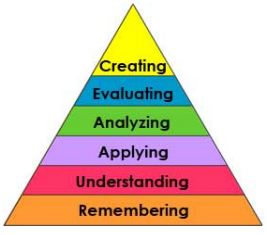
Module 1: The seven interdependent P's of a project

Rev 1.0.1

Objectives of Session 1

1. To introduce the seven interdependent P's of a project
2. To introduce and discuss the Quadruple Constraints
3. To introduce the concept of pure, applied and domain project management
4. To introduce participants to the experience of learning via knowledge readings



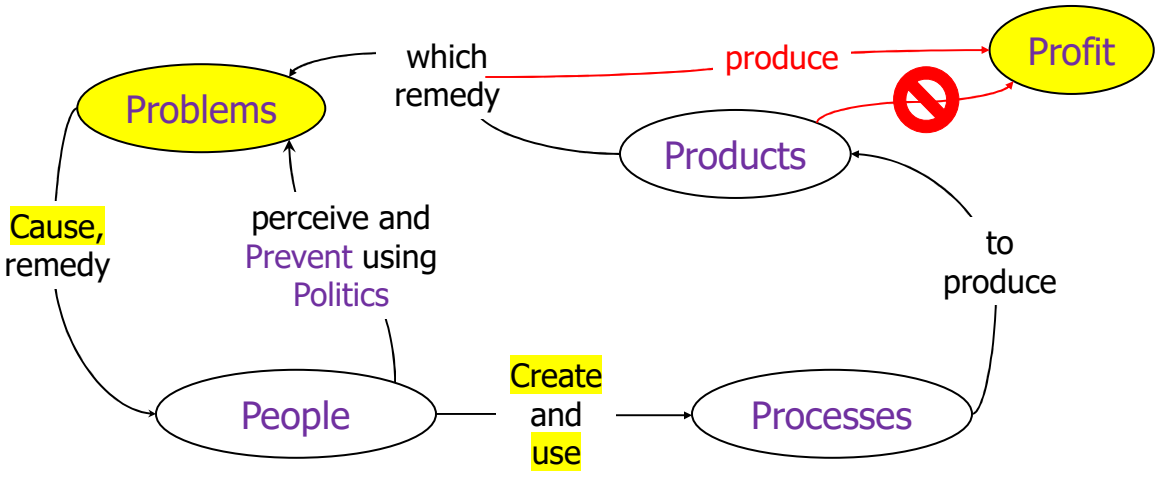
Knowledge

- Lecture
  - Overview, summarizes reading material
- Readings
  - 0101 Systemic and Systematic Project Management (SaSPM) Chapter 1 Introduction
  - 0102 SaSPM Chapter 2 The seven interdependent P's of a project
  - 0103 Kasser J.E., Improving project status reporting with Enhanced Traffic Light Charts, 2016, YouTube video (https://youtu.be/fwM_9otO0F0) (10 minutes)
- Exercises
  - 1-01 Knowledge reading 0102 Sections 2.1.2, 2.1.3 and 2.1.4
  - 1-02 Knowledge reading 0102 Sections 2.1.5, 2.1.6, 2.1.7 and 2.1.8
  - 1-03 Knowledge reading 0102 Section 2.2
  - 1-04 Knowledge reading 0103

The 7 interdependent P's

1. People
2. Politics
3. Prevention
4. Problems
5. Processes
6. Profit
7. Products

Linking the 7 interdependent P's of project management (simplified view)



1 People

- Manage and perform projects
- Take time to perform a task
- Create and remedy problems
- Need to be motivated
  - Dynamic continuum of motivation (X …..Y)
- Have different competencies and skills
  - Two people can perform the same task, the time taken and the outcomes can be different
- (Don't) communicate (non) project-related information
  - Verbal, written and combination
    - Conversations, memos and documents, presentations, etc.
- Tend to resist change

Individuals tend to commit to change in predictable, sequential stages*

* [6] SuZ Garcia and Chuck Myers, "Out from Dependency: Thriving as an Insurgent in a Sometimes Hostile Environment", SEPG Conference, 2001
  - Cited by
    - Jansma, P. A. T. and Jones, R. M., "*Advancing the Practice of Systems Engineering at JPL*", proceedings of IEEE Aerospace Conference, 2006.

