

# Vets2PM<sup>®</sup>



## Project Management Professional (PMP<sup>®</sup>) Exam Crash Course

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Welcome!



The following pages are presented to  
facilitate the use of the  
Vets2PM 30-Day Study Plan

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# Course Introduction

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# Section Objectives

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- Meet your Support Team
- Course Objectives
- PMP® Introduction & Requirements
- Resources

# Your Support Team

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Get Training & Free Resources

Student Portal

DoD SkillBridge

Job Seekers

Talent Services

FAQs

Reach us at our first name (as below)  
@vets2pm.com!



**Eric**

(Founder & CEO)



**Kelly**

(Director of Staff)



**Jeremy**

(Chief Operations Officer)



**Cathy**

(Director of  
Career Services)



**Garrík**

(Lead Instructor)

# Course Objectives

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- Teach you how to take and pass the PMP® exam. “Period.”
  - Exam-taking techniques and tips
  - A *key* decision-making model to approach exam questions
  - The appropriate “lens” through which to take the exam
    - “How PMI thinks; how they see PMs”
  - Methodology differences
  - Exam-centric, “boot stomp” topics throughout a sequential project flow:
    - Initiate, Plan, Execute & Adjust, and Close
  - Exam-prep activities, questions, and practical tools
  - Holistic overview and conclusion



# What is the PMP®?

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- Quantifiable experience as a PM, doctrinal knowledge of PM fundamentals, and passing an arduous exam
- Passing the exam results in the globally-recognized Project Management Professional (PMP®) credential/certification
  - To hiring managers, the PMP® ‘validates’ one’s project management experience in:
    - Knowledge of PM domains
    - Experience in applying that knowledge to reality
    - Wisdom in conceptualizing and refining that application



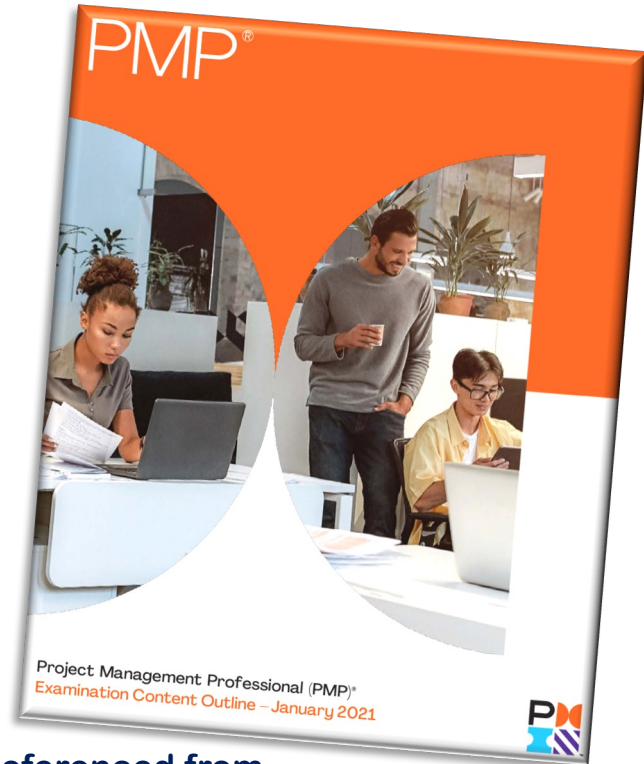
# PMP® Requirements

To be eligible for the PMP certification, you must meet certain educational and professional experience requirements. All project management experience must have been accrued within the last eight consecutive years prior to your application submission.

Educational Background	Project Management Experience
Secondary degree (high school diploma, associate's degree or global equivalent)	Minimum five years/60 months unique non-overlapping professional project management experience
OR	
Four-year degree (bachelor's degree or global equivalent)	Minimum three years/36 months unique non-overlapping professional project management experience
OR	
Bachelor's or post-graduate degree from a GAC accredited program * (bachelor's degree or master's or global equivalent)	Minimum two years/24 months unique non-overlapping professional project management experience

Experience must include leading and directing projects. A project is a temporary endeavor undertaken to create a unique product, service or result (as defined by the *PMBOK® Guide*).

In addition to the above project management experience, applications must also have at least 35 contact hours of formal project management education unless they are an active CAPM holder. If you are an active CAPM certification holder, you do NOT need to document the 35 contact hours. Your project management education requirement is waived.



Referenced from...

# PMP® Application

- Create an account at pmi.org
- Initiate a PMP® application
- Use the ***Application Completion Tool\**** to consolidate and record your PM experience
  - (If audited) Complete audit instructions
    - Contact us for *free* audit defense
  - (If rejected) Complete correction instructions
    - Contact us for *free* application correction
- Upon acceptance, schedule your PMP® exam
  - Recommended to test within 4 weeks of completing this course *and* the 30-Day Study Plan



\* The Application Completion Tool is provided for *free* as part of your Vets2PM membership, and is found on your Vets2PM Student Portal

# Resources



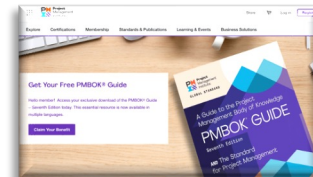
## • Vets2PM Student Portal

- On-Demand PMP® Exam Crash Course
  - Videos, Project Manager Essential Toolbox (PMET), exam-prep questions, etc.
- Vets2PM PMP Application Course
  - The Application Completion Tool (ACT)
- Many other *free* materials to facilitate your success!



## • Project Management Institute (PMI®)

- PMBOK Guide 7<sup>th</sup> Edition
  - “Project Management Body of Knowledge Guide”
- Project Management Professional Exam Content Outline (PMPECO)
- PMI.org (articles, standards, publications, etc.)





# Enjoy the Course!

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Have fun  
Be curious  
Trust the process

# Exam Information

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# Section Objectives

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## The PMP® Exam

- The PMBOK® Guide
- Composition
- Execution
- Approach
  - The appropriate “lens” through which to take the exam
    - “How PMI thinks; how they see PMs”
- Studying

# The PMP® Exam

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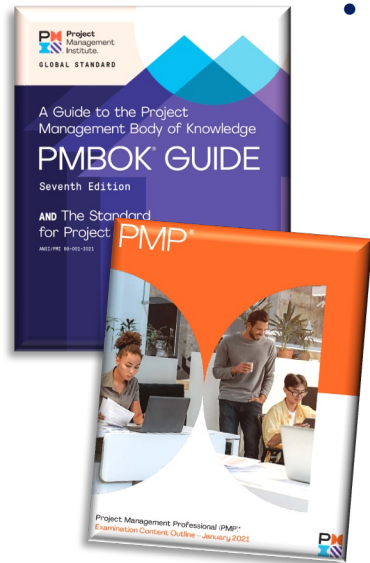
- Comprehensive, timed, situational, computer-based exam that tests one's understanding and application of PM domains in terms of:
  - Social skills, technical skills, and business environment
- Passing the exam results in the globally-recognized Project Management Professional (PMP®) credential/certification
  - To hiring managers, the PMP® validates one's project management experience in:
    - Knowledge of PM domains
    - Experience in applying that knowledge to reality
    - Wisdom in conceptualizing and refining that application





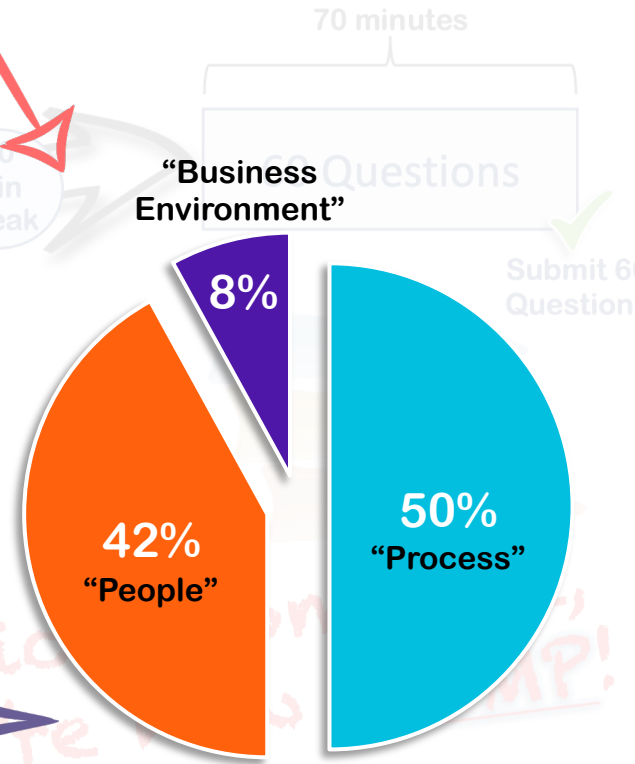
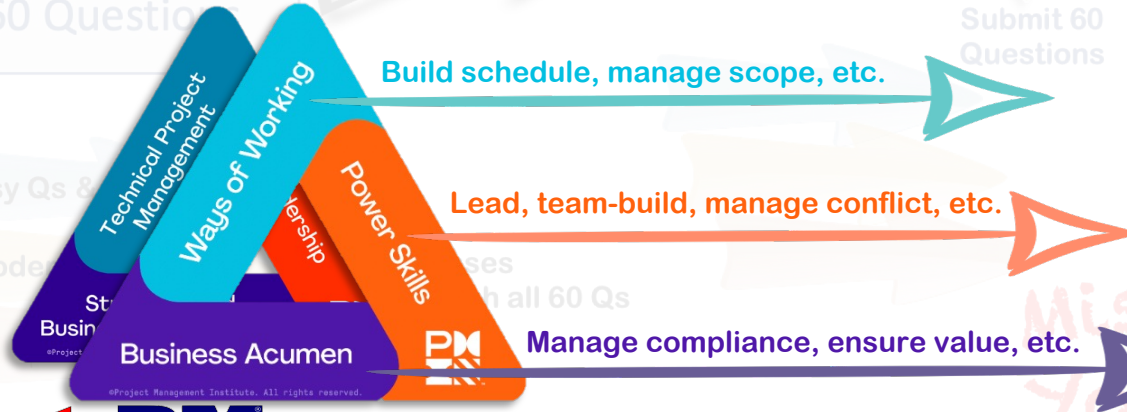
# PMP® Exam & The PMBOK® Guide

- A manual published by PMI that contains:
  - An ANSI Standard (ANSI/PMI 99-001-2021) for delivering projects in any environment/industry
  - A guideline that project managers can use to assist in forming and implanting project plans
  - A contemporary collection of good and emerging practices to successfully manage projects
  - The PMP® Exam is not based on the (current) PMBOK® Guide, rather on the (current) PMP® Exam Content Outline (ECO). Any document supporting the tasks within the ECO are helpful for studying for the PMP® Exam.



# PMP® Exam Composition

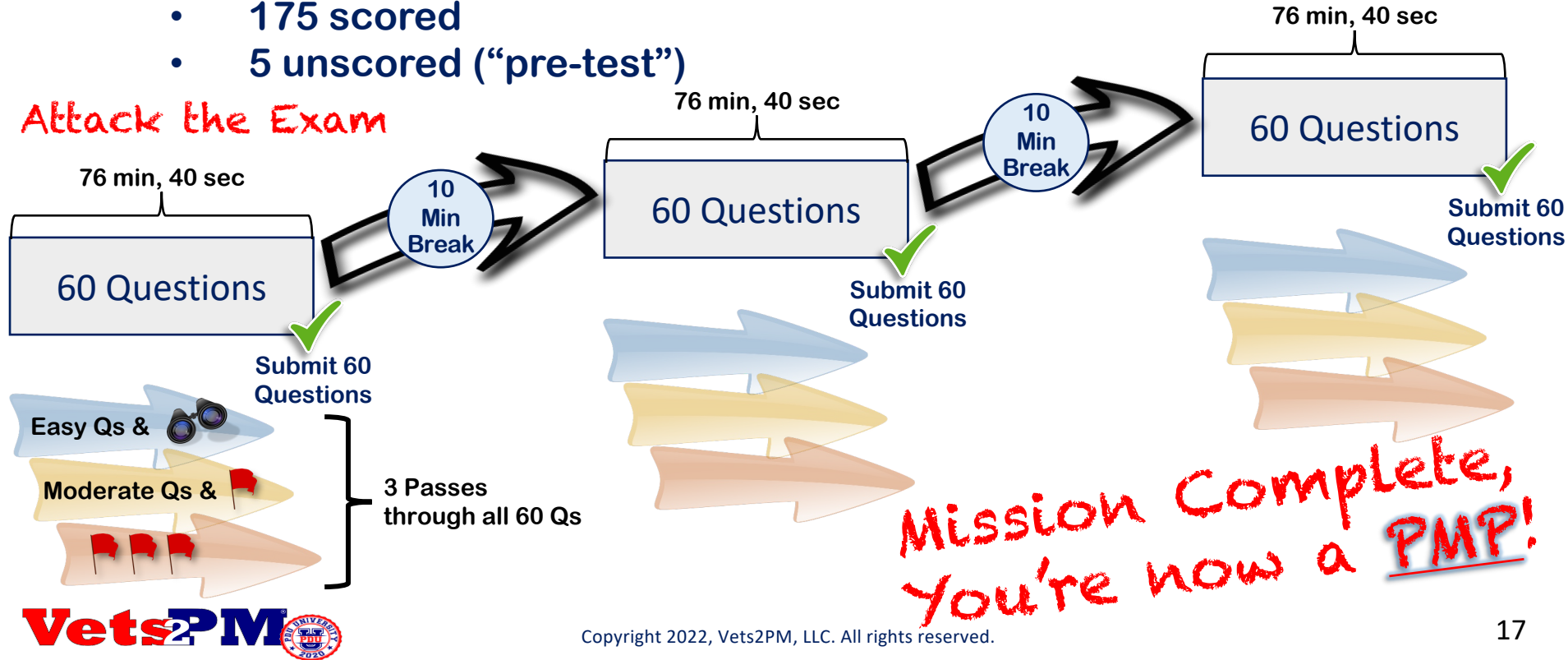
- 180 total questions, 230 minutes
  - 175 scored
  - 5 unscored (“pre-test”)
- Multiple choice (single answer) [most likely on exam]
- Multiple response (multiple answers) [most likely on exam]
- Matching (i.e. theory to theorist) [less likely]
- Fill in the blank (missing term/phrase) [less likely]
- Hotspot (interactive digital scenario) [less likely]



# PMP® Exam Execution

- 180 total questions, 230 minutes
  - 175 scored
  - 5 unscored (“pre-test”)

*Attack the Exam*



# PMP® Exam Approach

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## How PMI sees us as PMs

- The “lens” through which to view exam questions

## Mindset of the PM:

- Selfless service
- “The buck stops with you”
- 90% of your time is spent communicating (meetings, SMEs, reporting status, etc.)
- Planning is key, the WBS is the key planning document, so every project has a WBS
- Balanced approach to conflict management, negotiation, leadership style, etc.
- Always observe before making a decision (respond, don’t react)
- Proactive, not reactive



# PMP® Exam Approach

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## How PMI sees us as PMs

- The “lens” through which to view exam questions

## Exam Assumptions:

- You are assigned to a large, complex project for a large organization by a large organization
- Multi-year schedule and million+ dollar budget
- Numerous, global Stakeholders
- You are assigned before the project work begins, stakeholders are engaged, and roles/responsibilities are clearly defined and known
- You have appropriate time to plan and make decisions prior to executing
- A Project Management Office (PMO) is present and active
- You continuously influence stakeholders, changes, risks, root causes, and outcomes
- You are always looking for small, incremental improvements
- The project is not done until “all of the tools are put away”

# PMP® Exam Studying

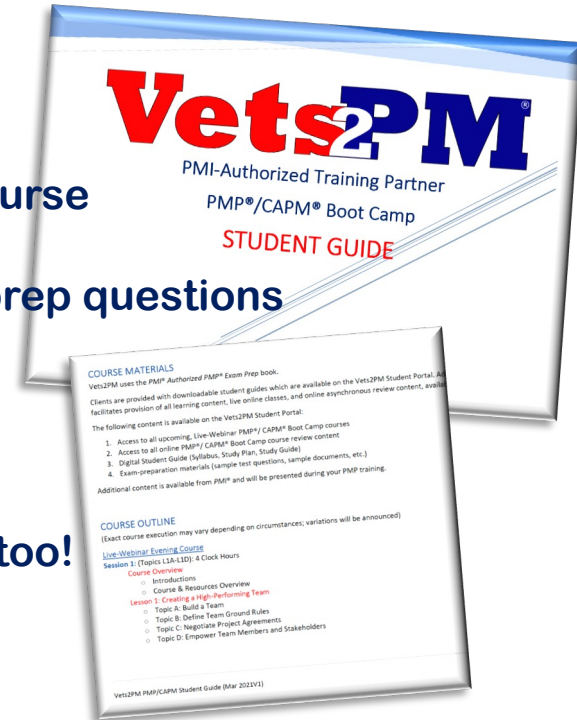
This PMP® Exam crash course is intended to be intense

- High volume of material
- Moderate complexity

We recommend 30 days of studying *after* completion of this course

- Use the 30-Day Study Plan; tailor length of time as needed
- Review course videos and materials; heavy focus on exam-prep questions
  - 2-3 hours per day
  - 5-6 days per week
  - 3-5 weeks

Life circumstances will vary, therefore your studying path will, too!



# Exam Information

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**“Practice is the best of all instructors.”**  
–Publilius Syrus (1st century Latin writer)

# Methodology

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# Section Objectives

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- Methodology vs Life Cycle
- Methodologies
- Life Cycles
- Terms & Characteristics
- Agile Manifesto

# Methodology vs Life Cycle

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An approach to solving a particular problem.

Predictive  
Adaptive  
Hybrid

*"Methodology" = "Approach"*

How a project will be compartmentalized/phased.

Predictive  
Adaptive  
Hybrid

# Prime Methodologies

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## Predictive Approach

- End-state/objective is known, create detailed plan to achieve it
- Customer communication/planning/analysis greater at forefront of project
- Create a plan, execute that plan
- aka traditional, classic, plan-driven, waterfall

## Adaptive Approach

- End-state/objective unknown/unclear, plan and execute as you go
- Customer communication/planning/analysis sustained throughout project in order to *adapt* to changes
- Plan some, execute some, get environmental feedback; repeat

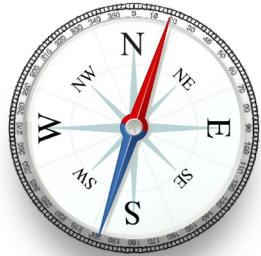
## Hybrid Approach

- Mixed elements of both predictive and adaptive methods

# Predictive Projects

## Predictive Approach

- End-state/objective is known, create detailed plan to achieve it
- Customer communication/planning/analysis greater at forefront of project
- Create a plan, execute that plan
- aka traditional, classic, plan-driven, waterfall





# Adaptive Projects

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## Adaptive Approach

- End-state/objective unknown/unclear, plan and execute as you go
- Customer communication, planning, analysis sustained throughout project in order to *adapt* to changes
- Plan some, execute some, get environmental feedback; repeat

## Agile Approach

- Determine the process (iteration) that achieves the desired result AND delivers minimum value, and quickly, to receive feedback
- Refine processes (efficiency)
- Increase value produced (effectiveness)

## Iterative Approach

- Determine the process (iteration) that achieves the desired result
- Execute process, repeat

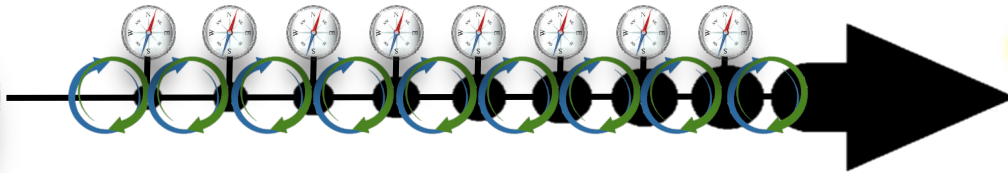
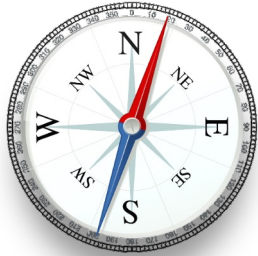
## Incremental Approach

- Deliver minimum value, but quickly, to receive feedback
- Produce increasing increments of value

# Adaptive Projects

## Adaptive Approach

- End-state/objective unknown/unclear, plan and execute as you go
- Customer communication, planning, analysis sustained throughout project in order to *adapt* to changes
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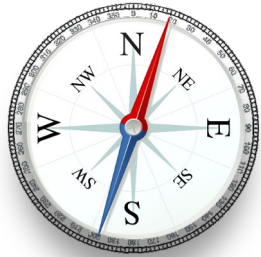
## Iterative Approach

- Determine the process (iteration) that achieves the desired result
- Execute process, repeat

# Adaptive Projects

## Adaptive Approach

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## Incremental Approach

- Deliver minimum value, but quickly, to receive feedback
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# Adaptive Projects

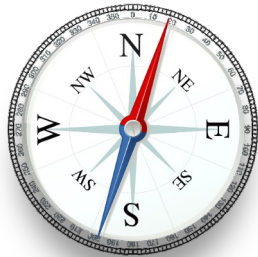
## Adaptive Approach

- End-state/objective unknown/unclear, plan and execute as you go
- Customer communication, planning, analysis sustained throughout project in order to *adapt* to changes
- Plan some, execute some, get environmental feedback; repeat

Agile combines  
Iterative & Incremental  
Approaches!

## Agile Approach

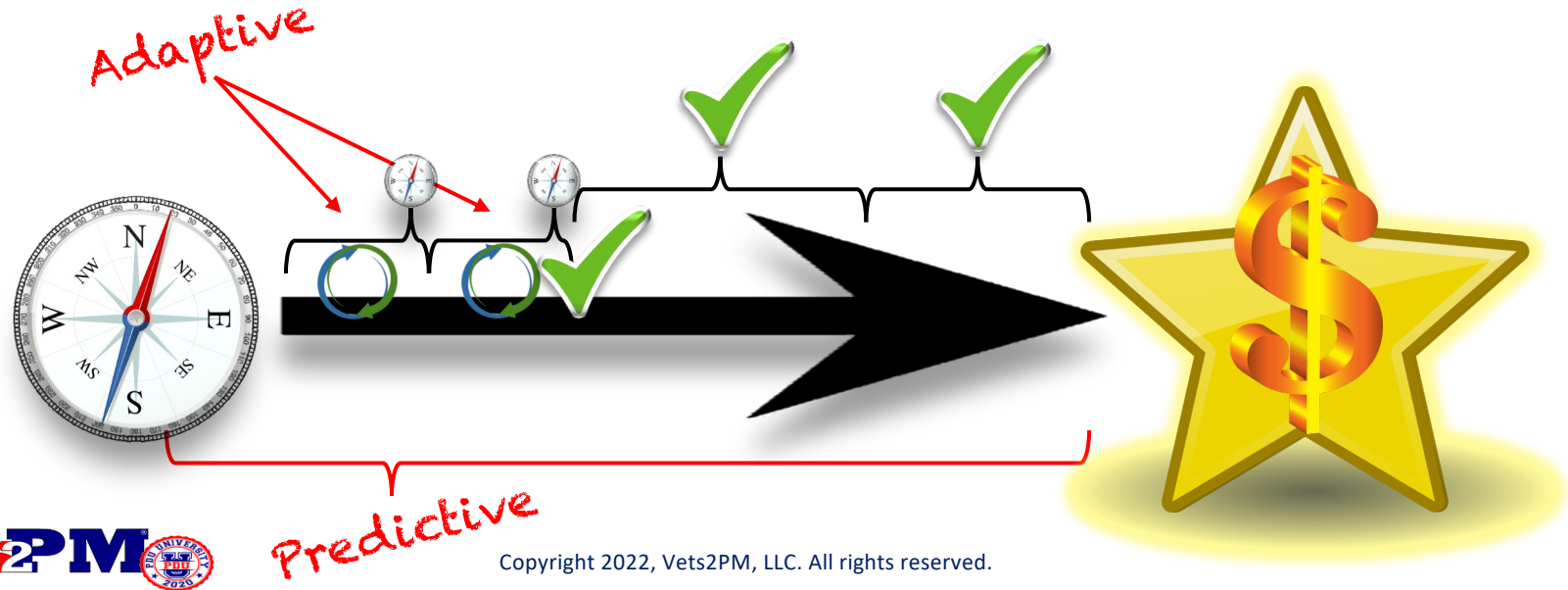
- Determine the process (iteration) that achieves the desired result AND delivers minimum value, and quickly, to receive feedback
- Refine processes (efficiency)
- Increase value produced (effectiveness)



# Hybrid Projects

## Hybrid Approach

- Mixed elements of both predictive and adaptive methods
  - E.g. Initial predictive plan made based on a presumed-known end-state, with agile execution in order to gain customer feedback in the development phases of the beginning of the project.

