcome, applying these concepts will enhance the probability of on-time completion.

- 3.4.1. Schedule Quality Overview
- 3.4.2. Schedule Quality & Conformance Scoring
- 3.4.3. Schedule Quality Assessment Tools and Software

### 3.5. Scheduling Methodologies and Approaches

This subject looks at the wide range of scheduling methodologies and approaches to improving CPM scheduling currently available. Traditional ‘critical path’ scheduling is only one of the ways to develop a useful and effective schedule, and in many situations it is far from optimal.

- 3.5.1. Scheduling concepts and theories
- 3.5.2. Scheduling methodologies and approaches
3.6. **PM Software and Tools**

This subject takes a look at the range of project, program and portfolio management software and tools available to use (many free). Where we can, links to the developers’ web sites are provided.

3.6.1. Scheduling Software and Tools
3.6.2. Cost, Estimating & Earned Value
3.6.3. Risk management & Decision Support
3.6.4. Integrated Portfolio, Program and Project (PPP) Management Tools
3.6.5. Team management & Collaboration software
3.6.6. General project management software
3.6.7. Construction / Engineering management software

3.7. **Project Controls Books & Resources**

This page offers a brief overview of a few of the 1000s of books, standards and guides focused on scheduling and project controls available in the marketplace, the organizations we know of, and other web-based resources that are free, or easy to join. We focus on books we have reviewed, used or written.

3.7.1. Scheduling & Controls, Standards & Guides
3.7.2. Scheduling & Controls Books
3.7.3. Scheduling & Controls Resources

3.8. **Earned Value & Earned Schedule**

Earned Value Management (EVM) has proven itself to be one of the most effective performance measurement and feedback tools for managing projects. This subject looks at EV from a business management perspective.

3.8.1. Earned Value & Earned Schedule Overview
3.8.2. Earned Value Processes
3.8.3. Earned Schedule
3.8.4. EV & ES Resources and Training

3.9. **Advanced Risk Management**

Risk management topics that extend beyond the basic requirements.

3.9.1. Practical Risk Management Overview
3.9.2. Risk Assessment & Management
3.9.3. Probability, Standard Deviation & Statistics
3.9.4. PERT and Monte Carlo
3.9.5. Contingencies, Reserves & Averages
3.9.6. Practical Risk Management Tools & Courses
3.9.7. Industry Perspectives
3.9.8. Complexity & People
4. People Skills & Advanced PM Techniques

Subjects covered in this section focus on two areas, personal skills and competencies needed by project and program managers, and specialised functions and approaches that go beyond the core project management processes covered in sections 2 and 3 of the PMKI.

People and soft skills section: Project and program managers achieve project success through the work of, and support from, the project team and other stakeholders. Effective managers use a balance of technical, interpersonal, and conceptual skills that help them analyse situations and interact with other people appropriately; this sub-section focuses on those key personal characteristics (soft skills) needed by a successful manager at any level in an organisation.

4.1. Personal Ethics & Sustainability

This subject underpins all of the others. A strong ethical framework is vital for personal success influencing our actions and decisions. Ethics govern the conduct of a person and are founded on the collective view of a profession, organisation, or society.

4.1.1. Personal Ethics
4.1.2. Ethical Decision Making
4.1.3. Professionalism
4.1.4. Sustainability

4.2. Competencies & Interpersonal Skills

A competent person is capable of applying knowledge effectively to achieve a desired outcome. This section looks at competency and some of the key characteristics and skills a competent manager requires to be effective.

4.2.1. Competency Overview
4.2.2. Project & Program Management Competencies
   - Competency Frameworks
4.2.3. Interpersonal Skills
   - Making Decisions
   - Negotiating & Mediating
   - Managing Senior Managers
   - Information Acquisition and Use
   - Conflict Management
4.2.4. Managing People and Teams
   - Managing People
   - Managing Teams
   - Trust
   - Meetings

4.3. Leadership & Motivation

This subject looks at the personal attributes needed by a person to lead a group of people towards achieving a common goal, and some of the many facets of effective leadership, including motivation.