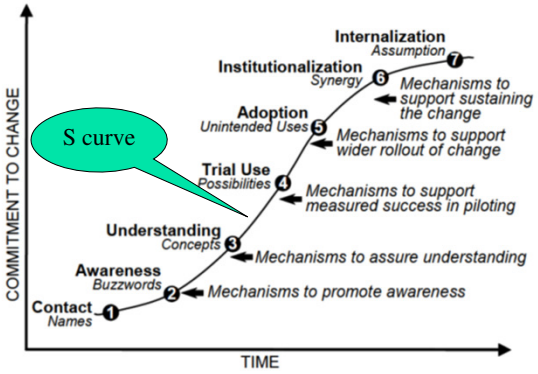


Figure 2 OCM Curve and Stages [6]

2 Politics

- The process of making decisions that apply to members of a group (Hague and Harrop 2013)
- A way of interacting with people to influence the achievement of goals by facilitating or impeding the achievement
- The use of intrigue or strategy in obtaining any position of power or control, as in business, university, etc. (Dictionary.com 2013)
- Distained by many people who have only been exposed to its negative (dark) side
  - Major mistake
- Can be positive and negative
- Positive politics
  - Can be extremely effective
    - e.g., reward and recognition influences the achievement of goals
  - Is a major part of stakeholder management (Section 12.6)
  - Is the most important tool used by a project manager
  - Balance is needed between politicking and managing project staff

3 Prevention

- Lowers costs and shortens schedules
- May be thought of as the future value of work performed (or not performed) in the present
  - similar to the concept of the future value of money which economists use to compare the value of money spent or saved in the future with the amount of money spent or saved in the present
- Is difficult to prove after-the-fact. If something didn't happen, we cannot prove if it was prevented from happening or if the situation that would cause that something to happen did not arise
- Is also known as risk management
- Is incorporated in the systemic and systematic approach to project planning and managing
- The Enhanced Traffic Light Chart is a tool that can show prevention being performed (Reading 0103)

4 Problems

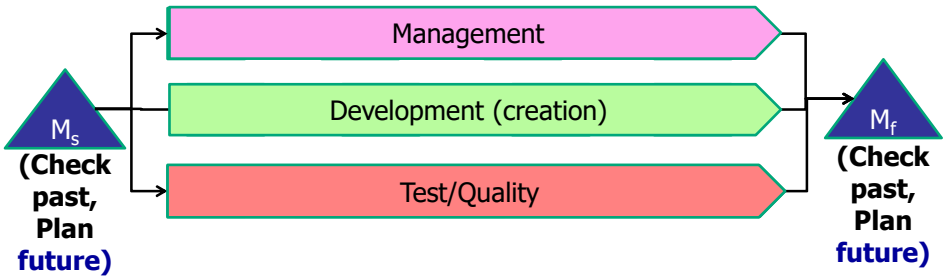
- Project management is about problem-solving
- If a problem didn't need solving there wouldn't be any need for the project
- Problems arise all the time even in well-planned projects.
- Problems require thinking, a critical skill of the project manager covered in detail in the Creating Outstanding Problem Solvers (COPS) course modules 2-9
  - COPS Module 1: Thinking and systems thinking
  - COPS Module 2: Critical thinking
  - COPS Module 3: Holistic thinking
  - COPS Module 4: Problem-solving (in-depth coverage of Chapter 3 of SaSPM text book)
  - COPS Module 5: Decisions and decision making
  - COPS Module 6: Remedying simple and complex problems
  - COPS Module 7: Tools and applications in project management
  - COPS Module 8: Tools and applications in systems engineering (optional)
  - COPS Module 9: Tools and applications in risk management

5 Processes

- Projects can be considered as being performed in five sequential process groups (PMI 2013 p. 4), namely:
  1. Initiating
  2. Planning
  3. Executing
  4. Monitoring and controlling
  5. Closing
- A process group is a set of activities performed in series and/or in parallel
- Activities incur costs and use resources which may be recovered
- Activities take time which cannot be recovered (today's technology)