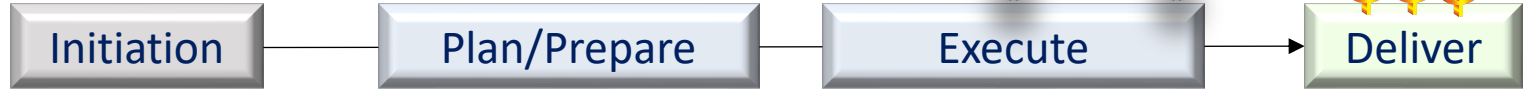


# Life Cycles

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How a project will be compartmentalized/phased.

Predictive



Adaptive

Hybrid

# Life Cycles

How a project will be compartmentalized/phased.



Hybrid

# Life Cycles

How a project will be compartmentalized/phased.





# Life Cycles

How a project will be compartmentalized/phased.



# Life Cycles

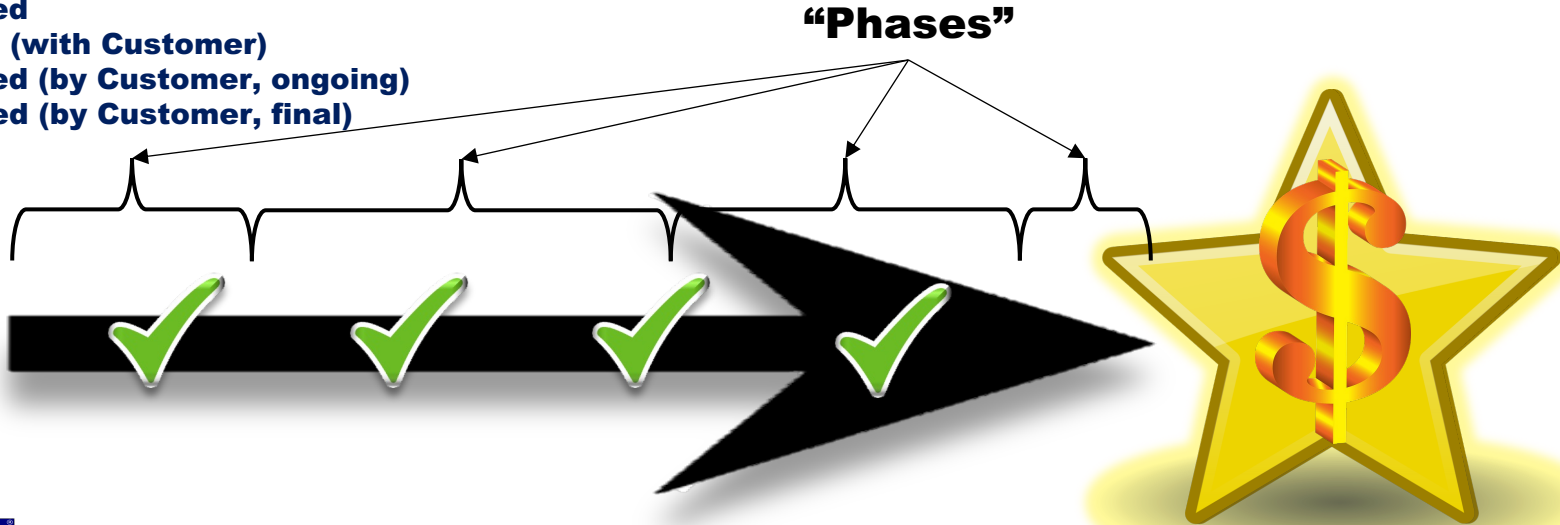
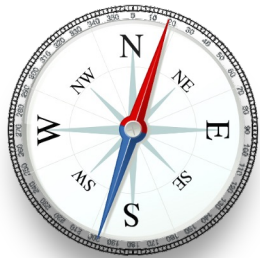
How a project will be compartmentalized/phased.



# Terms & Characteristics

## Predictive

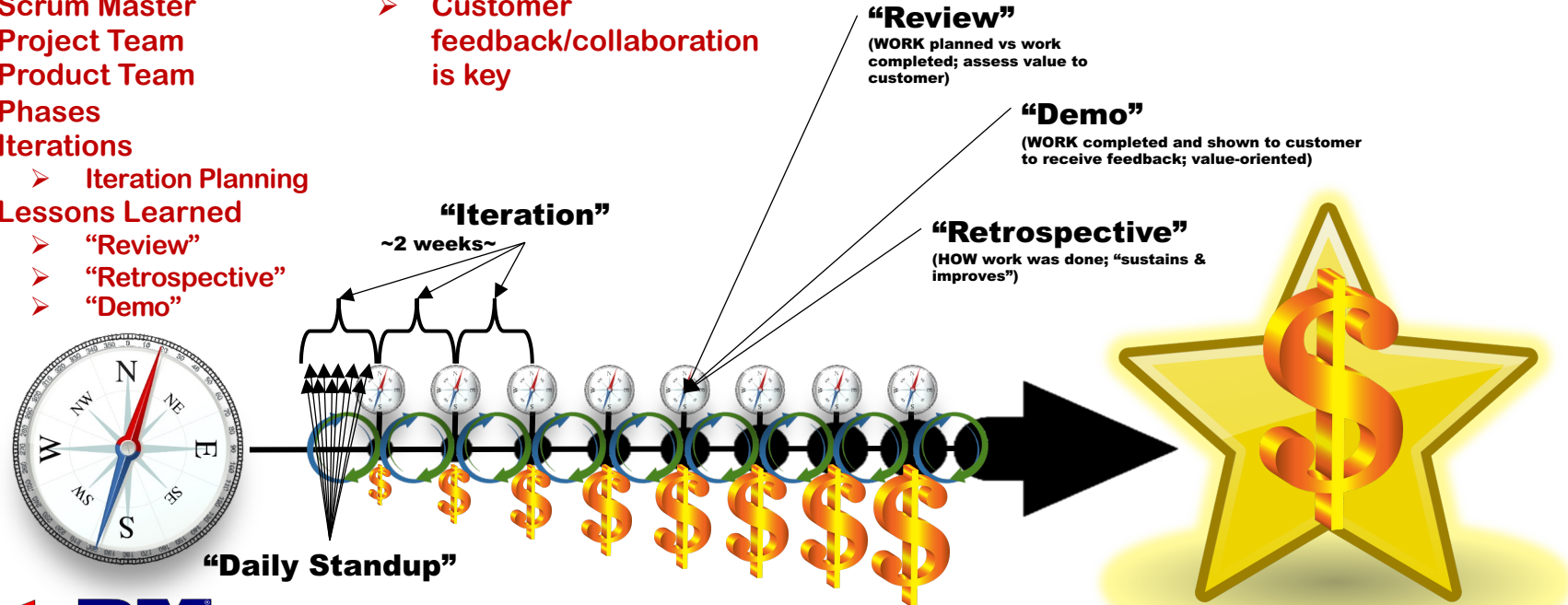
- **Project Manager**
- **Project Team**
- **Phases**
- **Lessons learned gathered when intuitive/post-phase**
- **Deliverables**
  - **Identified**
  - **Verified (with Customer)**
  - **Validated (by Customer, ongoing)**
  - **Accepted (by Customer, final)**



# Terms & Characteristics

## Agile

- Project Manager
  - Product Owner
  - Scrum Master
  - Project Team
  - Product Team
  - Phases
  - Iterations
    - Iteration Planning
  - Lessons Learned
    - “Review”
    - “Retrospective”
    - “Demo”
- Customer feedback throughout
  - Customer feedback/collaboration is key



# Terms & Characteristics

## Agile Scrum

- Project Manager
- Product Owner
- Scrum Master
- Project Team
- Product Team
- Phases
- Iterations "Sprint"
  - "Iteration" Planning
- Lessons Learned
  - "Review"
  - "Retrospective"
  - "Demo"

- Customer feedback throughout
- Customer feedback/collaboration is key

### "Review"

(WORK planned vs work completed; assess value to customer)

### "Demo"

(WORK completed and shown to customer to receive feedback; value-oriented)

### "Retrospective"

(HOW work was done; "sustains & improves")



"Daily Standup"

"Daily Scrum"

"Iteration" "Sprint"

~2 weeks~



# Agile Manifesto

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We are uncovering better ways of developing software by doing it  
and helping others do it.

Through this work we have come to value:

**Individuals and interactions** over processes and tools

**Working software** over comprehensive documentation

**Customer collaboration** over contract negotiation

**Responding to change** over following a plan

That is, while there is value in the items on the right, we value the items on  
the left more.

Referenced 25 April, 2022 from <https://www.agilealliance.org/agile101/the-agile-manifesto/>

# Methodology

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Methodology/  
Approach

Way to solve a problem

Life Cycle

Phases of the project

# Initiate

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# Section Objectives

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## Initiating documents

- Documents vs. Artifacts
- Business Case
- Management Plan Overview
- Benefits Management Plan
- Project Charter
- Team Charter
- Project Management Plan



## Initiating activities

- Team formation & development
- Securing enablers
- Stakeholder engagement
- Kickoff meeting



# Documents vs Artifacts



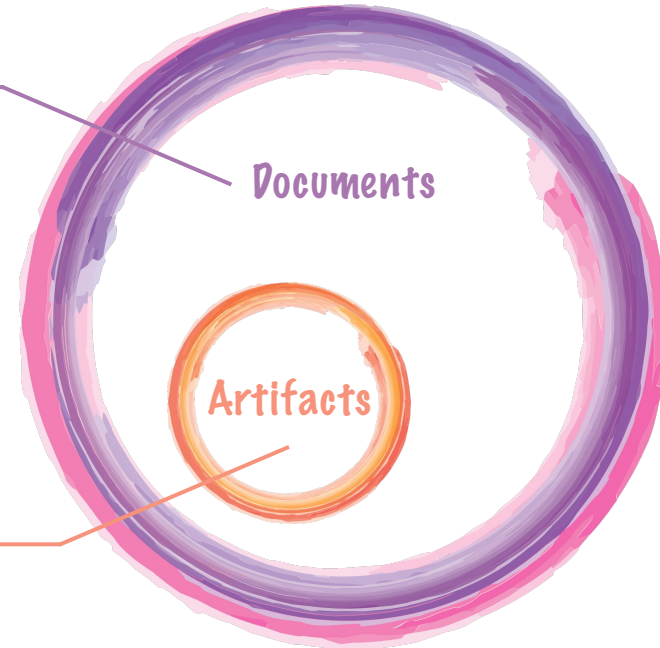
Created throughout the project to record and present important information

Stakeholder Register  
Requirements documentation  
(Current) Lessons Learned Register

A type of document that can be used to show historical context

- Past assumptions
- Past decisions
- Version-controlled

Project Charter  
Work Breakdown Structure  
(Past) Lessons Learned Register



# Business Case

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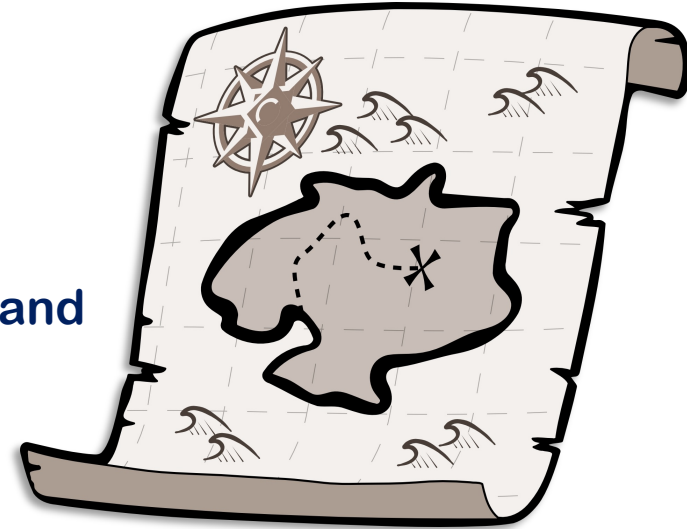
## Overall purpose of the project:

- Market need
- Organizational need
- Customer need
- Technological advancement
- Legal requirement
- Environmental need
- Social need



Should document the economic feasibility and justification for the project

Reflects needs of Executive Management



# Management Plan Overview

The plan... of how you and your Project Team... will plan!

- Procedures
- Principles
- Locations
- Formats
- Etc.

Covering most universal topics of project management

Made collaboratively with your Team



# Benefits Management Plan

Describes how and when the benefits of the project will be delivered, and delineates the mechanisms used to measure those benefits.

- Target benefits
- Strategic alignment
- Timeframe for realizing benefits
- Metrics
- Assumptions
- Risks
- Etc.

Reflects:

- Business Case
- Cost / benefit analyses
- Value descriptions and metrics

Iteratively reviewed/refined



# Project Charter



## “Authorization”

- Project to officially initiate
- You to be the PM!

## Includes “high-level” guidance

- Requirements
- Milestones
- Stakeholders
- Risk considerations
- Etc.

PM typically not involved in initiating projects, usually occurs between Senior Management and Sponsor

- Influence creation if and when possible



# Team Charter

## “Way of Working”

- Team dynamics
- **Ground rules**
- Procedures
- Schedules
- Ethical code
- Conflict Management
- Team-building
- Brainstorming
- Voting techniques
- Estimating techniques
- Etc.



*Written agreement to  
form behavior  
... built collaboratively!*

# PM Plan

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Comprehensive document describing  
**how** the project will be managed

- Processes
- Reviews
- Guidelines
- Approach/Life Cycle



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk



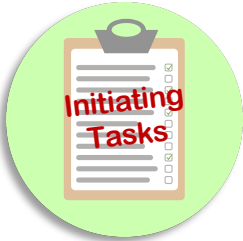
## Component Management Plans

- Benefits
- Requirements
- Change
- Configuration



# Team Formation & Development

Team formation can occur after receiving the Project Charter, or separately if the same team will manage multiple projects over time



Identify current project team



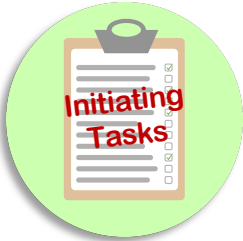
Identify ideal project team

- Skills
- Attributes
- Ethics
- Diversity
- Etc.

# Team Formation & Development

## Tuckman's Ladder

- Bruce Tuckman & Mary Jensen
- Group development stages
- Goal is to reach Performing Stage asap
  - “high-performing team”
- Cannot skip stages
- Team member additions/subtractions result in restarting the cycle



### Forming



Team roles  
Social roles  
Novelty

### Storming



Work begins  
Role conflict  
Social conflict

### Norming



Work progresses  
Conflict resolution  
Sufficient performance

### Performing



Role support  
Social support  
High performance

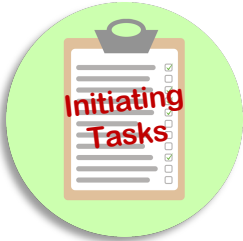
### Adjourning



Lessons Learned  
Reward/Recognize  
Disintegration

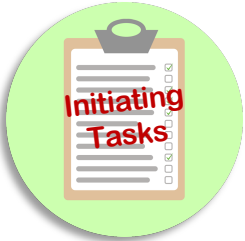
# Secure Enablers

Determine and secure enablers  
and resources needed for project  
team success



# Stakeholder Engagement

A Knowledge Area including all facets of project stakeholders



Stakeholder = those affecting and/or affected by the project.

- ... or *perceiving* themselves to affect and/or be affected by the project!
- Individuals, groups, government agencies, communities, etc.

As PMs, we *engage* stakeholders deliberately



Identify  
Stakeholders



Analyze  
Stakeholders

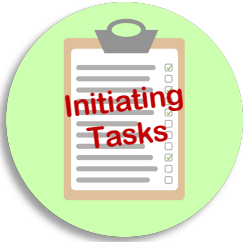


Engage  
Stakeholders

# Stakeholder Identification

Determine and document all known stakeholders

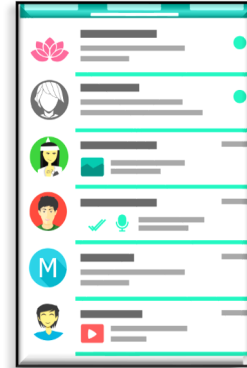
- Document analysis
- Brainstorm
  - Hold meetings
  - Project Team, SMEs, etc.
- Create Stakeholder Register



Identify  
Stakeholders



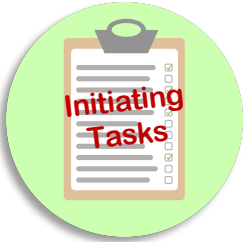
Stakeholder Register



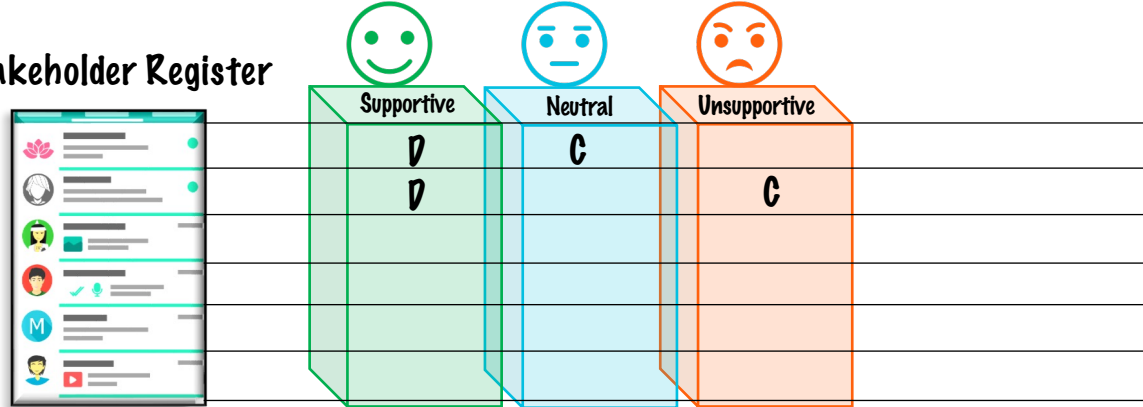
# Stakeholder Analysis

Determine current & desired engagement levels

Use stakeholder analysis tools to guide your team's engagement plan



Stakeholder Register

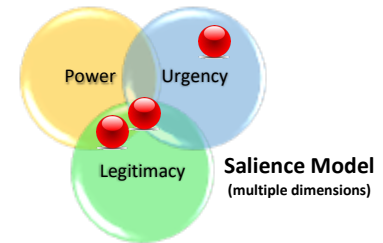
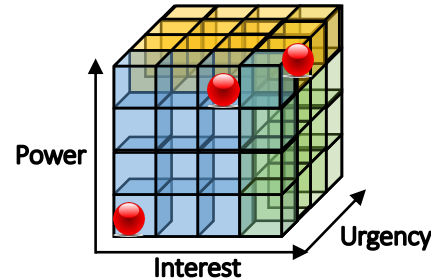
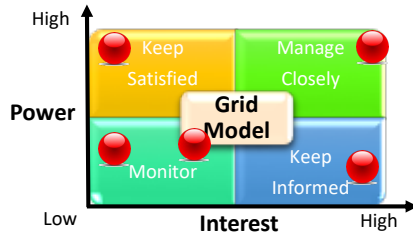
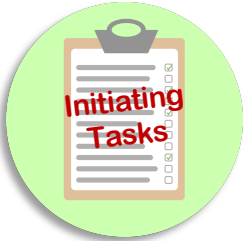


C = Current engagement level D = Desired engagement level

# Stakeholder Analysis

Determine current & desired engagement levels

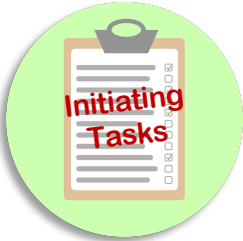
Use stakeholder analysis tools to guide your team's engagement plan



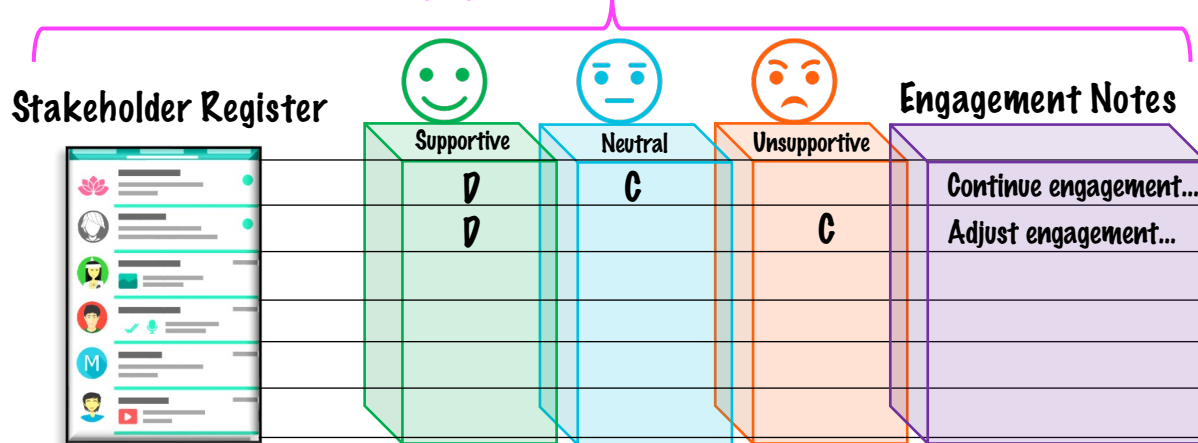
# Stakeholder Analysis

Determine current & desired engagement levels

Use stakeholder analysis tools to guide your team's engagement plan



Stakeholder Engagement Assessment Matrix (SEAM)



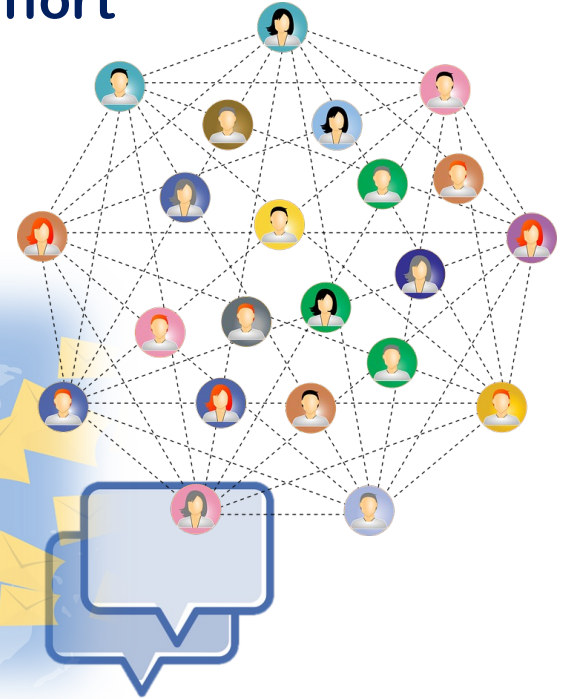
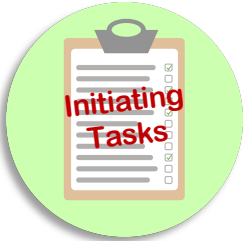
C = Current engagement level D = Desired engagement level



# Stakeholder Engagement

## Engage stakeholders with deliberate effort

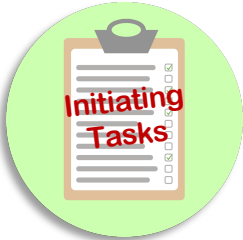
- Communication
- Reporting
- Influence
- Mentoring/Coaching
- Etc.



# Kickoff Meeting

---

Formally end initiating and begin planning



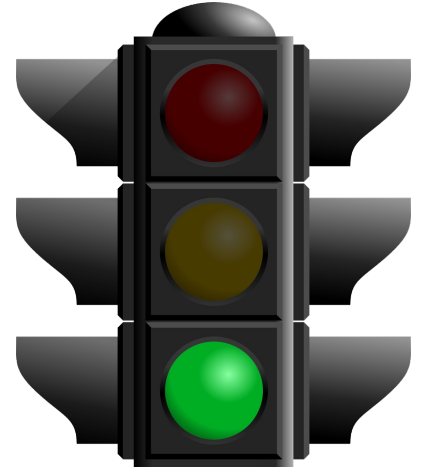
Communicate context of the project

- End state
- Vision
- Context within organization, industry, etc.

Collaboratively create vision statement

Solidify Project Charter, Team Charter, PM Plan

Introduce key stakeholders



# Initiate

---

Create your dream team



Gather useful enablers & resources



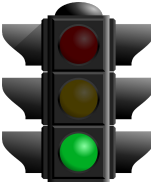
Receive initial project documents



Identify & analyze stakeholders



Kick off & begin planning!