4.3.1. Leadership
4.3.2. Motivation
   - Key Performance Indicators (KPIs)
4.4. **PM Training & Qualifications**  
This subject looks at project and program management qualifications, their importance in the current job marketplace, and their effectiveness in identifying competent people.

4.4.1. **PMP Credential information**  
- PMP Overview  
- Why we stopped teaching PMP  
- PMP Resources  
- PMP Training Options

4.4.2. **CAPM Credential information**  
- CAPM Overview  
- Why we stopped teaching CAPM  
- CAPM Resources  
- CAPM Training Options

4.4.3. **PMI’s CCR System**  
- CCR Overview  
- Earning and reporting PDUs  
- PMI’s Talent Triangle

4.4.4. **Training & Qualifications Overview**

4.4.5. **Learning & Studying**

4.4.6. **Exam Questions**

4.4.7. **PM Credentials & Qualifications**

**Advanced Tools & Techniques section:** this subsection focuses on a number of project management capabilities in which we have high levels of expertise. The subjects discussed below go beyond the core skills needed for general project or program management (these are covered in section 2). Each of the subject areas below are designed for people seeking expertise respective disciplines.

4.5. **Product Development & Maintenance**  
The product lifecycle and the maintenance of facilities start with a project (or program), use project’s for significant upgrades and frequently need a project to deal with the challenges of shutdown and disposal. This subject looks at the overlap and the differences between product management, maintenance management and project management.

4.5.1. **Product Development**

4.5.2. **Maintenance Management**

4.6. **Advanced Stakeholder Engagement**  
Projects are managed by people, for people and everyone involved is a stakeholder. This subject moves beyond the basics to look at how organisations can build stakeholder engagement into their DNA and create a successful, sustainable outcome.

4.6.1. **Stakeholder Overview, Theory and Research**  
- ESEI Stakeholder Engagement

4.6.2. **Defining & Identifying Stakeholders**
4.6.3. Stakeholders and Success

4.6.4. Analysing Stakeholders

4.6.5. Engaging Stakeholders
- Overview
- Internal Senior
- Internal Teams & Colleagues
- External

4.6.6. Project Relationship Management and the Stakeholder Circle.
A dissertation submitted in partial fulfilment of the requirements for the degree of Doctor of Project Management (DPM).

4.6.7. The Stakeholder Circle® Methodology
- Overview
- Tools and Books
- Applying the methodology

4.6.8. Stakeholder Relationship Management Maturity Model (SRMM®)
- SRMM Overview
- SRMM Application

4.7. Claims and Forensic Analysis
Many projects end up in various forms of dispute over time, money quality and/or scope. This subject looks at the causes of project failure and how to manage disputes when they arise.

4.7.1. Causes of project failure
4.7.2. Forensic analysis and reporting (cost & time)
4.7.3. Claims & Expert Witness
4.7.4. Casewatch listing: Casewatch publications are a brief topical report on recent Australian cases in the construction, development, and project industries

5. Industries, General & References
Subjects covered in this section include a focus on specific industries, the history of project management, general references and links to PPP definitions and vocabulary and other useful links.

Industry Section
5.1. Construction and Engineering
Aspects of project controls and management specific to the construction and engineering industries.