The three streams of work in a project

1. Work is performed in three streams between milestones
2. Used in planning project activities
3. Consists of activities in series and parallel
4. Produces product using resources taking time
5. Each production activity exists in all three streams
   - Management, development/production, test/quality assurance



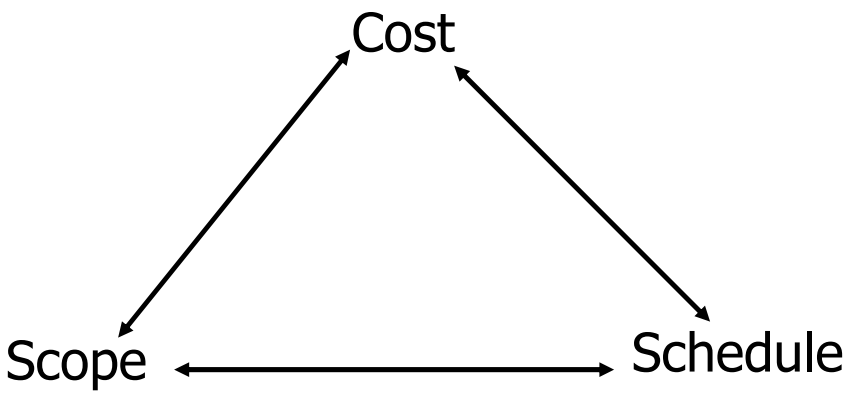
6 Profit

- The profit is the (desirable) outcome of a project
- Commercial world
  - Projects need to make a financial profit (in general)
    - Projects with external customers need to make a profit
    - Projects with internal customers may have different goals
      - E.g. process improvement, improve working conditions
  - The profit made by a project is the return on the investment (ROI)
- Government world
  - Profit need not be financial
  - Resources are consumed to produce a desirable outcome (profit)
    - E.g., raise quality of life, provide services, security and safety

7 Products

- Products may be biological, chemical, procedural, technological, and other, as well as a combination
- Products may be produced during the performance of a project as well as by the project
  - E.g. progress reports, requirement and design documents, models, etc.
- There is always a cost and a time (schedule) to develop a product
- Project managers need to estimate costs and schedules before a project begins to determine if the project is affordable and/or will deliver the required return on investment (ROI)Project managers need to re-estimate the costs and schedules once the project commences and more detail is known about the seven interdependent P's of the project
- However, before trying to estimate costs the project manager needs to understand the nature of costs, where they come from, and what they represent

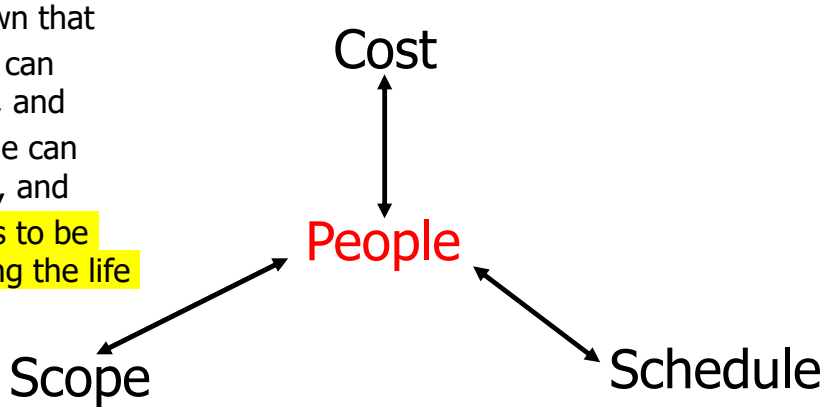
Traditional triple constraints of projects



A change in one generally affects the others

The quadruple constraints

- Experience has shown that
  - the right people can **make** a project, and
  - the wrong people can **break** a project, and
  - this factor needs to be considered during the life of the project



A change in generally affects the others

Pure, applied and domain project management

- Introduced the concept of pure and applied systems engineering as part of a competency model
- Idea came from pure and applied mathematics, and added 'domain'
- Simplified problem of what to teach in what class
- Applies to project management and other professions and trades