# Plan

---

---

# Section Objectives

---

## Planning Concept

### Planning Knowledge Areas

- Stakeholder Engagement
- Communications
- Scope
- Schedule
- Cost
- Quality
- Resource
- Risk

# Planning Concept

Comprehensive document describing  
**how** the project will be managed

- Processes
- Reviews
- Guidelines
- Approach/Life Cycle



*Reminder*



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

## Component Management Plans

- Benefits
- Requirements
- Change
- Configuration

# Planning Concept

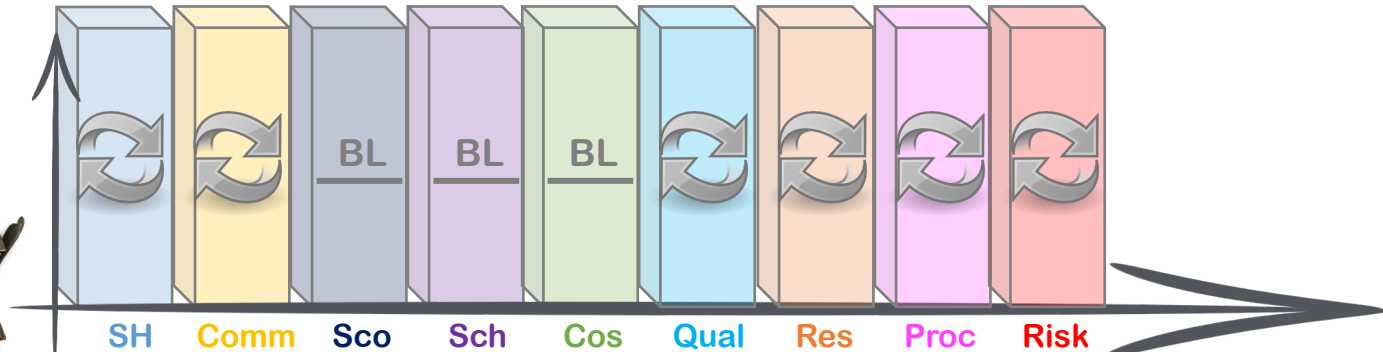
## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

*Must build a sufficient plan in order to execute!*



Integrate



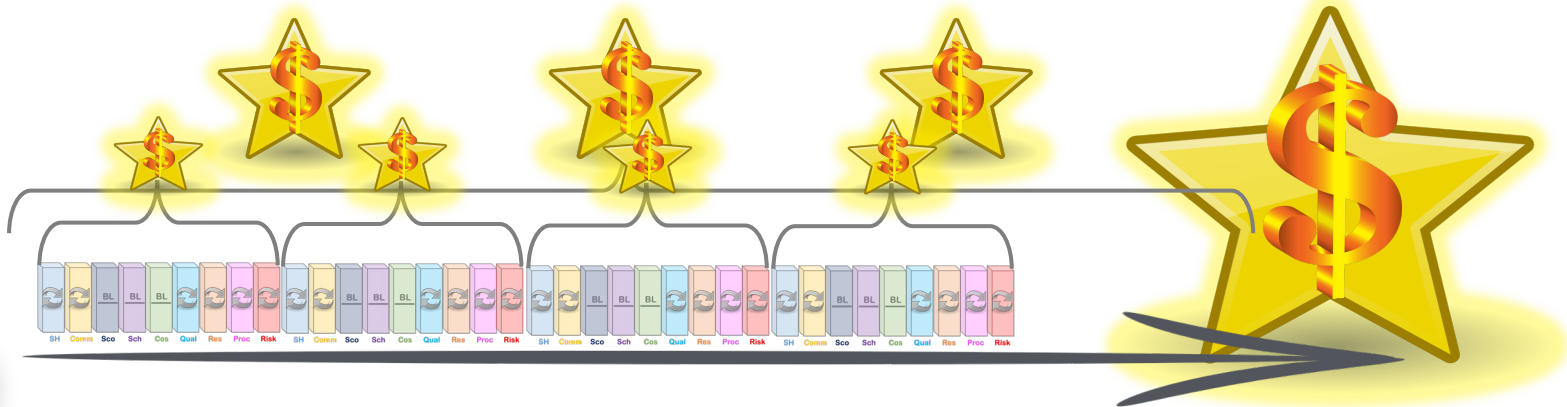
# Planning - Agile



## Project Management Plan

### Iteration/Sprint Planning

- Long-term conceptual plan
- Short-term detailed plan
- Allows administrative & productive changes
- Uses premise of "Rolling Wave Planning"





# Stakeholder Engagement



## Knowledge Area Management Plans

- Stakeholder Engagement
  - Communications
  - Scope (+ Scope Baseline)
  - Schedule (+ Schedule Baseline)
  - Cost (+ Cost Baseline)
  - Quality
  - Resource
  - Procurement
  - Risk
- ✓ Plan
  - ✓ Identify
  - ✓ Analyze
  - ✓ Engage
  - ✓ Assess
  - ✓ Adjust
  - ✓ Iterate!



# Stakeholder Engagement



## Knowledge Area Management Plans

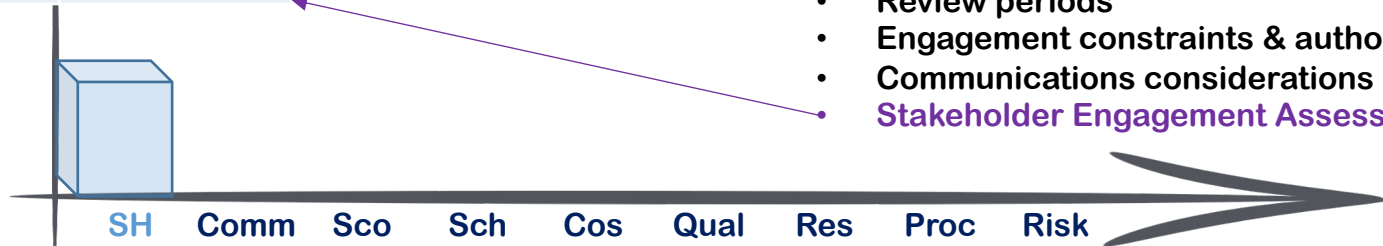
- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

✓ Plan



SH	+	~	-	Notes
1				
2				

- Formatting of Stakeholder analysis
- Analysis tools and techniques
- Brainstorming methods
- Review periods
- Engagement constraints & authorities
- Communications considerations
- Stakeholder Engagement Assessment Matrix



# Stakeholder Engagement



SEAM

## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement

✓ Plan  
✓ Identify

### Stakeholder

Any individual or group whom influences, or is influenced by, the project... or *thinks so*

SH	+	~	-	Notes
Joy				
Joe				

Risk



Document Analysis

Brainstorm

Categorize

Sponsor \$\$  
Organizational Managers  
Agencies  
Interest Groups  
Etc.



SH Comm Sco Sch Cos Qual Res Proc Risk

# Stakeholder Engagement



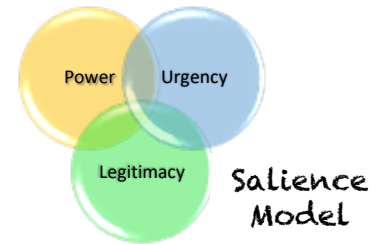
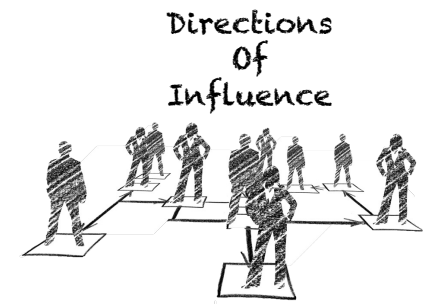
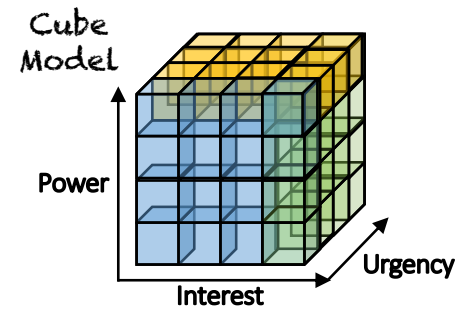
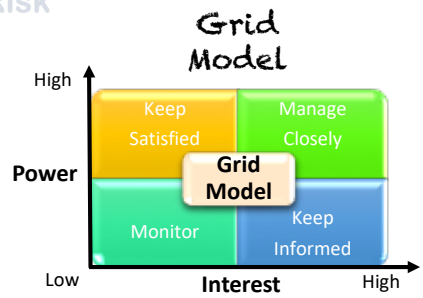
## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

- ✓ Plan
- ✓ Identify
- ✓ Analyze

SEAM

SH	+	~	-	Notes
Joy	D	C		
Joe	D		C	



# Stakeholder Engagement



SEAM

SH	+	~	-	Notes
Joy	D	C		
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## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
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- Risk

✓ Plan  
✓ Identify  
✓ Analyze  
✓ Engage



Engage via Communicating!!



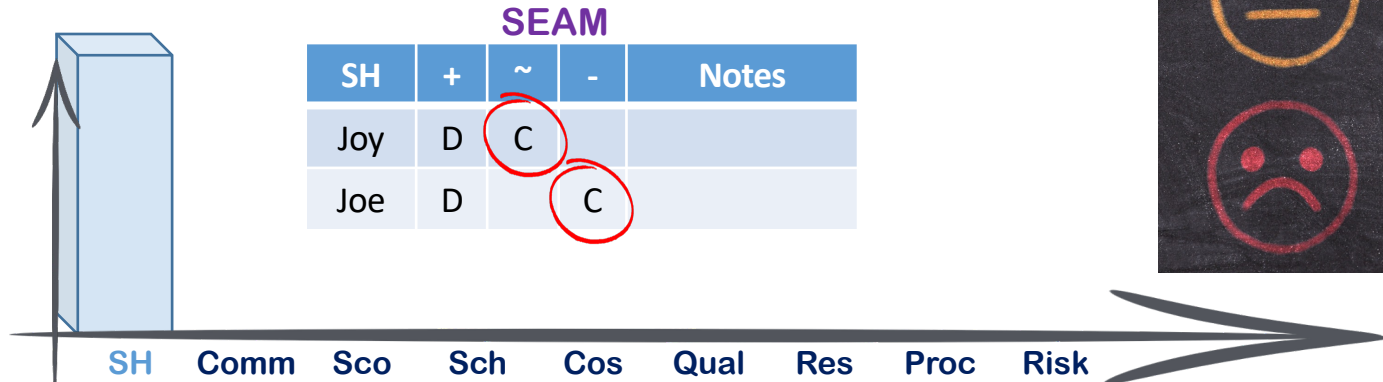
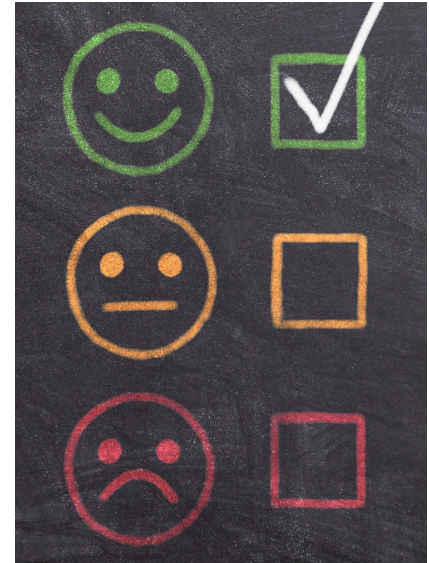
# Stakeholder Engagement



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- ✓ Analyze
- ✓ Engage
- ✓ Assess





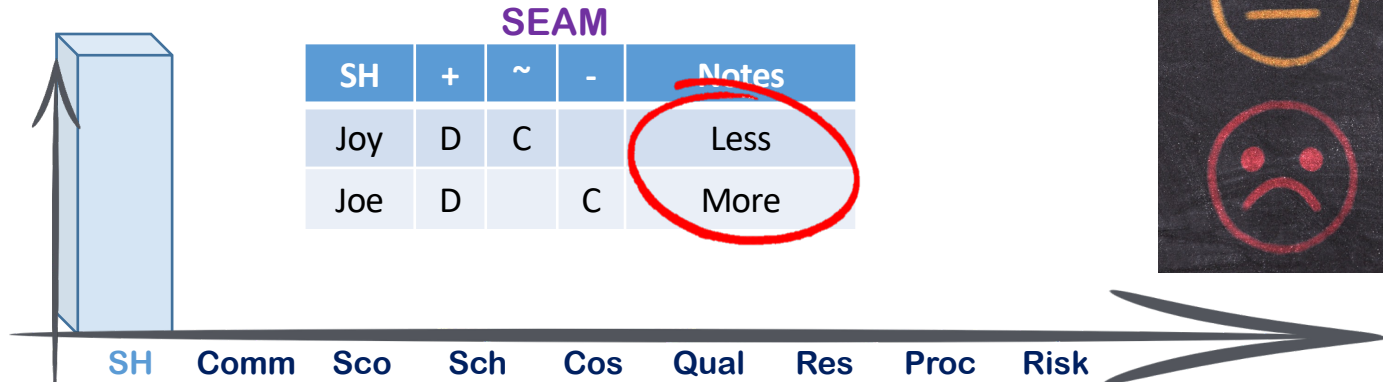
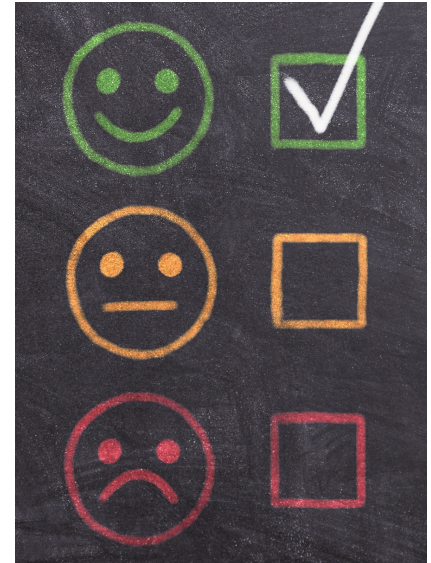
# Stakeholder Engagement



## Knowledge Area Management Plans

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- ✓ Assess
- ✓ Adjust



# Stakeholder Engagement

## Knowledge Area Management Plans

- Stakeholder Engagement
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- ✓ Plan
- ✓ Identify
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- ✓ Engage
- ✓ Assess
- ✓ Adjust
- ✓ Iterate!



*Agile - repeat each iteration/sprint!*



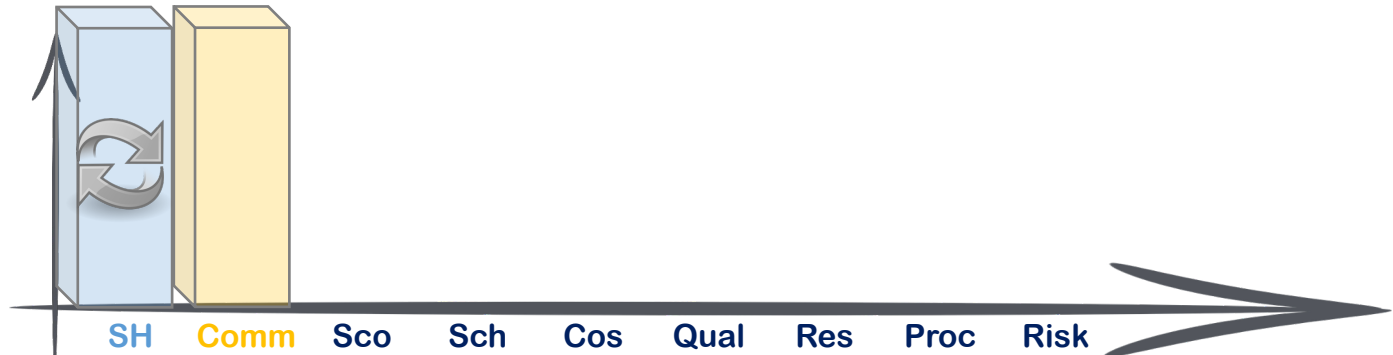
# Communications



## Knowledge Area Management Plans

- Stakeholder Engagement
- **Communications**
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- ✓ Plan
- ✓ Communicate
- ✓ Assess
- ✓ Adjust
- ✓ Iterate!



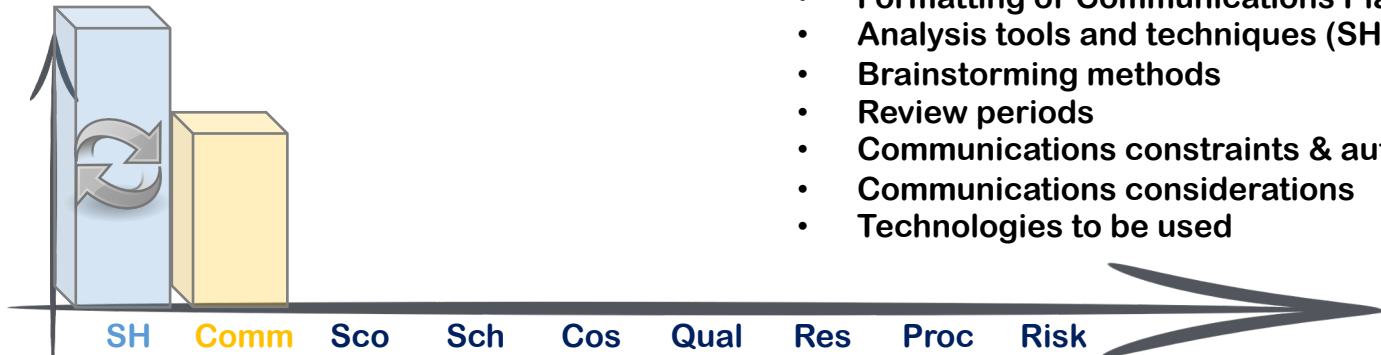
# Communications



## Knowledge Area Management Plans

- Stakeholder Engagement
- **Communications**
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
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- Resource
- Procurement
- Risk

✓ Plan



- Formatting of Communications Plan
- Analysis tools and techniques (SH requirements)
- Brainstorming methods
- Review periods
- Communications constraints & authorities
- Communications considerations
- Technologies to be used

# Communications

## Knowledge Area Management Plans

- Stakeholder Engagement
- **Communications**
- Scope (+ Scope Baseline)

- ✓ Plan
- ✓ Communicate



# Communications



## Knowledge Area Management Plans

- Stakeholder Engagement
- **Communications**
- Scope (+ Scope Baseline)
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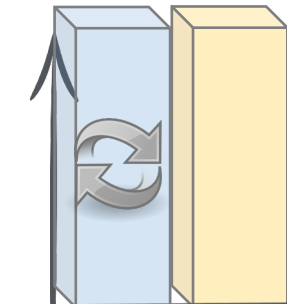
# Communications



## Knowledge Area Management Plans

- Stakeholder Engagement
- **Communications**
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- ✓ Communicate
- ✓ Assess
- ✓ Adjust



SH Comm Sco Sch Cos Qual Res Proc Risk

# Communications



## Knowledge Area Management Plans

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- **Communications**
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- ✓ Assess
- ✓ Adjust
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*Agile - repeat each iteration/sprint!*

# Scope



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- **Scope (+ Scope Baseline)**
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

- ✓ Plan
- ✓ Identify Requirements
- ✓ Write Scope Statement
- ✓ Decompose WBS
- ✓ Build WBS Dictionary
- ✓ Compile Scope Baseline
- ✓ Control Changes



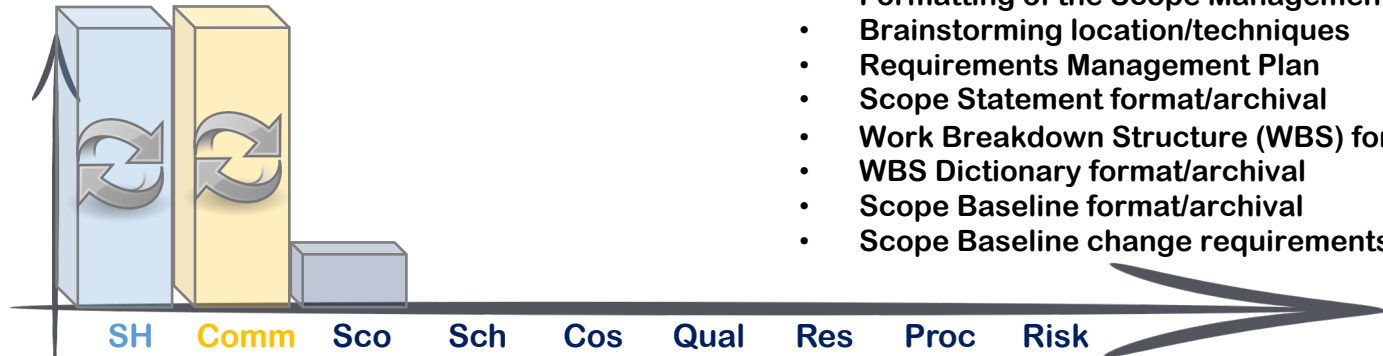
# Scope



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- **Scope (+ Scope Baseline)**
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

✓ Plan



- Formatting of the Scope Management Plan
- Brainstorming location/techniques
- Requirements Management Plan
- Scope Statement format/archival
- Work Breakdown Structure (WBS) format/archival
- WBS Dictionary format/archival
- Scope Baseline format/archival
- Scope Baseline change requirements/authorities



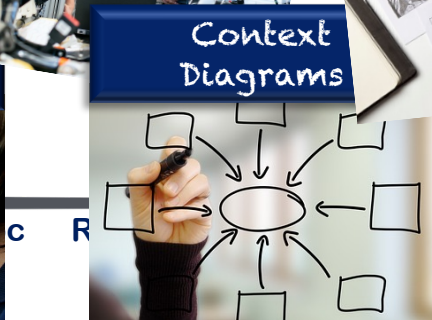
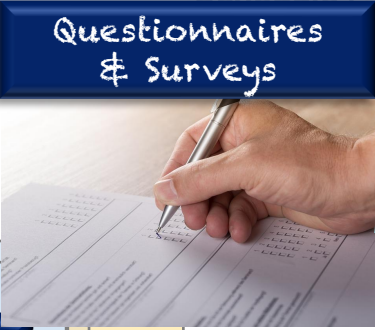
# Scope

## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+

- ✓ Plan
- ✓ Identify Requirements

Leads to the creation of  
"Requirements Documentation"



# Scope

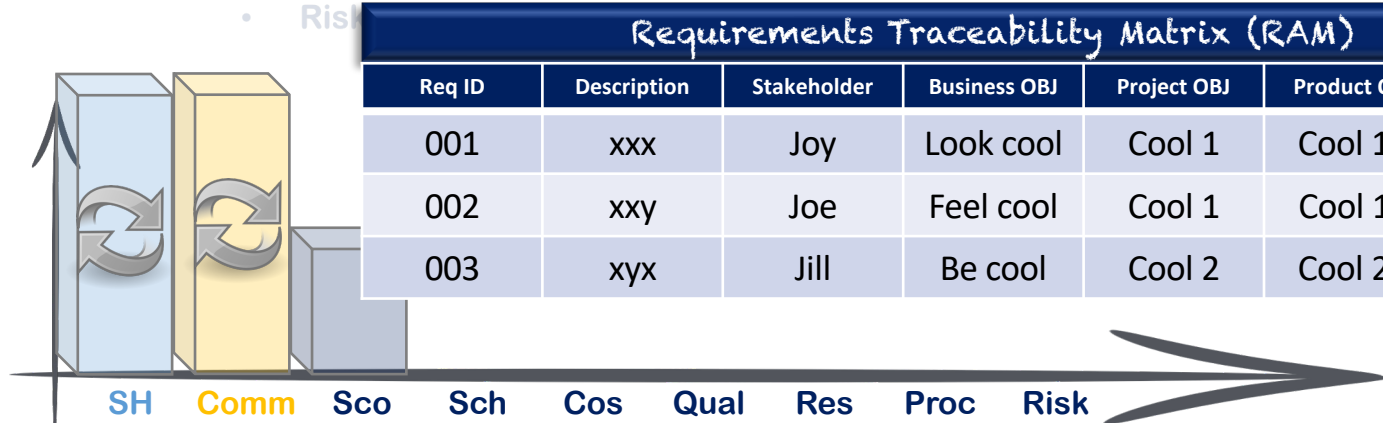


## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- **Scope (+ Scope Baseline)**
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- Risk

- ✓ Plan
- ✓ Identify Requirements

*"Traces" requirements to interested stakeholders, project objectives, etc.*

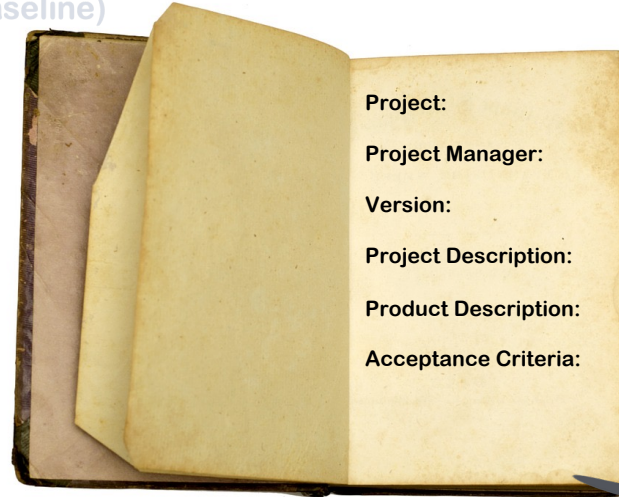
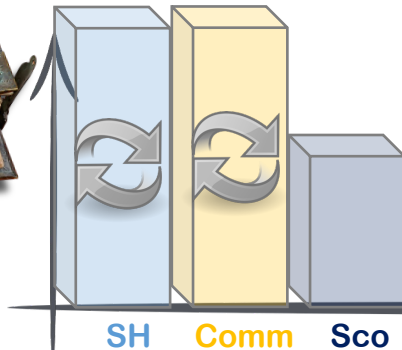


# Scope

## Knowledge Area Management Plans

- Stakeholder Engagement
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- ✓ Write Scope Statement



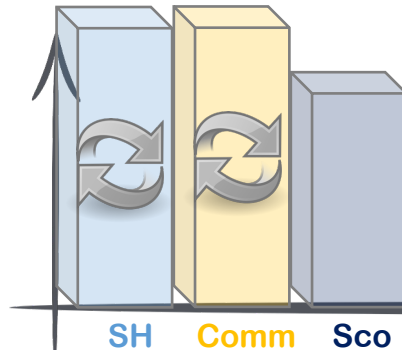
A written, detailed description of the requirements that made the "final cut" into the project and product, including all acceptance criteria.