5.1.1. General papers – management and control
5.1.2. BIM and technology
5.1.3. CIOB resources
5.1.4. Dispute management in Construction/Engineering

To access the PMKI website, go to: https://mosaicprojects.com.au/PMKI.php
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5.1.5. Casewatch Reports – building & contract law  PMKI-XTR-006.php

5.2. Software & IT projects  PMKI-XTR-010.php
Aspects of project controls and management specific to the ICT industries including Agile, Waterfall and other soft project development processes.
  5.2.1. IT Project Management Overview
  5.2.2. Agile Approaches to Development
  5.2.3. Traditional Approaches to Development

General and Reference Section

5.3. Papers of general interest  PMKI-XTR-025.php
Interesting and useful papers that do not have a ‘home’ elsewhere in this taxonomy.
  5.3.1. General Interest

Alpha numeric listing (title and link only) of:
  5.4.1. Published papers and presentations
  5.4.2. White papers
  5.4.3. Articles

5.5. Retired papers  PMKI-XTR-035.php
Superseded papers from the last 20 years on topics that have evolved, have dropped out of the modern view of project management, or have been updated.
  5.5.1. Organizations & Governance
  5.5.2. PMBoK Knowledge Areas
  5.5.3. Project Controls & Scheduling
  5.5.4. People Skills and Advanced Project Management
  5.5.5. Industries, General & References
  5.5.6. Project Management History

5.6. PM Vocabulary & Lexicons  PMKI-XTR-040.php
Project management suffers from a lack of precision in the definition of terms. We do not intend to create yet another listing! This subject links to a number of reputable lexicons and vocabularies.
  5.6.1. Vocabularies & Lexicons

5.7. PM reference sites and blogs we like  PMKI-XTR-045.php
This page links out to reputable reference sites and blogs we own, contribute to, like and respect. If you have not found something you need in the PMKI, there’s a good chance you will on one of these sites........ All of the links are annotated to make choosing your next destination easy.
  5.7.1. Project Management Associations

To access the PMKI website, go to: https://mosaicprojects.com.au/PMKI.php
6. Project Management History
Subjects covered in this section look at the origins of modern project management and the evolution of aspects of project controls from 4000 BCE to the present. Many of the papers contain original research.

6.1. The Development of Modern Project Management PMKI-ZSY-005.php
This subject looks at the origins of modern project management and its evolution into a profession.

   6.1.1. Origins, and trends in, modern project management
   6.1.2. The development of project management credentials
   6.1.3. The evolution of construction management

6.2. The History of Ancillary Project Management Concepts PMKI-ZSY-010.php
This subject looks at the origins of diverse range of ancillary factors used in PM such as calendars, numbers, and arbitration.

   6.2.1. The origins of numbers, calendars and calculations
   6.2.2. The development of general management theory
   6.2.3. The history of dispute management and arbitration

6.3. The Evolution of Governance & Ethics PMKI-ZSY-015.php
This subject looks at the development of the concepts of governance, ethics and integrity from a project management perspective.

   6.3.1. The evolution of ethics and integrity
   6.3.2. The origins and development of governance

6.4. The History of Project Controls PMKI-ZSY-020.php
This subject provides a general overview of the development of project control techniques from bar charts through to modern optimisation and integration (BIM). The origins of specific techniques are discussed as separate subjects below.

   6.4.1. The history of scheduling
   6.4.2. The history of Earned Value and Cost Controls
   6.4.3. Developments in the creation and use of controls information

6.5. Henry L Gantt (and why bar charts are not 'Gantt Charts') PMKI-ZSY-025.php
This subject looks at the important contribution of Henry L. Gantt to the development of modern management and the charts he used in his work.
6.5.1. Henry L. Gantt’s work and contribution to management
6.5.2. Gantt’s books and publications (original texts)

6.6. The Origins of CPM, PDM and PERT Schedules
PMKI-ZSY-030.php
This subject looks at the origins of the CPM, PDM and PERT network diagramming techniques and calculations.
6.6.1. Origins of CPM (Critical Path Method and AoA)
6.6.2. Origins of PDM (Precedence Diagramming Method and AoN)
6.6.3. Origins and limitations of PERT

6.7. Project Management History Resources
PMKI-ZSY-035.php
This subject provides annotated links to books, websites and other resources focused on documenting the history of project management.
6.7.1. Project management history books
6.7.2. Project management history websites