	Systems engineering	Project management
Pure	Cognitive skills for problem solving (systems and critical thinking)	Cognitive skills for problem solving (systems and critical thinking)
Applied	Requirements elicitation and elucidation, system architecting, systems integration and testing, etc.	Planning, organizing, directing and controlling (Fayol 1949 page 8) and staffing
Domain	Problem, solution and implementation domains (not necessarily identical)	Problem, solution and implementation domains (not necessarily identical)

Exercise 1-01 knowledge presentation

1. Prepare a brief on two main points in reading 0102 Sections 2.1.2, 2.1.3 and 2.1.4 (< 15min)
2. Presentation to contain
    1. A summary of the content of the reading (<1 minute)
    2. The compliance matrix
    3. This slide and the version number of the session
    4. A list of the main points
    5. The two briefings
    6. Reflections and comments on reading (<2 minute)
    7. Comparisons of content with other readings and external knowledge
    8. Why you think the reading was assigned to the module
    9. Lessons learned from module and source of learning e.g. readings, exercise, experience, etc. (<2 minutes)
3. Save as a PowerPoint file as Exercise1-01-abcd.pptx
4. Post/email presentation as, when and where instructed
5. Brief on one main point

Exercise 1-02 knowledge presentation

1. Prepare a brief on two main points in reading 0102 Sections 2.1.5, 2.1.6, 2.1.7 and 2.1.8 (< 15min)
2. Presentation to contain
    1. A summary of the content of the reading (<1 minute)
    2. The compliance matrix
    3. This slide and the version number of the session
    4. A list of the main points
    5. The two briefings
    6. Reflections and comments on reading (<2 minute)
    7. Comparisons of content with other readings and external knowledge
    8. Why you think the reading was assigned to the module
    9. Lessons learned from module and source of learning e.g. readings, exercise, experience, etc. (<2 minutes)
3. Save as a PowerPoint file as Exercise1-02-abcd.pptx
4. Post/email presentation as, when and where instructed
5. Brief on one main point

Exercise 1-03 knowledge presentation

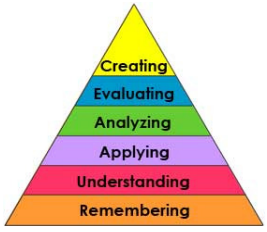
1. Prepare a brief on two main points in reading 0102 Section 2.2 (< 15min)
2. Presentation to contain
    1. A summary of the content of the reading (<1 minute)
    2. The compliance matrix
    3. This slide and the version number of the session
    4. A list of the main points
    5. The two briefings
    6. Reflections and comments on reading (<2 minute)
    7. Comparisons of content with other readings and external knowledge
    8. Why you think the reading was assigned to the module
    9. Lessons learned from module and source of learning e.g. readings, exercise, experience, etc. (<2 minutes)
3. Save as a PowerPoint file as Exercise1-03-abcd.pptx
4. Post/email presentation as, when and where instructed
5. Brief on one main point

Exercise 1-04 knowledge presentation

1. Prepare a brief on two main points in reading 0103 (< 15min)
2. Presentation to contain
    1. A summary of the content of the reading (<1 minute)
    2. The compliance matrix
    3. This slide and the version number of the session
    4. A list of the main points
    5. The two briefings
    6. Reflections and comments on reading (<2 minute)
    7. Comparisons of content with other readings and external knowledge
    8. Why you think the reading was assigned to the module
    9. Lessons learned from module and source of learning e.g. readings, exercise, experience, etc. (<2 minutes)
3. Save as a PowerPoint file as Exercise1-04-abcd.pptx
4. Post/email presentation as, when and where instructed
5. Brief on one main point

Meeting the objectives of Session 1

#	Objectives	Met
1	Introduced the 7 interdependent P's of a project	4-14
2	Introduced and discussed the quadruple constraints	15-16
3	Introduced concept of pure, applied and domain project management	17
4	Experienced learning via four knowledge readings	18-21



Session feedback: BWM

1. Best
2. Worst
3. Missing

Email:
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Subject: <class title> BWM Session #