# Scope

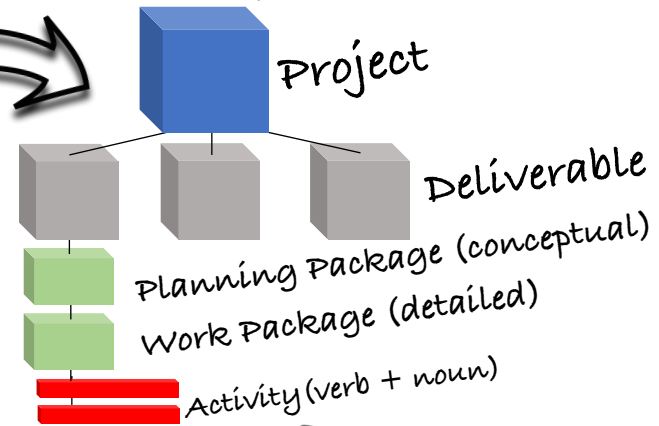
## Knowledge Area Management Plans

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- ✓ Plan
- ✓ Identify Requirements
- ✓ Write Scope Statement
- ✓ Decompose WBS



A visual conceptualization of all project and product work.



# Scope - Agile

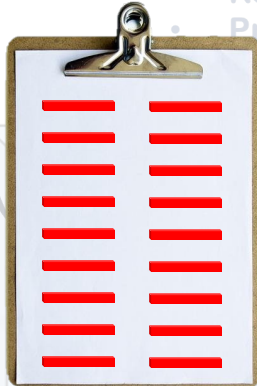
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- ✓ Identify Requirements
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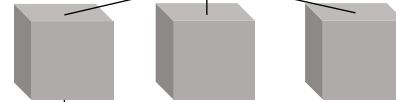
Product Backlog



Project:  
Project Manager:  
Version:  
Project Description:  
Product Description:  
Acceptance Criteria:



Project



Deliverable

Planning Package (conceptual)

Work Package (detailed)



Activity (verb + noun)

SH

Comm

Sco

Sch

Cos

Qual

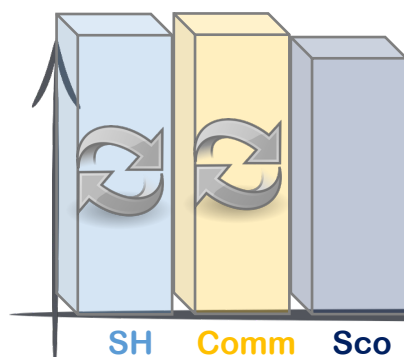
Res

Proc

Risk



\_\_\_\_\_



- Stakeholder Engagement
- Communications
- **Scope (+ Scope Baseline)**
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- Quality
- Resource
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- Risk

- 
- The diagram shows a document on the left with the following text: Project, Project Manager, Customer, Project Start Date, Project Completion, and Accountability Structure. A large black arrow points from the document to a blue 3D cube in the center. From the bottom of the blue cube, three lines extend downwards to three separate gray 3D cubes. A second large black arrow points from the right side of these gray cubes towards the right edge of the slide.

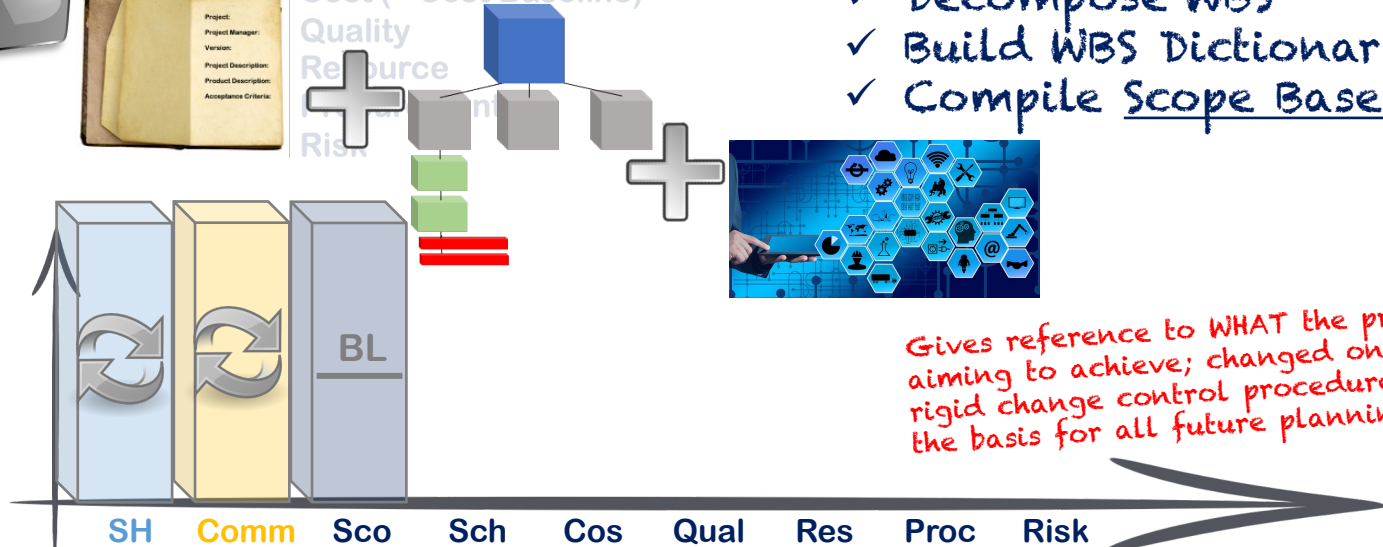
A hand holding a tablet with a blue background featuring a network of hexagons containing various icons representing technology, industry, and communication. The icons include a power plug, cloud, lightbulb, Wi-Fi symbol, crossed wrench and screwdriver, gear, factory, world map, pie chart, hard hat, beaker, truck, brain with gears, @ symbol, microscope, and a person silhouette.

# Scope

## Knowledge Area Management Plans

- Stakeholder Engagement
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- ✓ Plan
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- ✓ Decompose WBS
- ✓ Build WBS Dictionary
- ✓ Compile Scope Baseline



Gives reference to WHAT the project is aiming to achieve; changed only through rigid change control procedures, as this is the basis for all future planning!

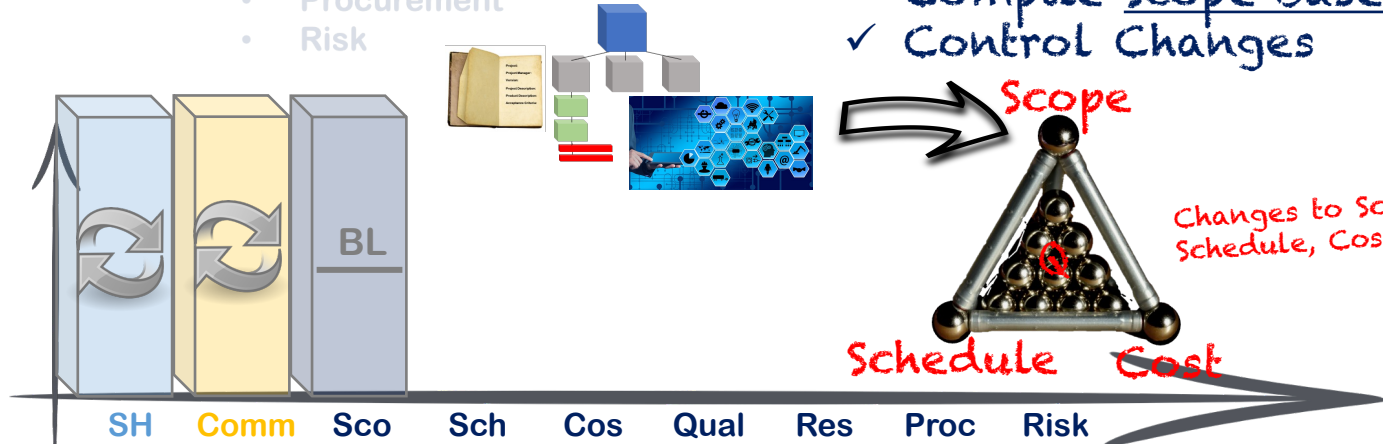
# Scope



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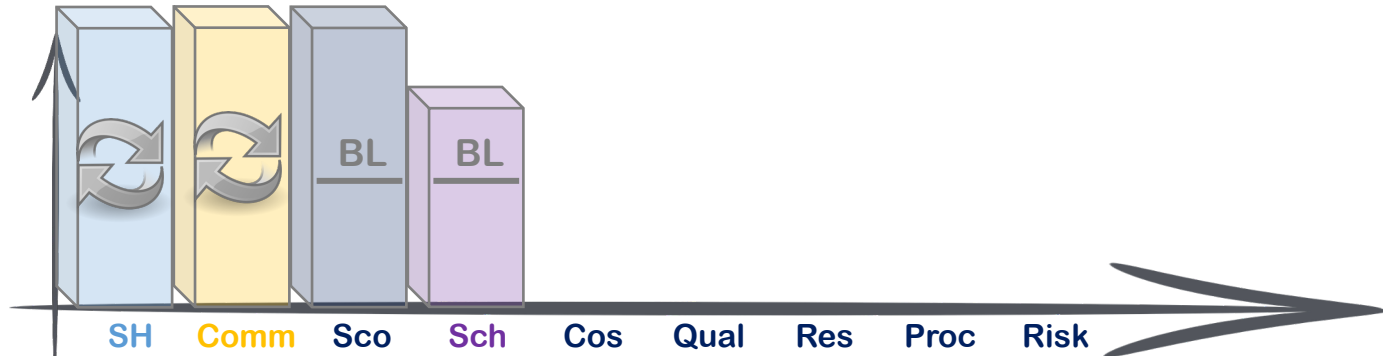
# Schedule



## Knowledge Area Management Plans

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- Risk

- ✓ Plan
- ✓ Identify Activities
- ✓ Sequence Activities
- ✓ Estimate Act. Durations
- ✓ Build Network Diagram
- ✓ Compile Schedule Baseline
- ✓ Control Changes

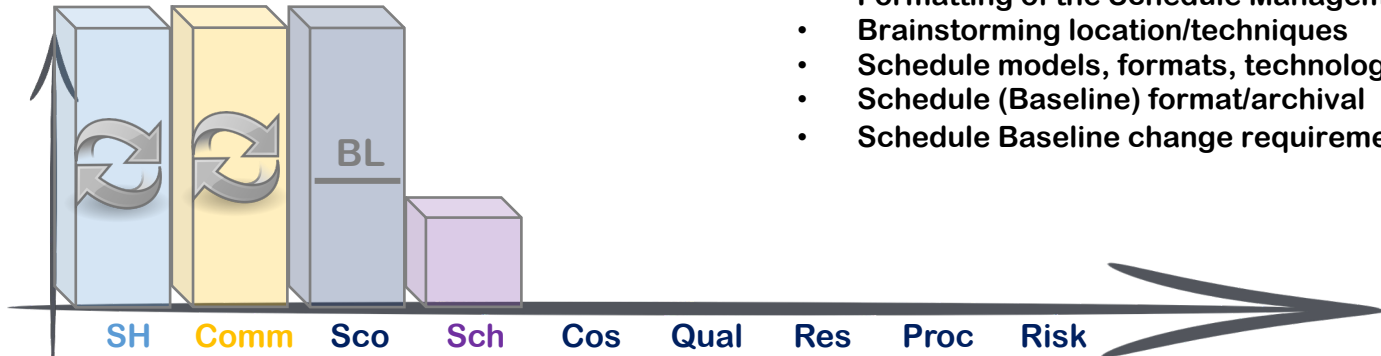


# Schedule

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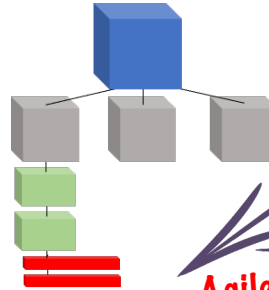
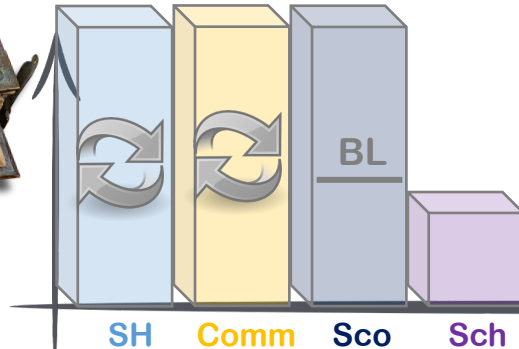
- Formatting of the Schedule Management Plan
- Brainstorming location/techniques
- Schedule models, formats, technology/software
- Schedule (Baseline) format/archival
- Schedule Baseline change requirements/authorities

# Schedule

## Knowledge Area Management Plans

- Stakeholder Engagement
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- Risk

- ✓ Plan
- ✓ Identify Activities



- Agile- Activities...
- Product Backlog Items
  - User Stories
  - Features
  - Epics

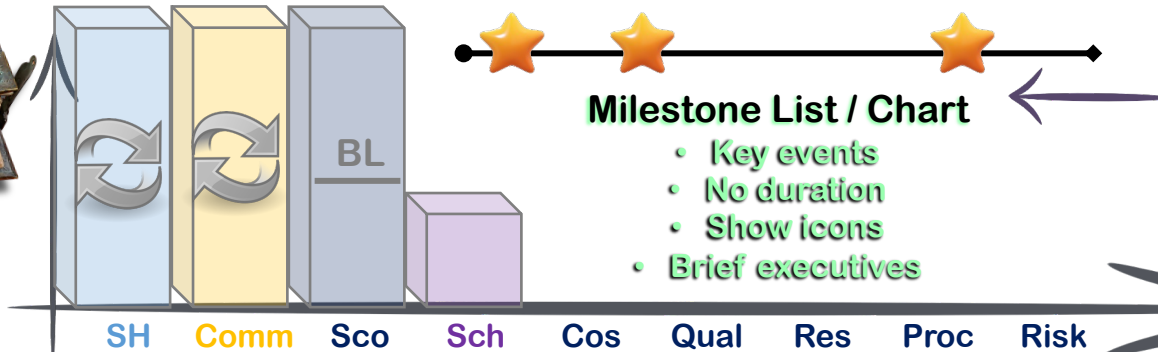


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# Schedule

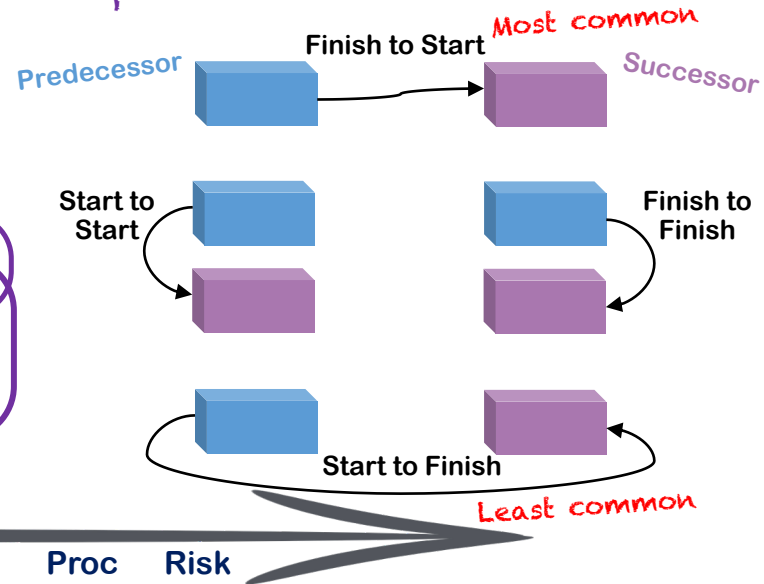
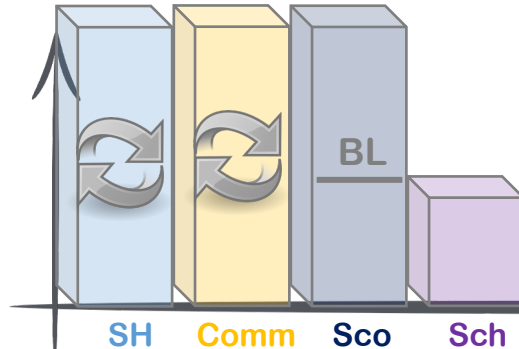


## Knowledge Area Management Plans

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- ✓ Plan
- ✓ Identify Activities
- ✓ Sequence Activities

Known as the  
Precedence  
Diagramming  
Method (PDM)

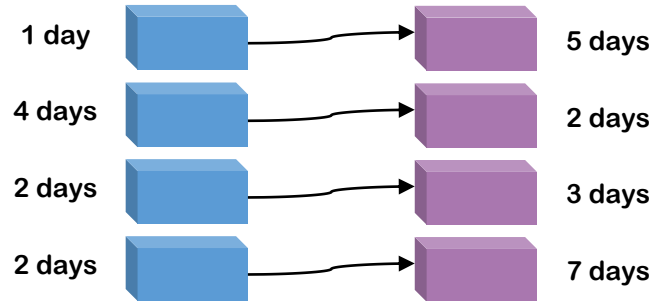
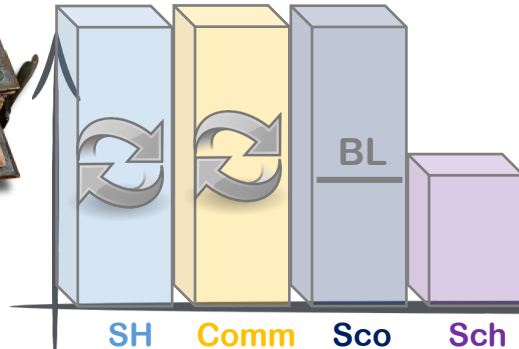


# Schedule

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- ✓ Sequence Activities
- ✓ Estimate Act. Durations



Consult Subject Matter Experts (SMEs)

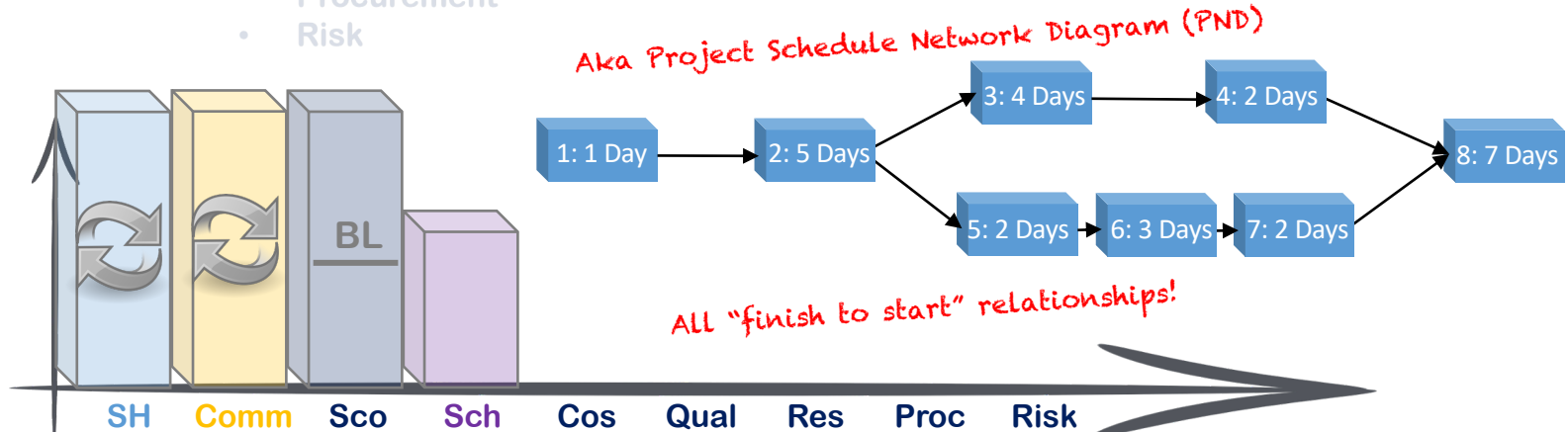
# Schedule



## Knowledge Area Management Plans

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- ✓ Build Network Diagram



# Schedule

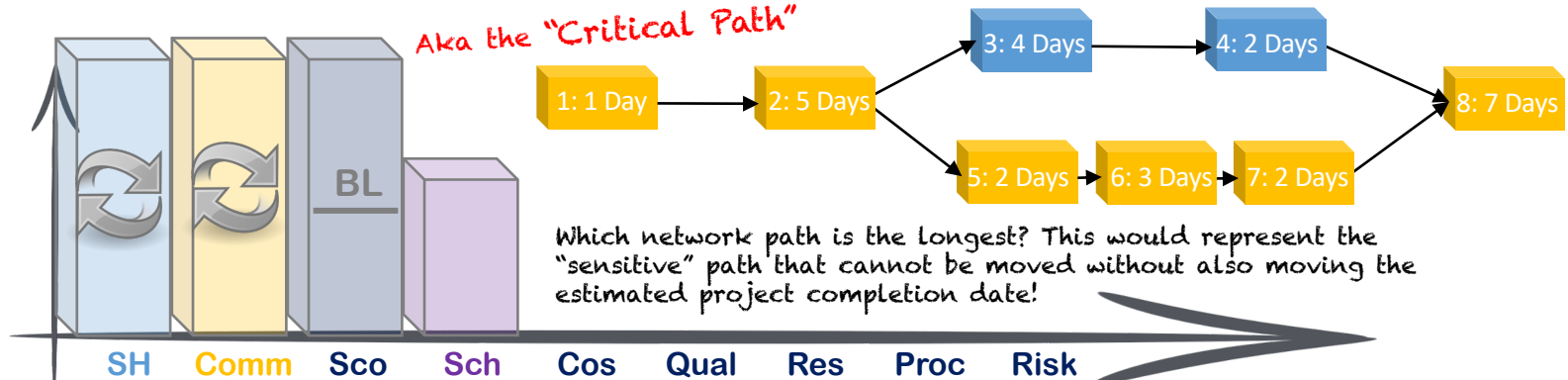


## Knowledge Area Management Plans

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Network Paths: visual routes from start to end





# Schedule

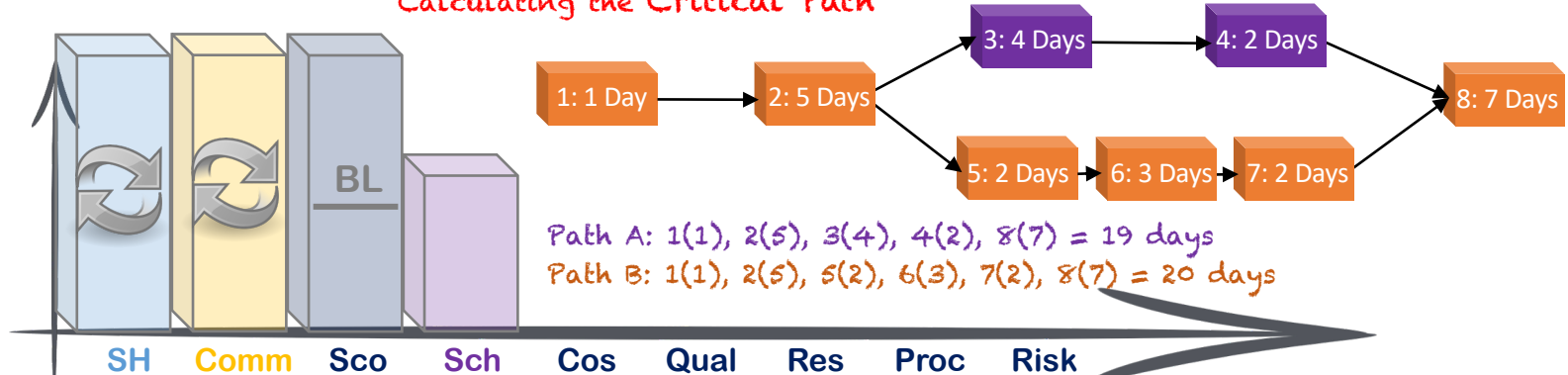


## Knowledge Area Management Plans

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### Calculating the Critical Path



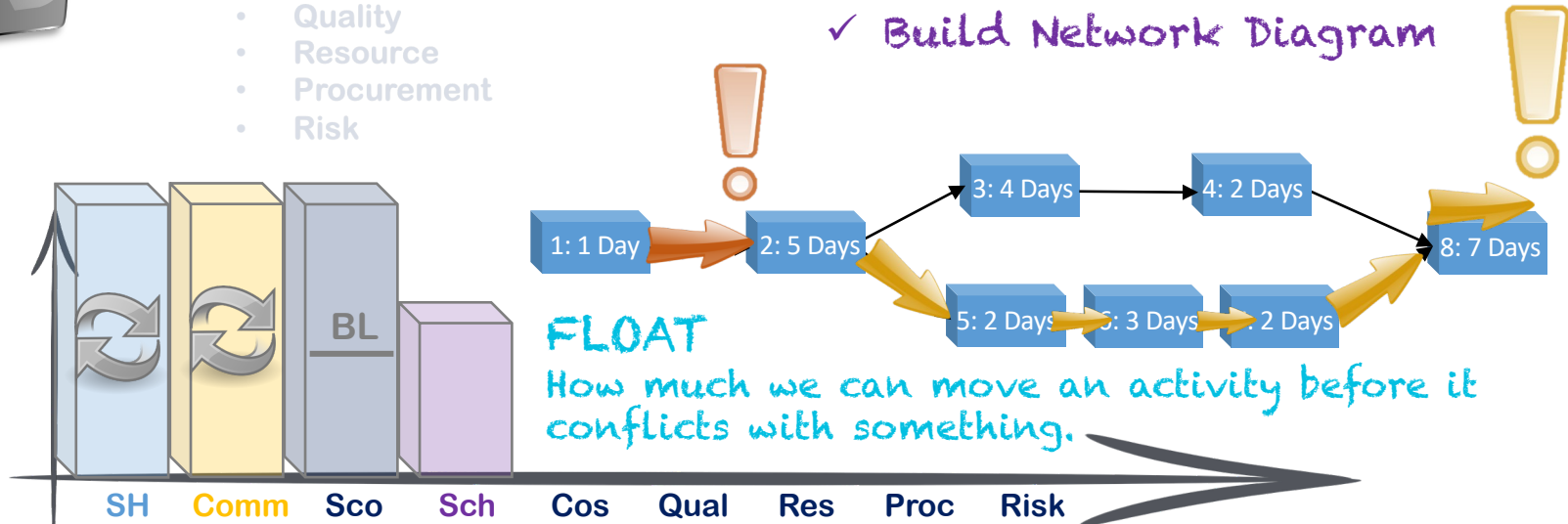
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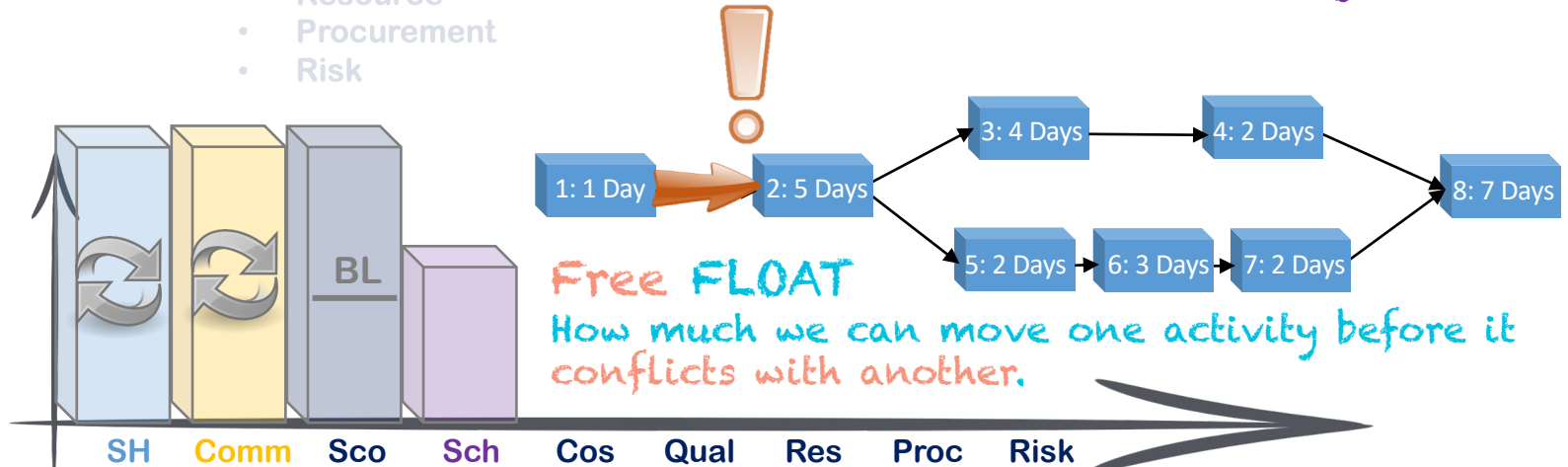
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- ✓ Estimate Act. Durations
- ✓ Build Network Diagram



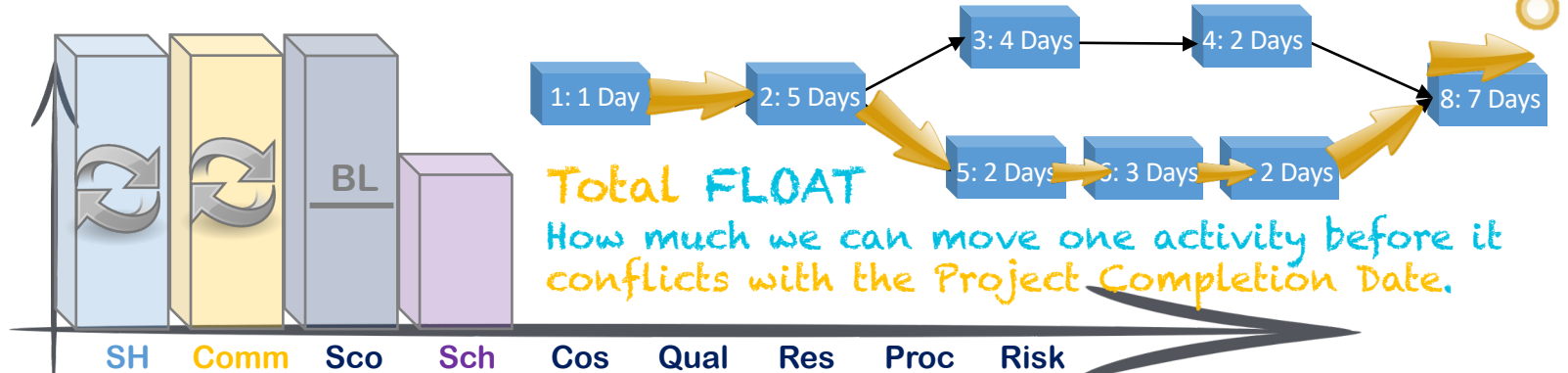
# Schedule



## Knowledge Area Management Plans

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- Procurement
- Risk

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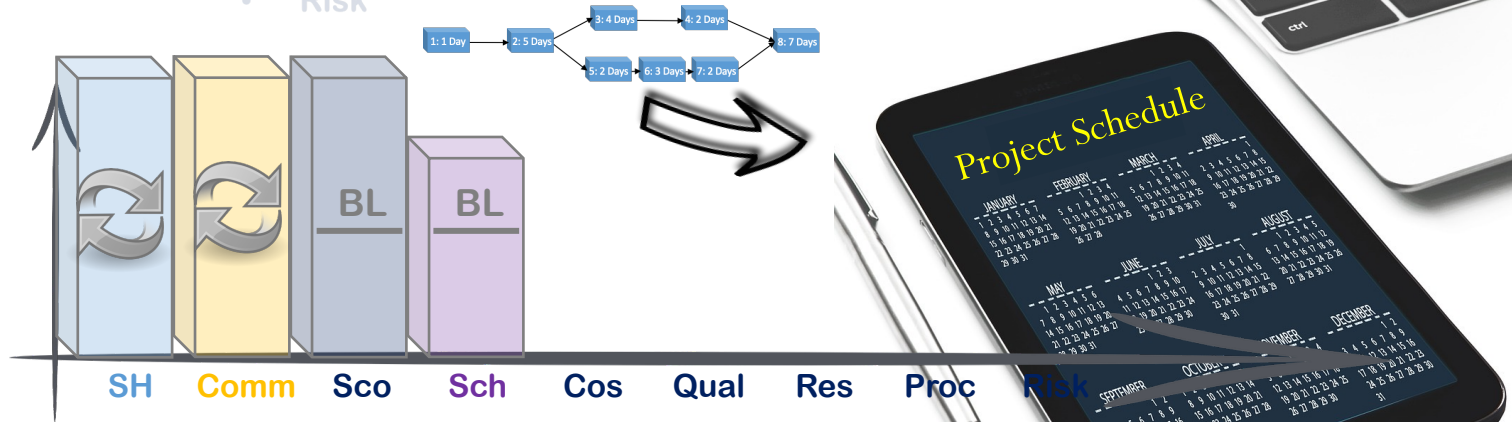
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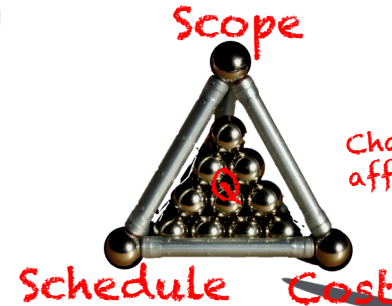
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Changes to Schedule will affect Scope, Cost, Quality!

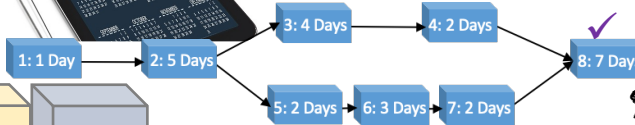
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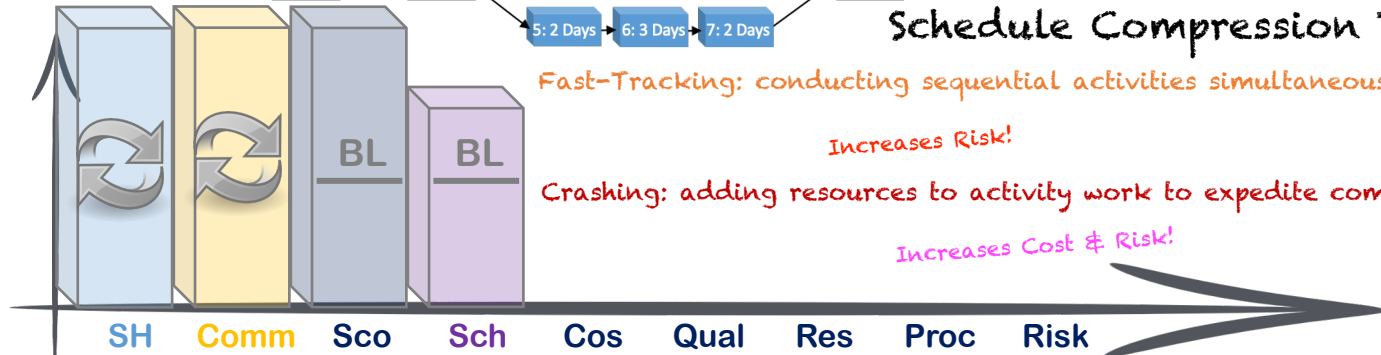
## Schedule Compression Techniques

Fast-Tracking: conducting sequential activities simultaneously/in parallel

Increases Risk!

Crashing: adding resources to activity work to expedite completion

Increases Cost & Risk!



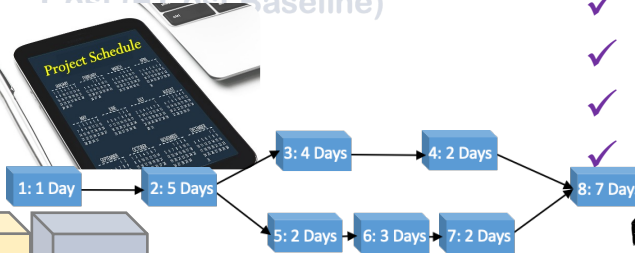
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## Resource Optimization Techniques

Smoothing: Adjust activity times/dates to comply with schedule constraints

Does not affect critical path/Estimated Completion Time/Date

Levelling: Adjust activity times/dates based on resource constraints

CAN affect critical path/Estimated Completion Time/Date



SH

Comm

Sco

Sch

Cos

Qual

Res

Proc

Risk



# Schedule - Agile



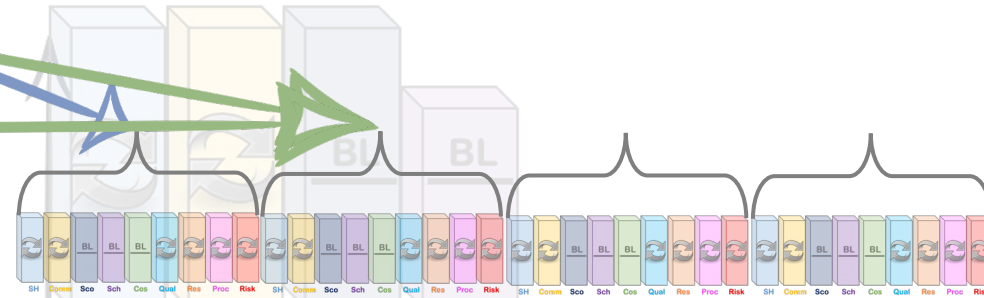
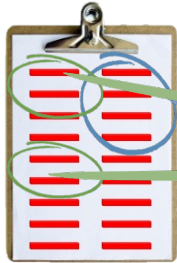
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Product Backlog

## Iterative Scheduling

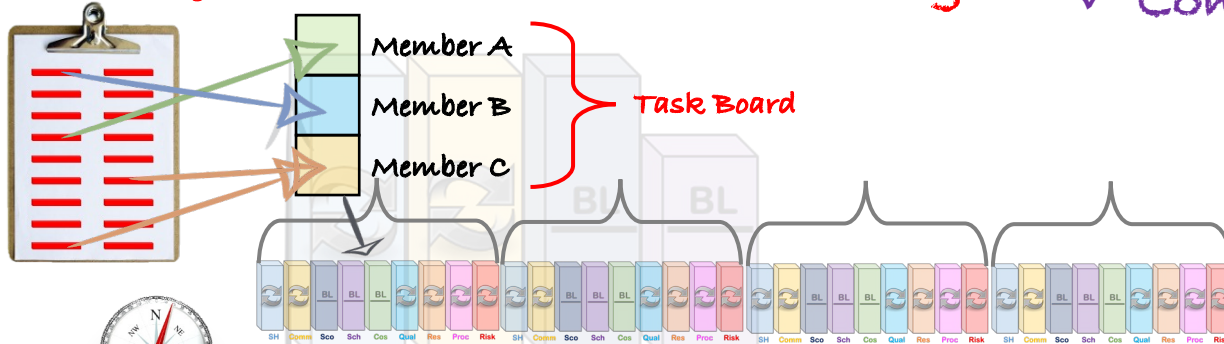


- Items are collaboratively prioritized completed within the iteration/sprint
- Schedule performance measured by *items planned vs items completed* within each iteration/sprint

\_\_\_\_\_

- Stakeholder Engagement
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- Items are chosen by team members to be completed within the iteration/sprint
- Schedule performance measured by *items planned vs items completed* within each iteration/sprint
- Available to use if no dependences exist



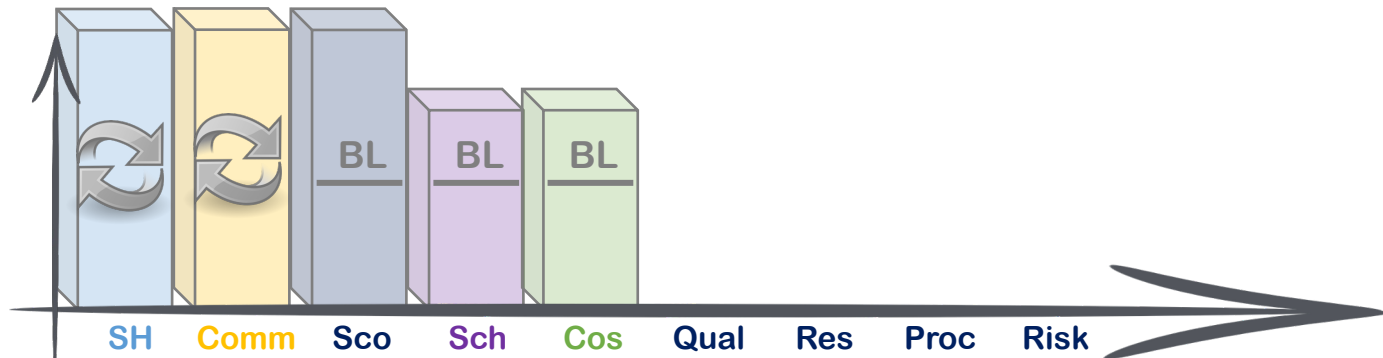
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- Risk

- ✓ Plan
- ✓ Estimate Costs (Act./WP.)
- ✓ Aggregate Costs
- ✓ Compile Cost Baseline
- ✓ Control Changes



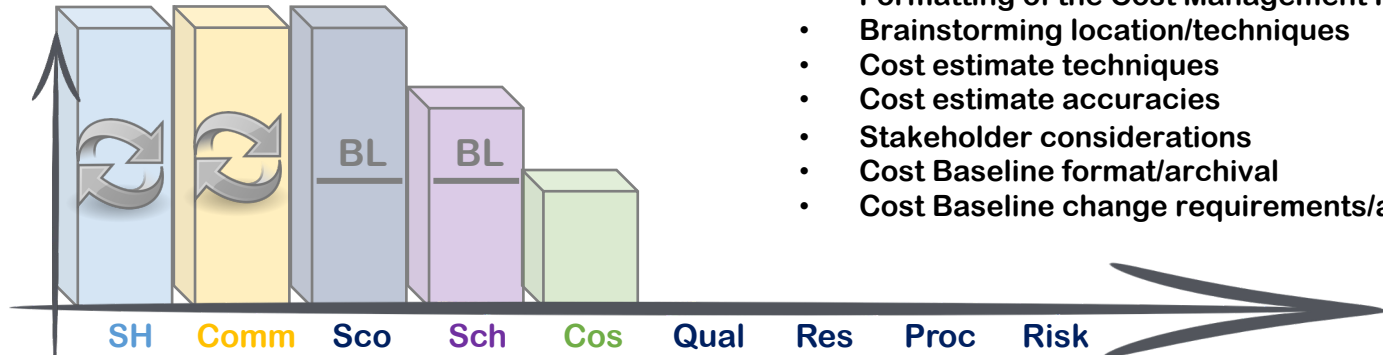
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✓ Plan



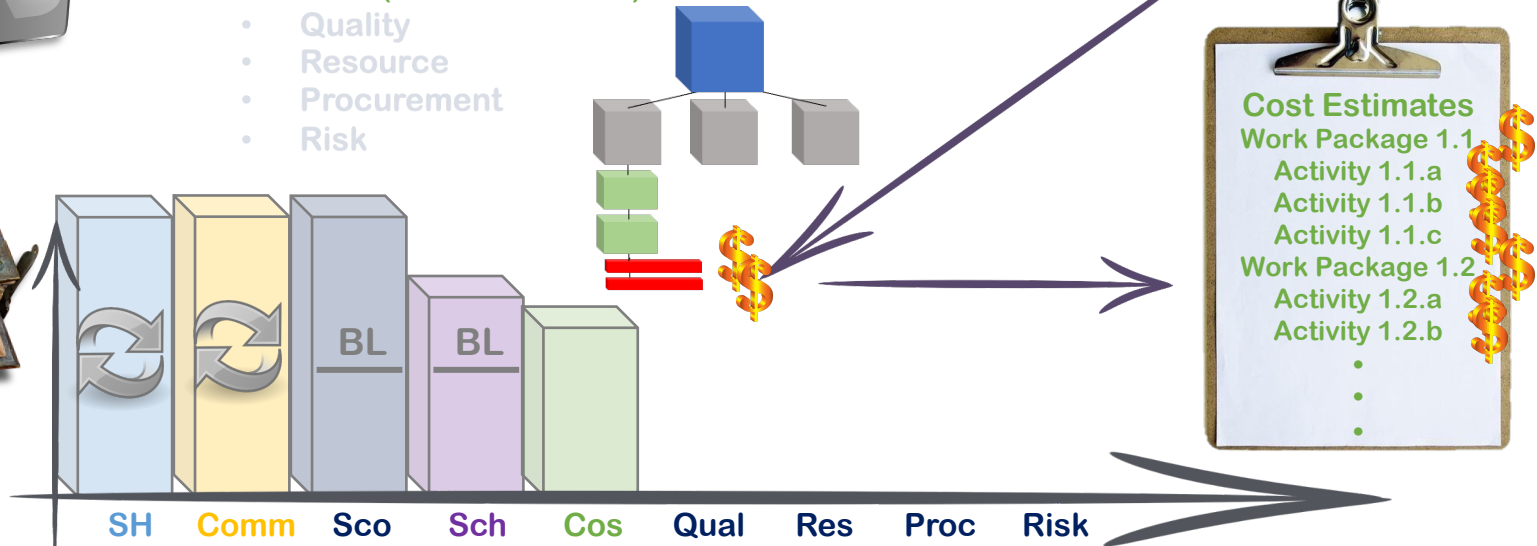
- Formatting of the Cost Management Plan
- Brainstorming location/techniques
- Cost estimate techniques
- Cost estimate accuracies
- Stakeholder considerations
- Cost Baseline format/archival
- Cost Baseline change requirements/authorities

# Cost

## Knowledge Area Management Plans

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# Cost



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- ✓ Plan
- ✓ Estimate Costs (Act./WP.)

**Cost Estimates**

**Rough Order of Magnitude (ROM)**

- Pre-planning  
-25% to 75%

**Definitive Estimate**

- Execution  
-5% to 10%

**Phased Estimate**

- Estimate based on project phase
- e.g. *ROM* for initiating, *Definitive* for planning & execution



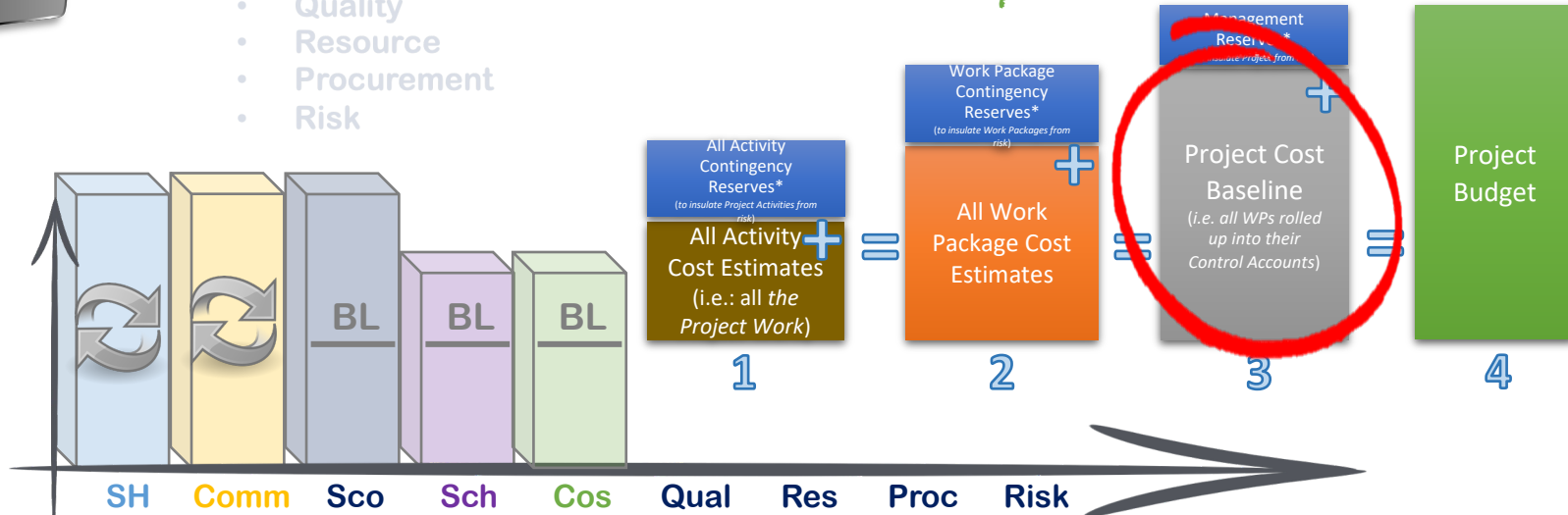
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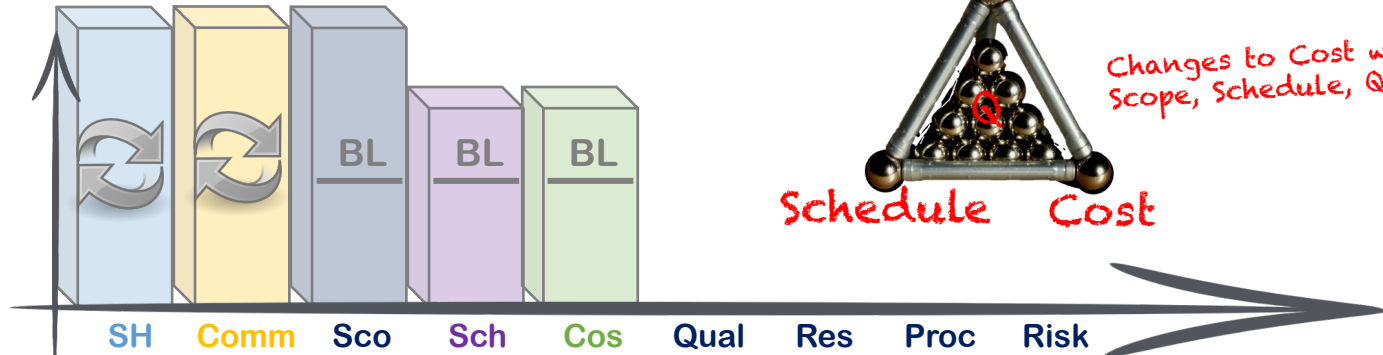
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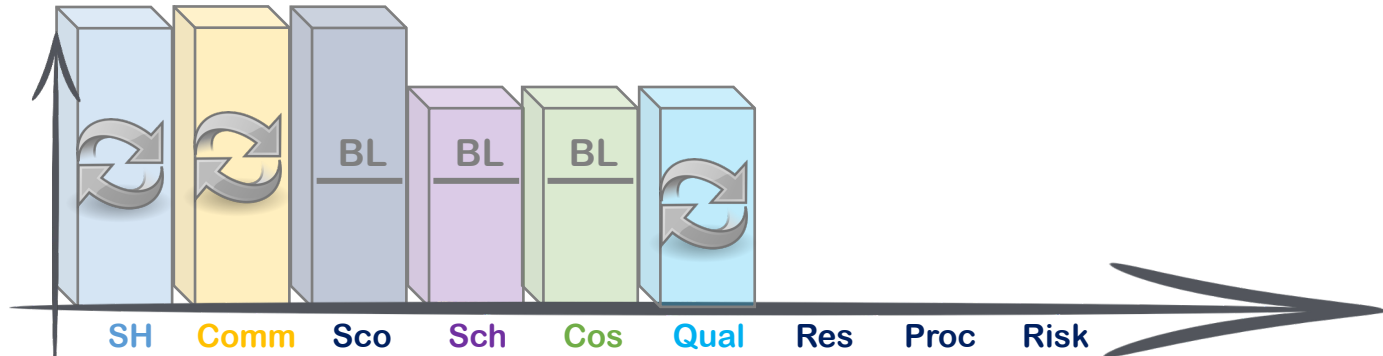
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- **Quality**
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- Risk

- ✓ Plan
- ✓ Determine Quality Standards
- ✓ Manage Quality
- ✓ Control Quality
- ✓ Assess
- ✓ Adjust
- ✓ Iterate!

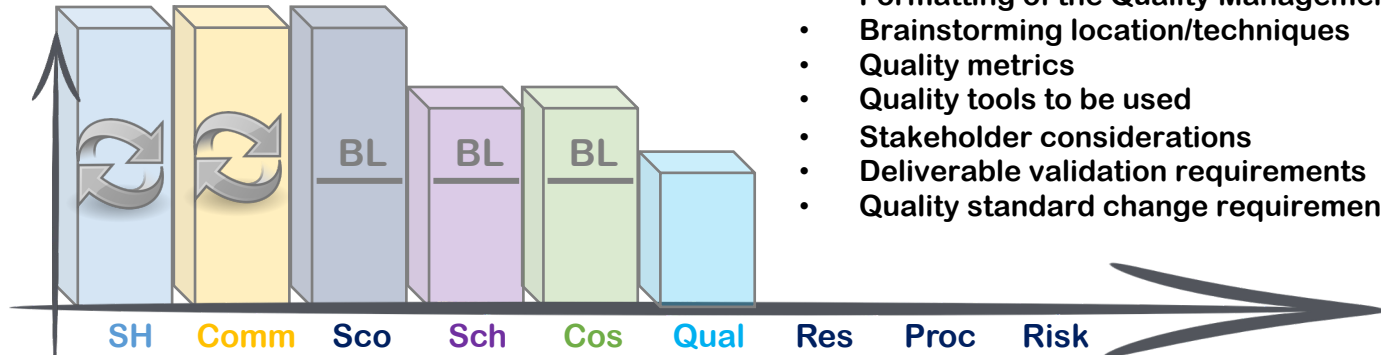


# Quality

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- Cost (+ Cost Baseline)
- **Quality**
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- Risk

✓ Plan



- Formatting of the Quality Management Plan
- Brainstorming location/techniques
- Quality metrics
- Quality tools to be used
- Stakeholder considerations
- Deliverable validation requirements
- Quality standard change requirements/authorities

# Quality

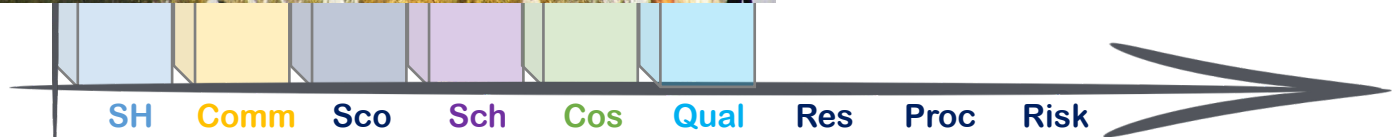
## Knowledge Area Management Plans

- Stakeholder Engagement

- ✓ Plan
- ✓ Determine Quality Standards



Quality  
high vs low  
Subjective and relative



# Quality



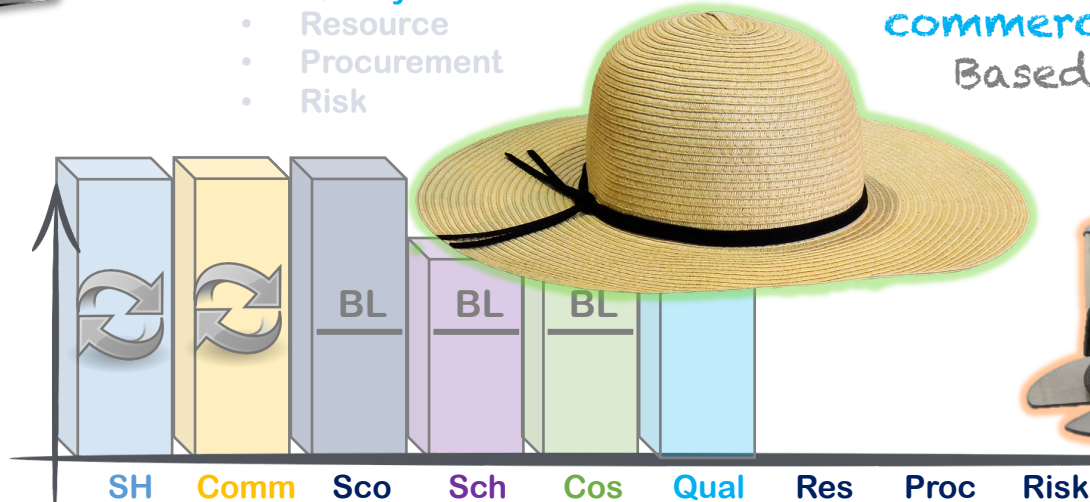
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- ✓ Plan
- ✓ Determine Quality Standards

Grade

commercial vs industrial  
Based on function



# Quality



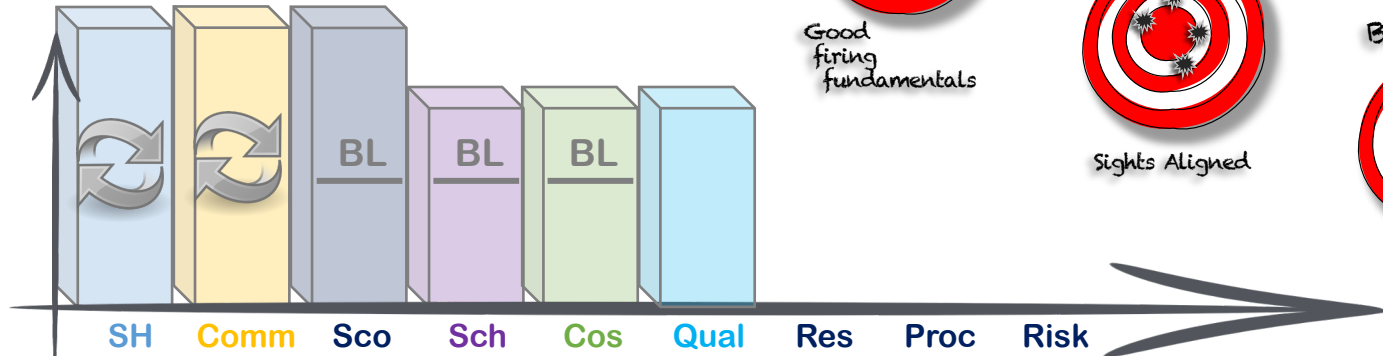
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✓ Plan

✓ Determine Quality Standards

Determining quality standards is what allows the project team to VERIFY project Deliverables!



# Quality



THINK  
"QA QC"



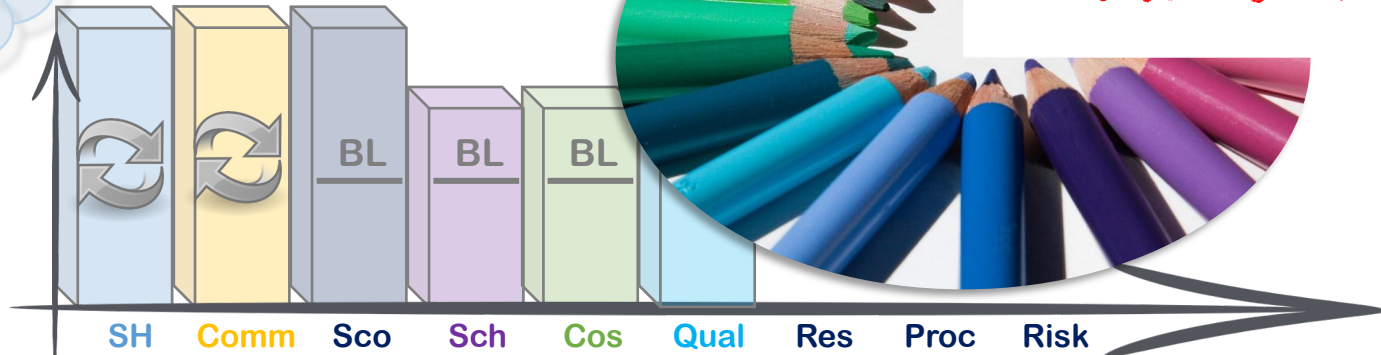
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- ✓ Plan
- ✓ Determine Quality Standards
- ✓ Manage Quality

## Quality Assurance

- Audits
- As work progresses
- "Building-in quality"





# Quality

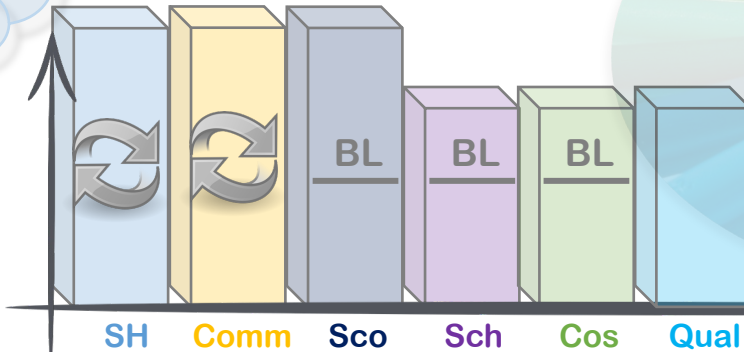


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- ✓ Plan
- ✓ Determine Quality Standards
- ✓ Manage Quality
- ✓ Control Quality

THINK  
"QA QC"



Quality Control

Managing & controlling quality standards is what allows the project team to VALIDATE project Deliverables!

- Inspection
- After work completed
- Ensuring quality

# Quality



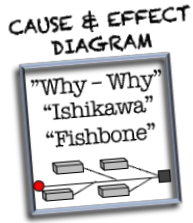
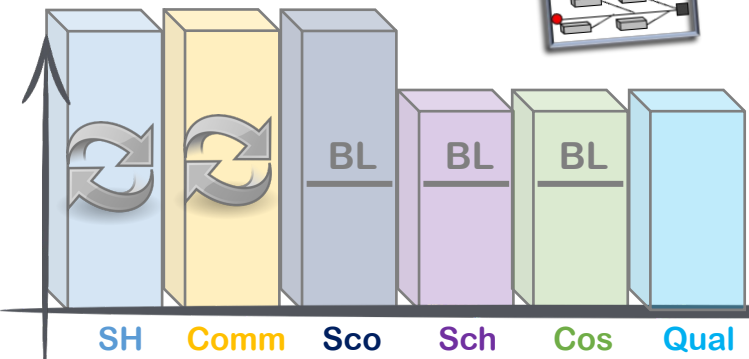
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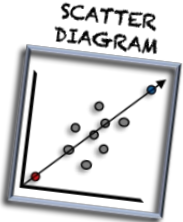
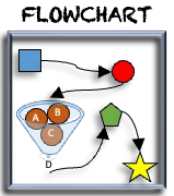
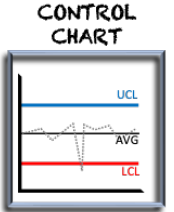
## 7 Quality Tools

Gather  
Analyze  
Represent...  
... QUALITY DATA!



CHECKSHEET

#	Item	Status
1	xxx	✓
2	xyx	✓
3	xyx	✗
4	xyx	✗





# Quality



## Quality Theories

### William Smith Jr.

- Six Sigma
- Focus on removing defects from a system to improve quality



### Joseph Juran

- "Juran Quality Trilogy"
- Quality approached with planning, control, and improvement

### William Deming

- Focus on quality actually reduces costs
- Known as the "father of Total Quality Management" (TQM)

### Genichi Taguchi

- Design quality into production
- Minimize deviations from standards
- Gauge CoQ from those deviations

## Knowledge Area Management Plans

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### Philip Crosby

- Quality arises from a commitment to avoid errors
- Aim to achieve a goal of "zero defects"

# Quality



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  - ✓ Control Quality
  - ✓ Assess
  - ✓ Adjust
- Scope**



Changes to Quality will affect Scope, Schedule, Cost!

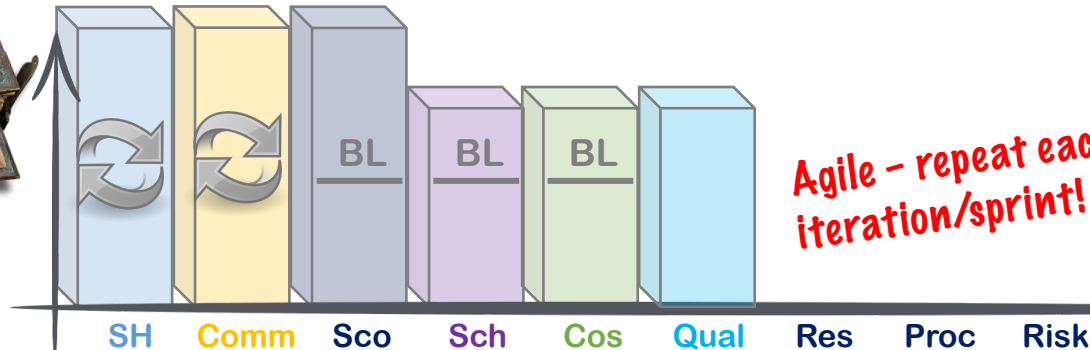
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- ✓ Assess
- ✓ Adjust
- ✓ Iterate!



Agile - repeat each iteration/sprint!



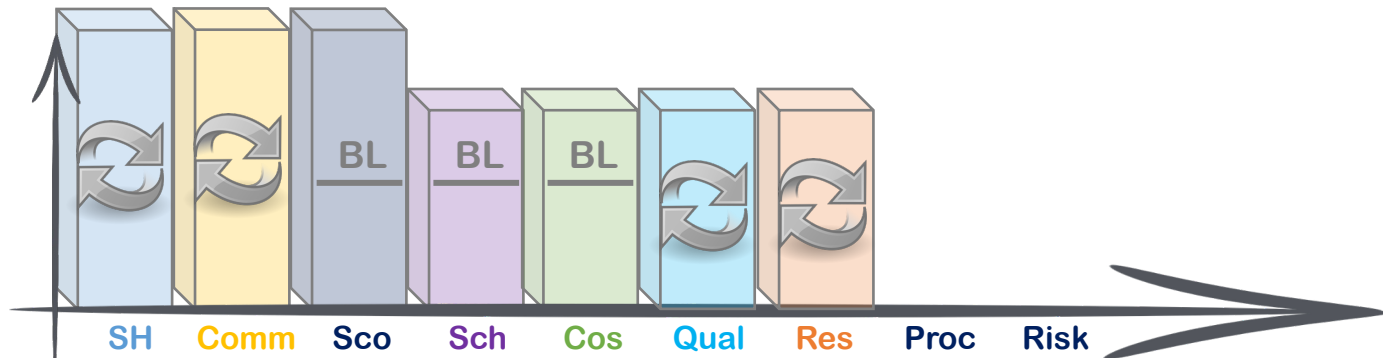
# Resource



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- ✓ Plan
- ✓ Identify Resources
- ✓ Secure Resources
- ✓ Monitor Resource Use
- ✓ Adjust
- ✓ Iterate!

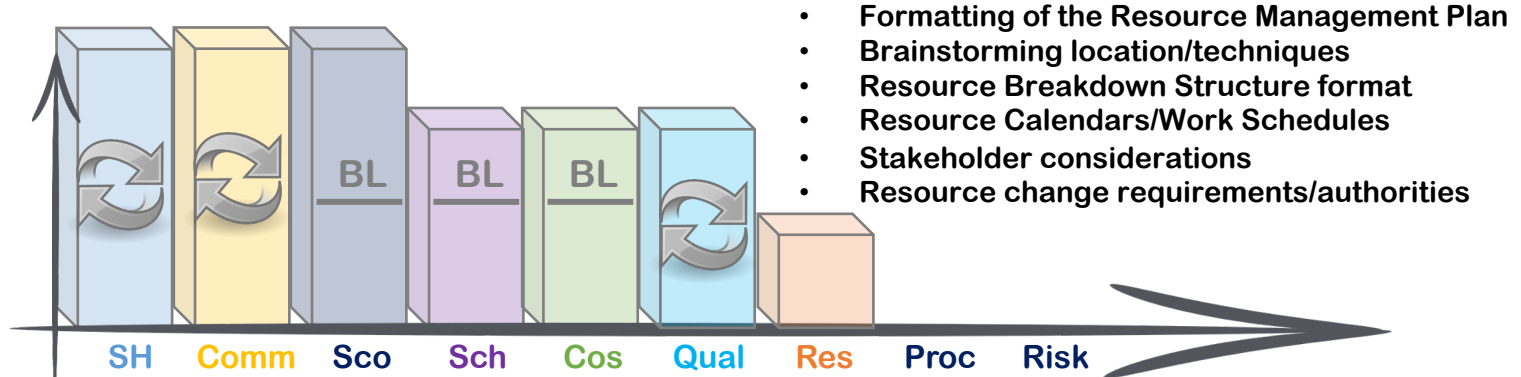


# Resource

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✓ Plan



# Resource



## Knowledge Area Management Plans

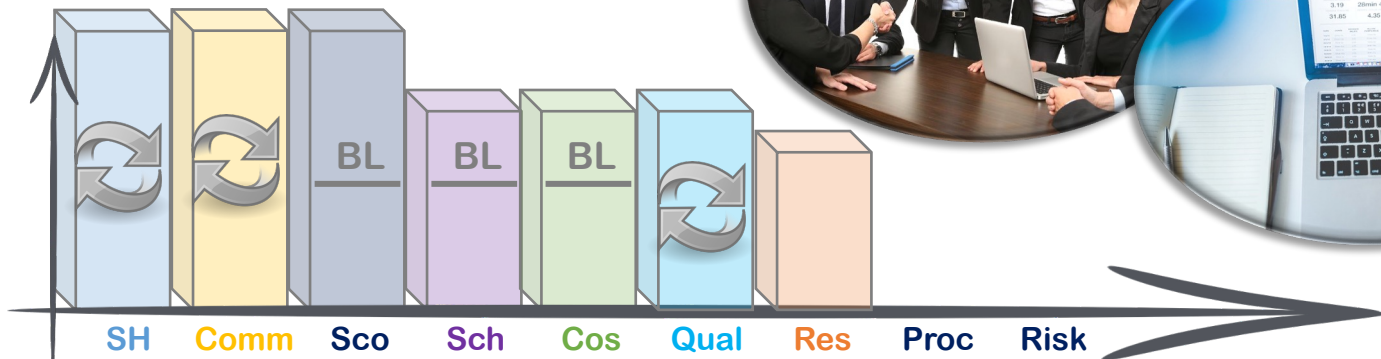
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- ✓ Plan
- ✓ Identify Resources

## Human Resources



## Material Resources



# Resource



## Knowledge Area Management Plans

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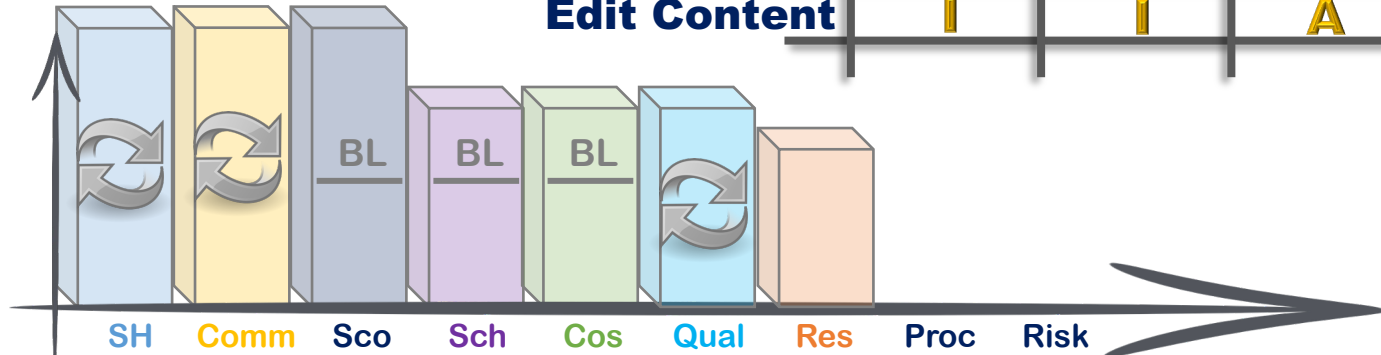
## RACI Chart

**Create Content**

**Record Content**

**Edit Content**

	Jill	Jake	Jamal	Jamie
Create Content	R	C	A	I
Record Content	C	I	R	A
Edit Content	I	I	A	R





# Resource



## Knowledge Area Management Plans

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- Quality

- ✓ Plan
- ✓ Identify Resources
- ✓ Secure Resources

Hire the team members!



Procure the equipment!





# Resource

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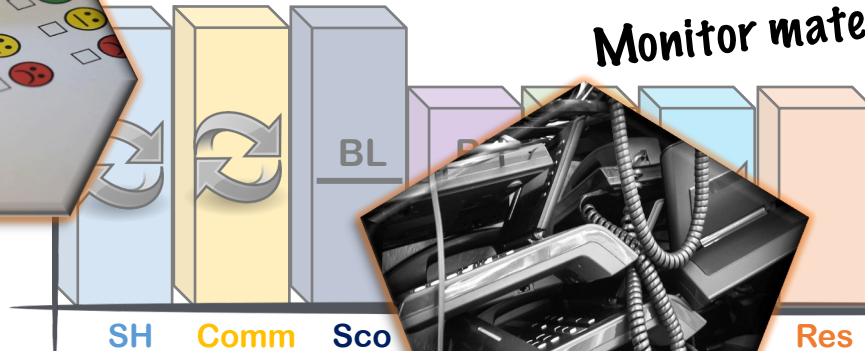
- ✓ Plan
- ✓ Identify Resources
- ✓ Secure Resources
- ✓ Monitor Resource Use



Monitor team/member performance

Monitor contractual details

Monitor material use



# Resource



## Knowledge Area Management Plans

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# Resource

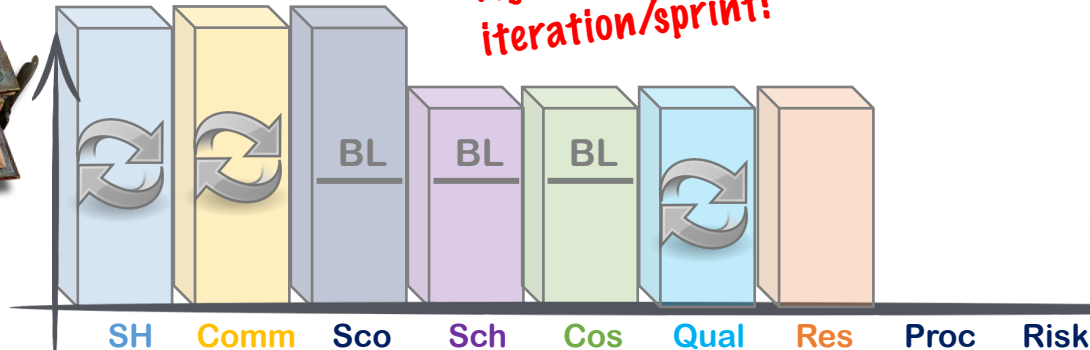


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- ✓ Monitor Resource Use
- ✓ Adjust
- ✓ Iterate!

*Agile - repeat each iteration/sprint!*



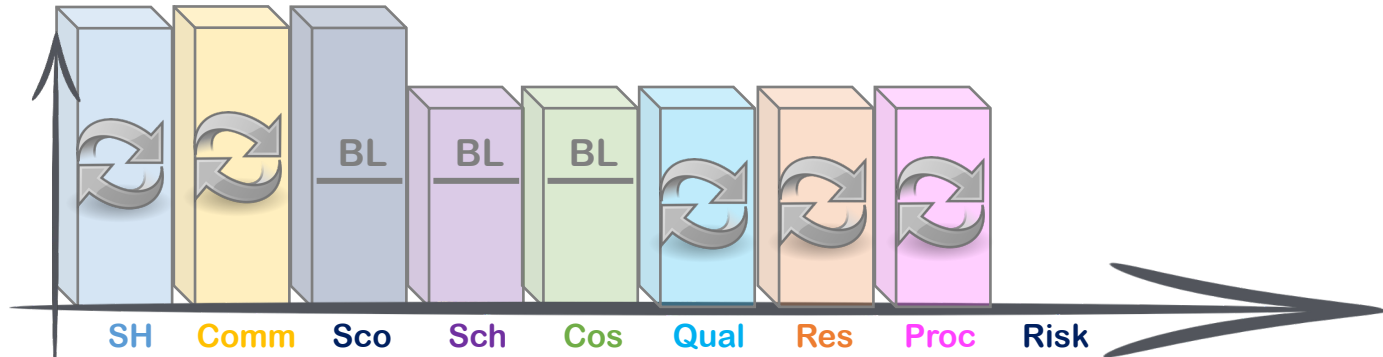
# Procurement



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- Risk

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts
- ✓ Adjust
- ✓ Iterate!



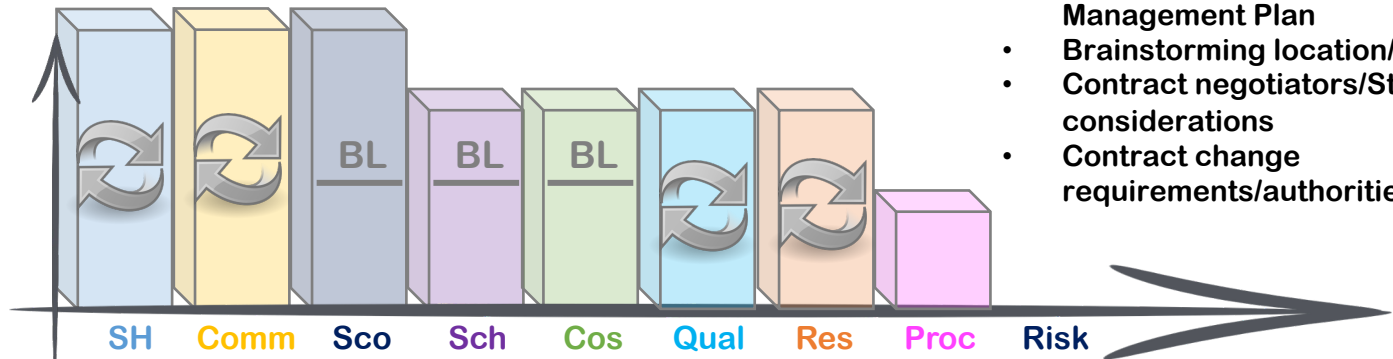
# Procurement



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- Cost (+ Cost Baseline)
- Quality
- Resource
- **Procurement**
- Risk

✓ Plan



- Formatting of the Procurement Management Plan
- Brainstorming location/techniques
- Contract negotiators/Stakeholder considerations
- Contract change requirements/authorities

# Procurement

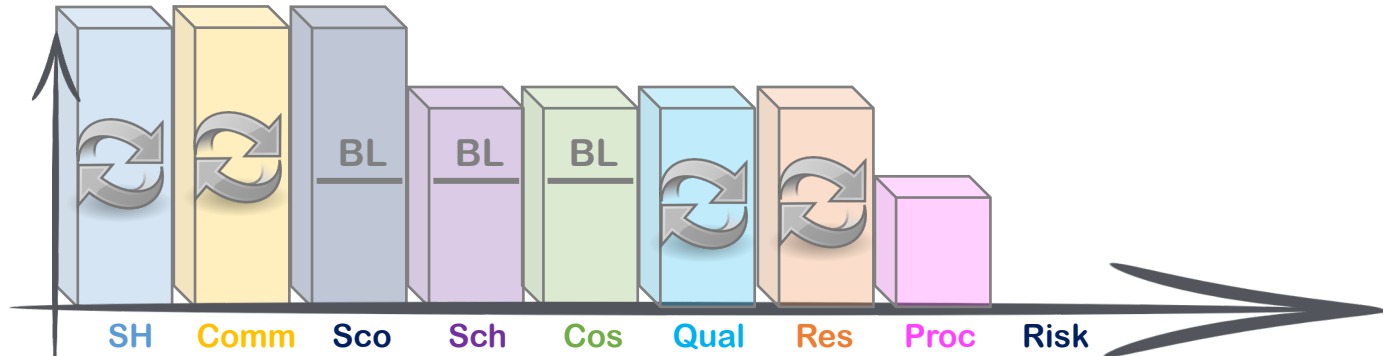


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✓ Plan  
✓ Procure

Make/Buy Analysis  
Statement of Work (SOW)  
Bidder Conference  
Source Selection Criteria  
Qualified Vendors



# Procurement



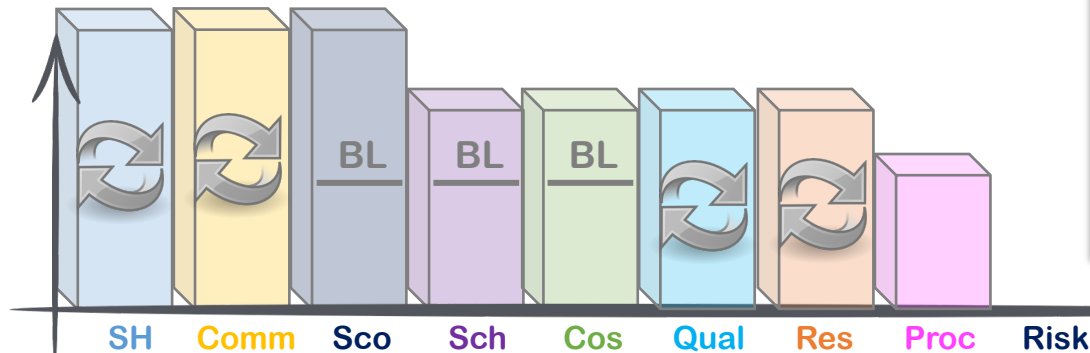
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✓ Plan  
✓ Procure

## Make/Buy Analysis

- Can the team complete the work of the project/product?
- Does the team need to contract all or some of the work?



# Procurement



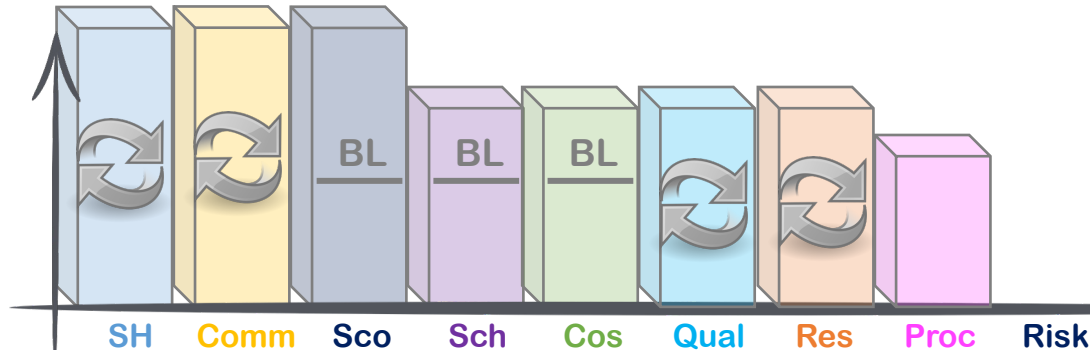
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✓ Plan  
✓ Procure

## Statement of Work (SOW)

- Details the product/service/result needed for source consideration
- Based on the Scope Baseline





# Procurement



## Knowledge Area Management Plans

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- Cost (+ Cost Baseline)
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- **Procurement**
- Risk

✓ Plan  
✓ Procure

## Bidder Conference

- Meetings with prospective sellers (providers)
  - Virtual or physical
- Goal to ensure collective understanding of product/service/result desired
- Tool of professional fairness



# Procurement



## Knowledge Area Management Plans

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- Cost (+ Cost Baseline)
- Quality (+ Quality Baseline)
- Resource (+ Resource Baseline)
- **Procurement** (+ Procurement Baseline)
- Risk (+ Risk Baseline)

✓ Plan  
✓ Procure

## Source Selection Criteria

- Desired/mandated characteristics of a seller in order to be chosen by a buyer
  - Cost
  - Technical capabilities
  - Historical performance
    - Reviews
    - References
  - Security considerations



# Procurement



## Knowledge Area Management Plans

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- **Procurement**
- Risk (+ Risk Baseline)

✓ Plan  
✓ Procure

## Qualified Vendors

- Those sellers adhering to/capable of fulfilling the source selection criteria set out by the buyer
- May be determined by the PMO, contract, or law



# Procurement



## Contract Types

### Traditional:

- Fixed-Price
- Cost-Reimbursable
- Time & Materials (T&M)

## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- **Procurement**
- Risk

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts

- Fixed amount paid for a product/service/result, regardless of cost
- Useful when detailed scope is known
- Low risk to the buyer (higher for seller)

# Procurement



## Contract Types

### Traditional:

- Fixed-Price
- Cost-Reimbursable
- Time & Materials (T&M)

## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- **Procurement**
- Risk

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts

- Payment to the seller for the cost of creating the product/service/result, plus a fee (profit)
- May include incentives
- Useful when characteristics of the work may be unknown
- Increased risk to the buyer (lower for seller)



# Procurement



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- **Procurement**
- Risk

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts

## Contract Types

### Traditional:

- Fixed-Price
- Cost-Reimbursable
- Time & Materials (T&M)

- Combines Fixed-Price & Cost-Reimbursable
- Fixed amount to be paid, plus cost reimbursement  
May include constraints on time/payment
- Useful with many unknown work characteristics
- Highest risk to the buyer (lowest for seller)

# Procurement



## Contract Types

### Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts

### Agile:

- Capped Time & Materials
  - Target Cost Contracts
- Incremental Delivery Contracts

- Fixed amount to be paid, plus reimbursement of costs
- Upper limit set for payment
- May include constraints on time/payment
- Useful with many unknown work characteristics

# Procurement



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- **Procurement**
- Risk

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts

## Agile:

- Capped Time & Materials
  - Target Cost Contracts
- Incremental Delivery Contracts

- Fixed final price agreed by buyer and seller
- Produce value early and often within target cost
- Additional fees possibly applied if budget exceeded

SH Comm Sco Sch Cos Qual Res Proc Risk



# Procurement



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- **Procurement**
- Risk

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts

## Agile:

- Capped Time & Materials
  - Target Cost Contracts
- Incremental Delivery Contracts

- Contracts assessed periodically along with project progress (as value is delivered)
- Buyers may make changes, additions, or subtractions as needed (or terminate)
- Ideal for rapidly-changing environments/unknown buyer requirements/desires

# Procurement



## Contract Types

### Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts

*Must be signed by both buyer and seller!*

All contracts should include some or all of the following details:

- ✓ Work description
- ✓ Schedule/delivery information
- ✓ Cost/Payment information
- ✓ Buyer and Seller responsibilities
- ✓ Administrative aspects (contract location, change authority, etc.)
- ✓ Guarantees, warranties, waivers
- ✓ Details for termination

### Traditional:

- Fixed-Price
- Cost-Reimbursable
- Time & Materials (T&M)

### Agile:

- Capped Time & Materials
  - Target Cost Contracts
- Incremental Delivery Contracts

# Procurement

## Knowledge Area Management Plans

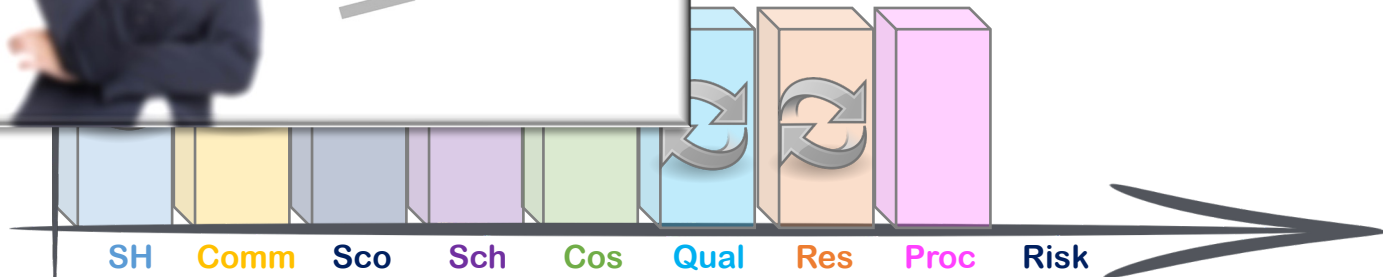
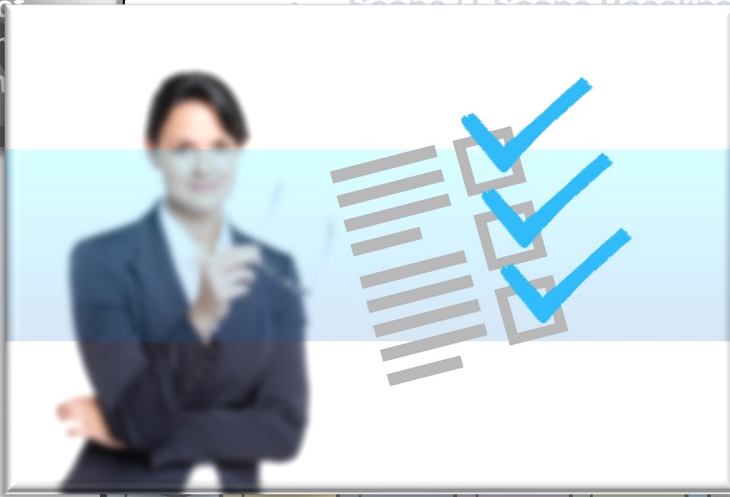
- Stakeholder Engagement
- Communications
- Scope (4 Scope Baseline)

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts

**Communication is Key!**

### Periodic checks:

- Ensure performance aligns with contract details
- Prevent fraud/waste/abuse
- Track project performance
- Monitor compliance



# Procurement

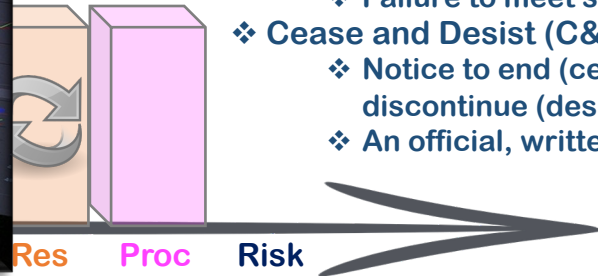
## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts

## Key Contract Terms

- ❖ Buyer: party receiving work
- ❖ Seller: party producing work
- ❖ Warranty: agreed standards
- ❖ Waiver: abdication of rights
- ❖ Breach of Contract:
  - ❖ Failure to meet standards
- ❖ Cease and Desist (C&D):
  - ❖ Notice to end (cease) and discontinue (desist) illegal action
  - ❖ An official, written “warning”



# Procurement

## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts
- ✓ Adjust

- If possible, adjust aspects of the contract(s) as necessary
- Build/use a contract change control system
  - What changes are allowable
  - Change processes/flows
  - Authorities for instituting change



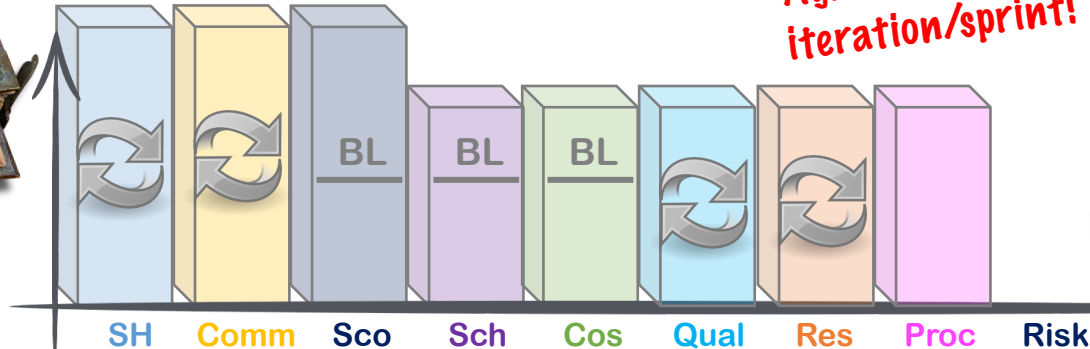
# Procurement



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
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- Quality
- Resource
- **Procurement**
- Risk

- ✓ Plan
- ✓ Procure
- ✓ Monitor Contracts
- ✓ Adjust
- ✓ Iterate!





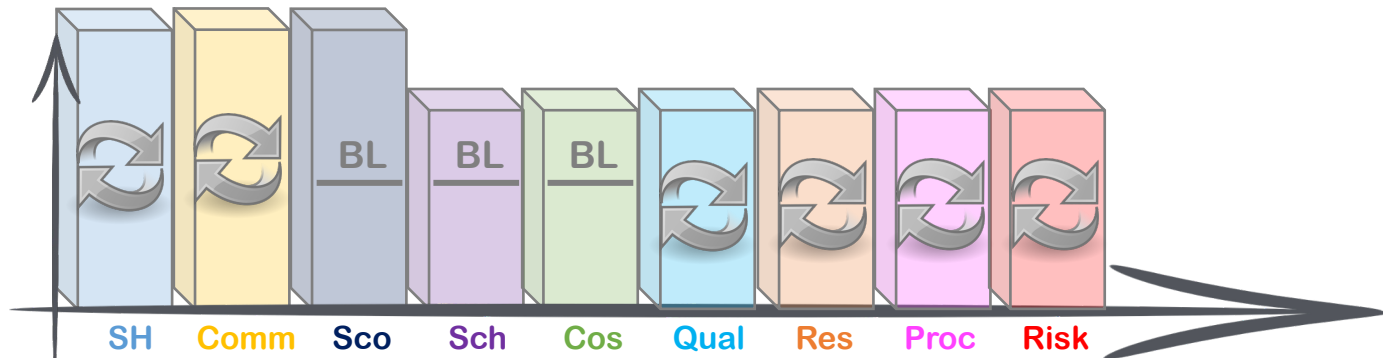
# Risk



## Knowledge Area Management Plans

- Stakeholder Engagement
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- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

- ✓ Plan
- ✓ Assess SH Risk-View
- ✓ Identify Risks
- ✓ Analyze Risks
- ✓ Plan Responses
- ✓ Adjust
- ✓ Iterate!



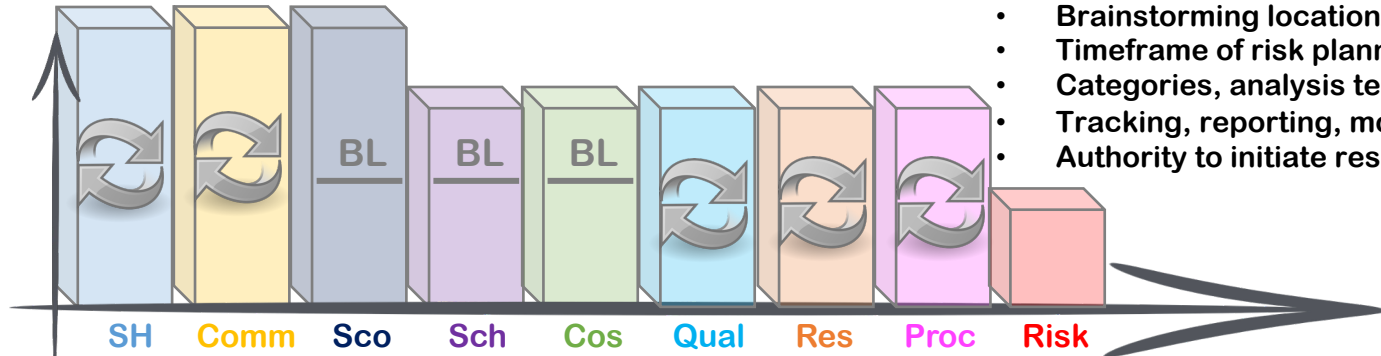
# Risk



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- **Risk**

✓ Plan



- Formatting of the Risk Management Plan
- Brainstorming location/techniques
- Timeframe of risk planning
- Categories, analysis techniques
- Tracking, reporting, monitoring
- Authority to initiate responses



# Risk



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

✓ Plan

**Risk** = An uncertainty that can affect project objectives

**Trigger** = indicates risk materializing

**Response** = planned action to address risks



# Risk



Addressing Risk

## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

✓ Plan

✓ Assess SH Risk-View

What's the most beneficial way to address risk for the current project?

What is the effect of the the risk "out there" on the project

# Risk



Addressing Risk

## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

✓ Plan

✓ Assess SH Risk-View

What's the most beneficial way to address risk for the current project?



View risk from where it originates  
"best defense is a good offense"

# Risk



**Addressing Risk**

## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

✓ Plan

✓ Assess SH Risk-View

How do you, the team, and SHs see risk?

**“Effect-based Risk”**

View risk by the effect it has on project dynamics  
“defensive”



**Scope**



**Schedule Cost**



**“Source-based Risk”**

View risk from the source  
“best defense is a good offense”

# Risk



**Risk View**

## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

✓ Plan

✓ Assess SH Risk-View

How do you, the team, and SHs see risk?

## Risk Appetite

The degree of uncertainty one is willing to accept for a reward

## Risk Threshold

The level of risk *above* which they are *addressed*, *below* which they are *accepted*

## Risk Tolerance

The max amount of risk one is willing to *accept*

Risk is planned here!



# Risk



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

- ✓ Plan
- ✓ Assess SH Risk-View
- ✓ Identify Risks

### Known-Unknowns

**Known** (something known *may* happen)

**Unknown** (but it's yet unknown if it *will*)

### Unknown-Unknowns

**Unknown** (something unidentifiable)

**Unknown** (unforeseeable)

Assess risk of  
all knowledge  
area plans!

*Integration*  
*Stakeholders*  
*Communication*  
*Scope*  
*Schedule*  
*Cost*  
*Quality*  
*Resource*  
*Procurement*

# Risk



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

- ✓ Plan
- ✓ Assess SH Risk-View
- ✓ Identify Risks

*Once risks are identified,  
document them!*



## Risk Register

<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

# Risk



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

- ✓ Plan
- ✓ Assess SH Risk-View
- ✓ Identify Risks
- ✓ Analyze Risks

**Expected Monetary Value (EMV) =  $P * I$**

- P is the *probability* of occurrence
- I is the *impact* of occurrence
- Used to prioritize risks for response planning

*This is how to calculate the Contingency Reserves for the Cost Baseline!*

## Risk Register

A hand-drawn sketch of a Risk Register. It consists of a rectangular box containing a table with four rows. Each row has a square checkbox in the first column and a horizontal line in the second column. A large black arrow points from the bottom-left towards the top-right, specifically pointing at the first row's checkbox.



# Risk



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
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- Quality
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- Risk

- ✓ Plan
- ✓ Assess SH Risk-View
- ✓ Identify Risks
- ✓ Analyze Risks

## Qualitative Risk Analysis

- Quick & Subjective (P and I can be Low, Medium, High, expressed numerically as 1, 2, 3)
- Documented on a P & I Matrix
- Allows prioritization of risks

P/I	L	M	H
L			
M			
H			

## Risk Register

$$EMV_s = \% * (1-3)$$

# Risk



## Knowledge Area Management Plans

- Stakeholder Engagement
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- ✓ Plan
- ✓ Assess SH Risk-View
- ✓ Identify Risks
- ✓ Analyze Risks

$$EMV = P * I$$

... % \* \$

## Quantitative Risk Analysis

- Extensive & Objective (P & I are quantified based on historical info, algorithms, etc.)
- Allows refined prioritization of risks
- Can show overall project risk exposure
- Typically software-generated, used when necessary

## Risk Register

<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

# Risk

## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)

- ✓ Plan
- ✓ Assess SH Risk-View
- ✓ Identify Risks
- ✓ Analyze Risks
- ✓ Plan Responses

**THREATS:**  
Escalate  
Avoid  
Transfer  
Mitigate  
Accept

**OPPORTUNITIES:**  
Escalate  
Exploit  
Share  
Enhance  
Accept

## Risk Responses

- Appropriate
- Holistic
- Thorough (plan, schedule, person)
- ❖ "Secondary Risks" evolve from executed risk responses
- ❖ Account for these by making "Contingency/Fallback Plans"

# Risk



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource

- ✓ Plan
- ✓ Assess SH Risk-View
- ✓ Identify Risks
- ✓ Analyze Risks
- ✓ Plan Responses
- ✓ Adjust

## *Risk Register*

<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	

- Update the Risk Register
- Update plans accordingly
- Facilitate change
- Stakeholder communication

*"Threats" that occur are then considered "issues" and could be moved from the Risk Register to the Issue Log*

# Risk



## Knowledge Area Management Plans

- Stakeholder Engagement
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- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

- ✓ Plan
- ✓ Assess SH Risk-View
- ✓ Identify Risks
- ✓ Analyze Risks
- ✓ Plan Responses
- ✓ Adjust
- ✓ Iterate!

Agile - repeat each iteration/sprint!



# Planning Concepts

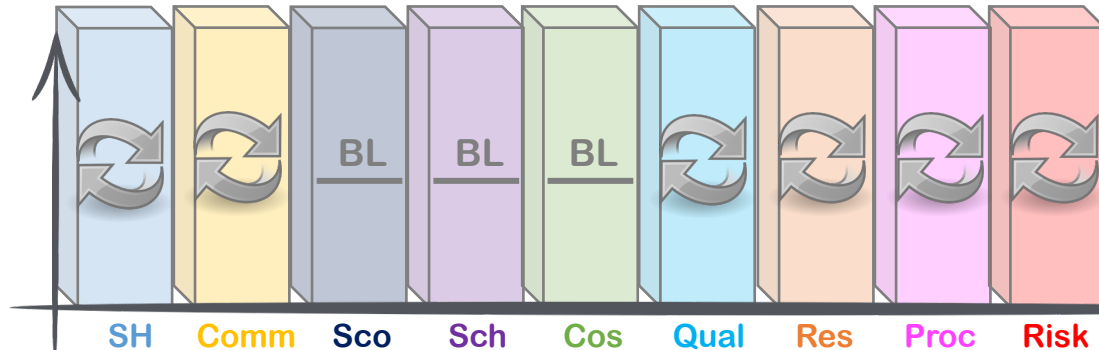
## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
- Cost (+ Cost Baseline)
- Quality
- Resource
- Procurement
- Risk

✓ Once all KAs are sufficiently planned, **EXECUTE!**



Integrate





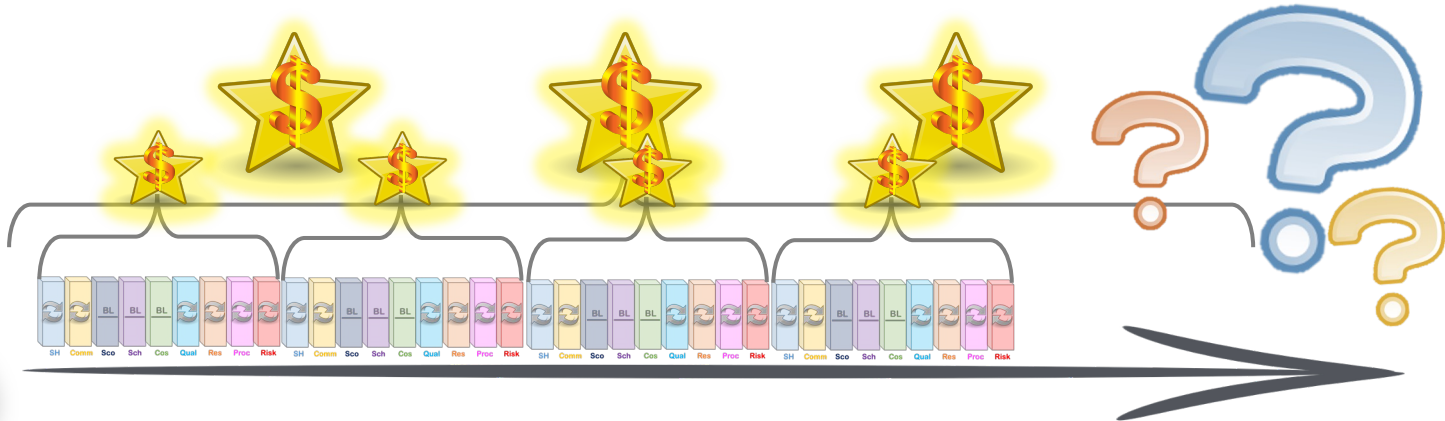
# Planning - Agile



## Project Management Plan

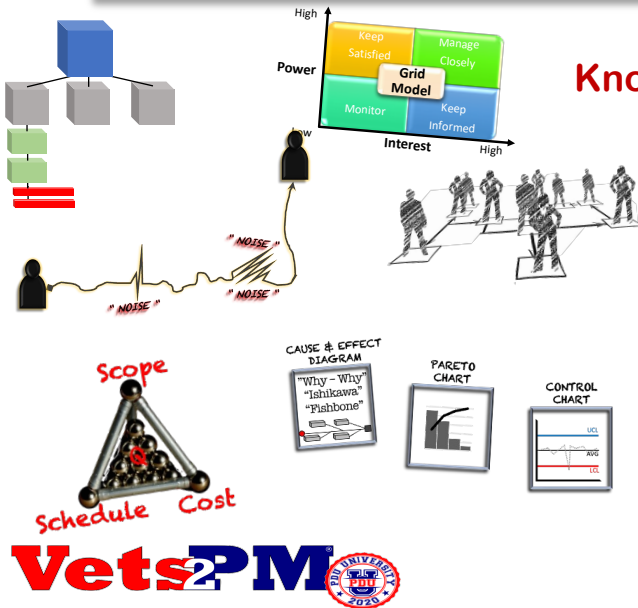
### Iteration/Sprint Planning

- Long-term conceptual plan
- Short-term detailed plan
- Allows administrative & productive changes
- Uses premise of "Rolling Wave Planning"



# Predictive & Agile

# Plan



## Knowledge Area Management Plans

- Stakeholder Engagement
- Communications
- Scope (+ Scope Baseline)
- Schedule (+ Schedule Baseline)
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- Procurement
- Risk



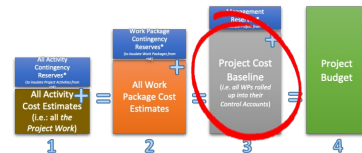
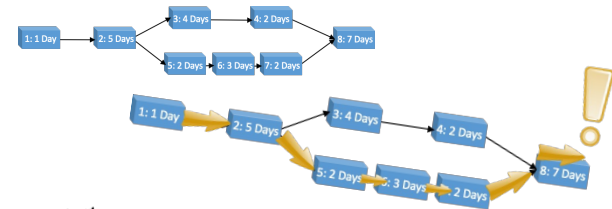
Create Content  
Record Content  
Edit Content

	Jill	Jake	Jamal	Jamie
Create Content	R	C	A	I
Record Content	C	I	R	A
Edit Content	I	I	A	R

Precision  
Good firing fundamentals



Accuracy  
Sights Aligned  
BOTH  
Zeroed!



## Risk Register





# Execute & Adjust

---

---

# Section Objectives

---

## Execution Concept

- Lead & Manage
- Communicate & Engage
- Performance measurement
  - Project objectives
  - Team & Member Development
- Record issues, conflicts, & proposed changes

## Adjust Concept

- Address Issues
- Manage Conflict
- Assess & Implement Change
- Continuously Improve
- Record Lessons Learned

# Execution Concept

- Lead & Manage
- Communicate & Engage
- Performance measurement
  - Project objectives
  - Member & Team Development
- Record issues, conflicts, & proposed changes



# Lead

- Use the leadership & management techniques & styles that suit the current team, project, and environment
- Always "lead from the front," take initiative, be diligent, and orient development to yourself before others
- *Leadership* is different than *Management*; we seek to master and use techniques from both, when needed

**leadership**



**Motivates by  
Recognition:**

**Experiential  
Behavior-focused**

**Unrestricted time period**

- Transformational
- Humanistic (relationship-focus)
- Question/challenge status quo
- Focused on vision, end-state, purpose
- Servant Leadership:
  - Indirect influence
    - Remove obstacles
  - Facilitation focused on growth
  - Highlight accomplishments



# Manage

- Use the leadership & management techniques & styles that suit the current team, project, and environment
- Always "lead from the front," take initiative, be diligent, and orient development to yourself before others
- *Leadership* is different than *Management*; we seek to master and use techniques from both, when needed

- Transactional
- Systematic (process-focused)
- Set/Maintain status quo
- Focused on tasks, goals, results
- Problem-solving, documentation, P&L

**Motivates by  
Reward:**

*Tangible Items  
Results-focused  
Defined time period*

**Management**



# Communicate

90% or more of a PM's time is spent  
**COMMUNICATING!**

Seek effective & efficient  
communications at all times

Email, message, speech, documents, etc.

Simply execute the  
Communications Management Plan!

**Comms Model**

"NOISE"

"NOISE"

"NOISE"





# Engage

*Communicate sparingly, so  
communicate only to Stakeholders*

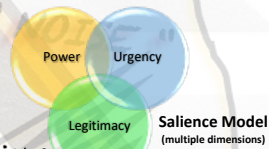
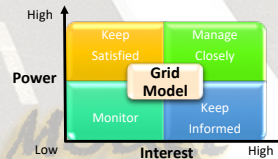
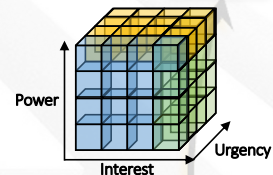
*Execute the Stakeholder  
Engagement Plan (SEAM\*)*

*Aim is to influence Stakeholders from  
current to desired engagement level*

*Use empathy and communication to  
appropriately engage!*

SEAM

SH	+	~	-	Notes
Joy	D	C		
Joe	D		C	



Directions  
Of  
Influence



# Performance Measurement

As project work is completed, we measure performance to ensure alignment with project objectives and Sponsor/Customer's desired end-state

- Observe
- Assess
- Report



**Measure Value of project work:**

- Earned Value Management (EVM)
- Status Reports



**Measure progress of Team/Member Development:**

- Key Performance Indicators (KPIs)
- Tuckman's Ladder





# Earned Value Management

*Measure Value of project work:*

- **Earned Value Management (EVM)**
- *Status Reports*

- A methodology of assessing project performance by analyzing variance in planned versus actual scope, schedule, and cost



Planned Value: the authorized budget assigned to scheduled work

PV

EV

AC

Earned Value: the measure of work performed expressed in terms of the budget authorized for that work.

Actual Cost: the realized cost incurred for the work performed on an activity during a specific time period.



# Earned Value Management

Measure Value of project work:

➤ Earned Value Management (EVM)

➤ Status Reports

PV

EV

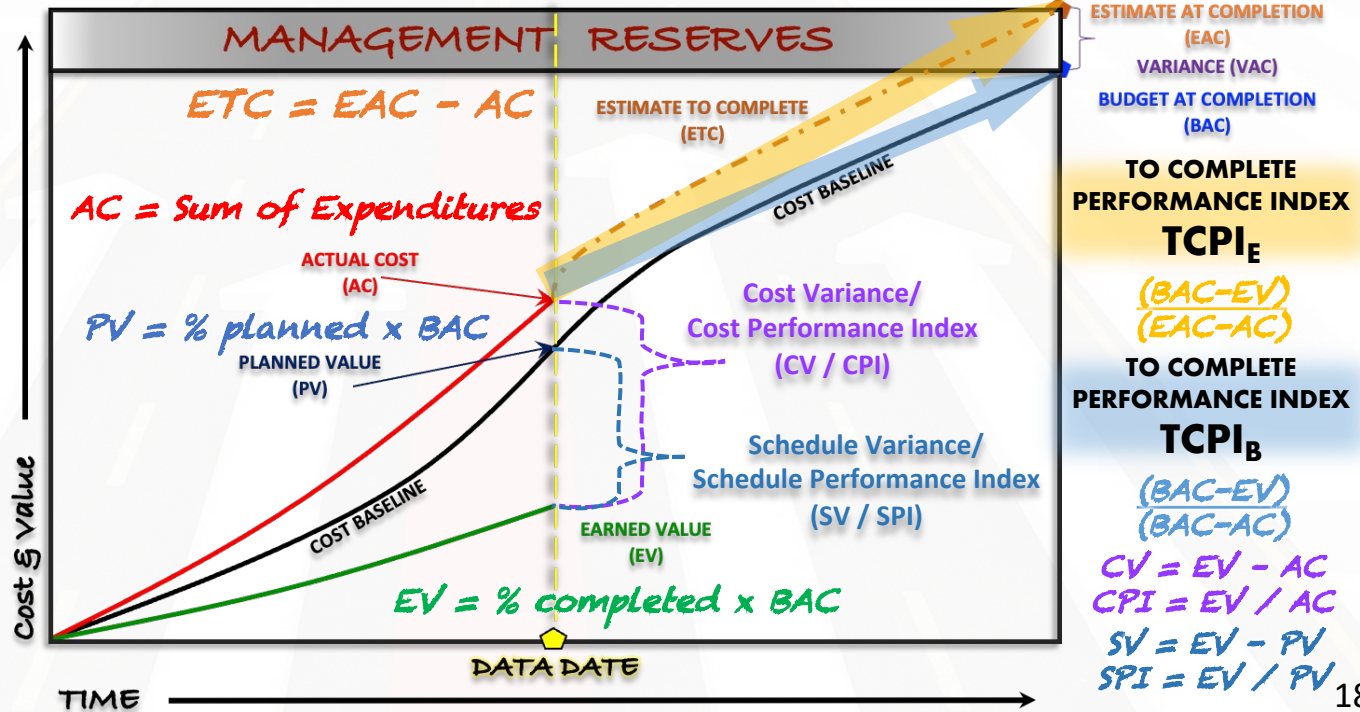
AC



$BAC = \text{Total Costs}$   
(including Contingency Reserves)

$EAC = BAC / CPI$

$VAC = EAC - BAC$



# Earned Value Management

Measure Value of project work:

➤ Earned Value Management (EVM)

➤ Status Reports

PV

EV

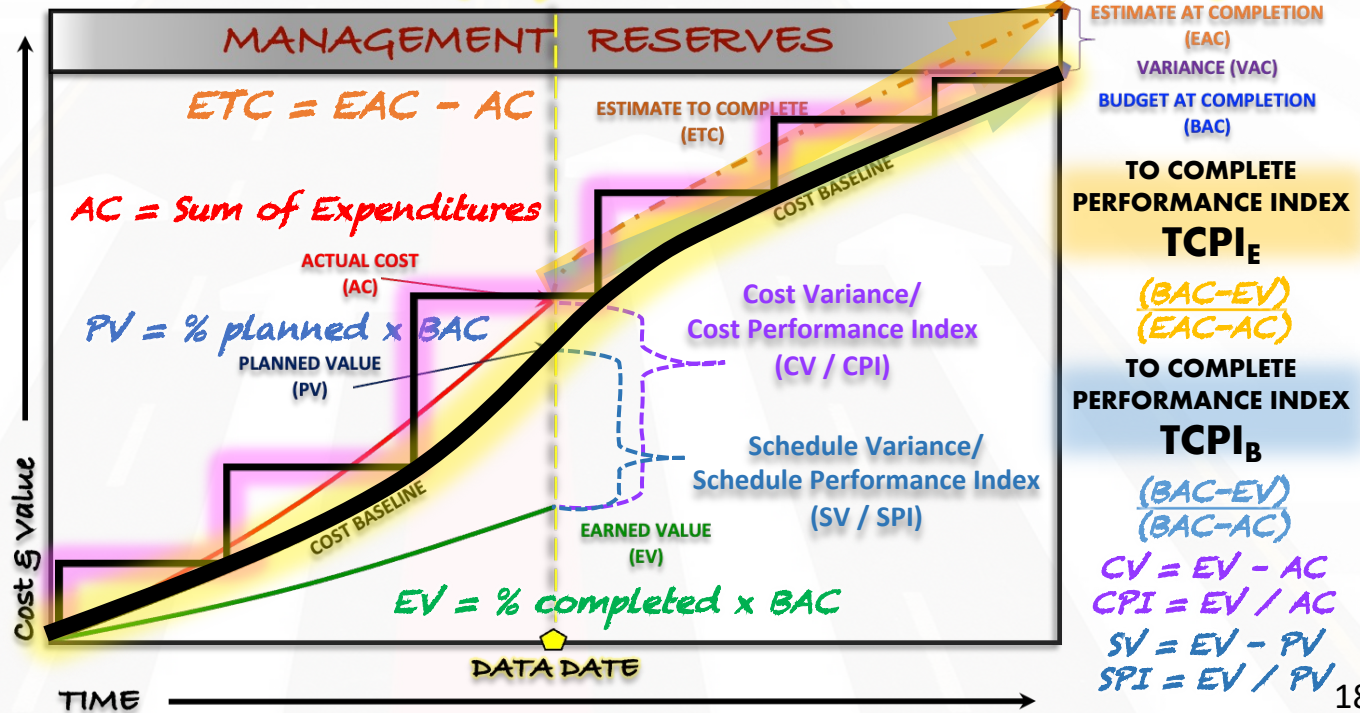
AC



"Funding Limit Reconciliation"

"S-Curve"

(Performance Measurement Baseline)



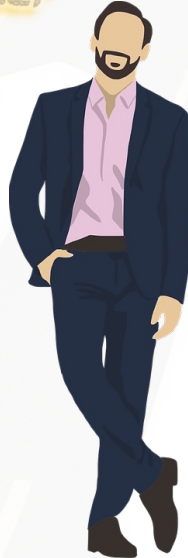


# Member Development

*Measure progress of Team/Member Development:*

- *Key Performance Indicators (KPIs)*
- *Tuckman's Ladder*

**Individual  
Team**



- Individual performance assessments from Project Charter
- Conduct individual mentoring & coaching
- Conduct at timely and consistent intervals
- Promote positive climate
- Lead by example
- Give & receive feedback



- ✓ PMP Cert.
- ✓ Read Book
- ✓ Present Concept
- ✓ Lead Meeting

# Team Development

Measure progress of Team/Member Development:

- Key Performance Indicators (KPIs)
- Tuckman's Ladder

Individual  
Team



Identify current project team



Tuckman's Ladder

Any metric used to assess progress toward a goal



Identify ideal project team

- Skills
- Attributes
- Ethics
- Diversity
- Etc.

# Record

Throughout execution, document issues, conflicts, and any changes proposed by team members, stakeholders, the Sponsor, etc.



## Issues

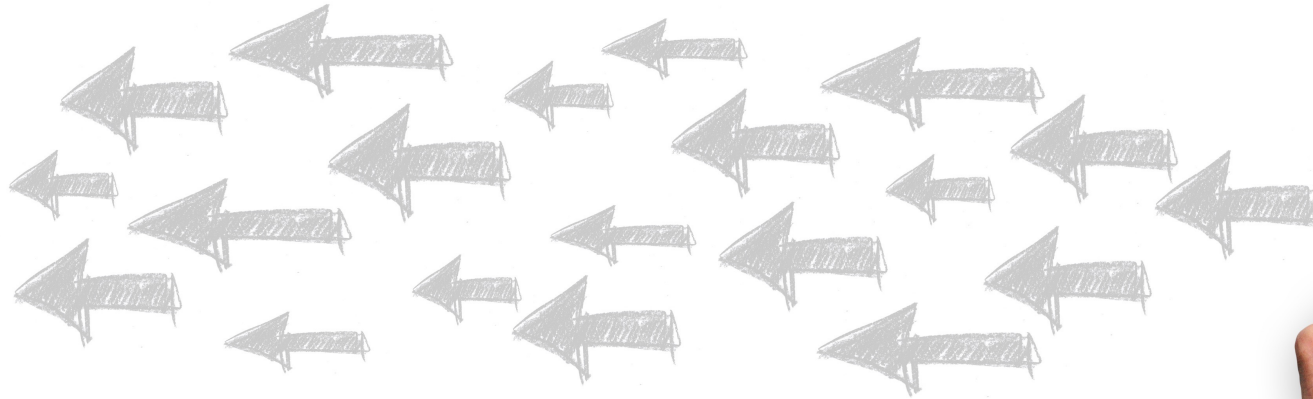
- Issues can arise from any knowledge area/source
- Document them for later action on the Issue Log



# Adjust Concept

---

- Address Issues
- Manage Conflict
- Assess & Implement Change
- Continuously Improve
- Record Lessons Learned





# Adjust

---

Once documented, address Issues, Conflicts, and Changes in order to drive continuous process improvement and enhance the social environment.

## Issues

- Issues can arise from any knowledge area/source
- Document them for later action on the Issue Log

Issue log

## Conflict

- Conflict can also arise from any knowledge area/source, typically interpersonal
- Document them for deliberate resolution and future reference
- Conflict is naturally bound with growth... embrace it!

Issue log

## Change

- Change is inevitable, so proceduralization is key
- Document them for processing into potential project changes
- Change is *also* naturally bound to growth... embrace it, too!

Change log

# Address Issues

Once documented, address Issues, Conflicts, and Changes in order to drive continuous process improvement and enhance the social environment.

## Issues

- Issues can arise from any knowledge area/source
- Document them for later action on the Issue Log

## Issue log

### Issues are:

- Present
- Negative
- "Worked around"

### Respond to Issues:

- Assign a responsible person
- Schedule status reports
- Iteratively assess
- Work-around all issues ASAP

#	Description	Origin	Date	Close	Date	POC	Status	Notes
↓	↓	↓		↓		↓	↓	↓

# Manage Conflict

Once documented, address Issues, Conflicts, and Changes in order to drive continuous process improvement and enhance the social environment.

## Conflict

- Conflict can also arise from any knowledge area/source, typically interpersonal
- Document them for deliberate resolution and future reference
- Conflict is naturally bound with growth... embrace it!

### *Conflicts can be:*

- *Interpersonal*
- *Project-oriented*
- *"Managed"*

### *Manage Conflict:*

- *Triage; assess the urgency*
- *Address when appropriate*
- *Address deliberately*
- *Manage aligned to Team Charter*

*Issue log*

#	Description	Origin	Date	Close Date	POC	Status	Notes
↓	↓	↓	↓	↓	↓	↓	↓

# Manage Conflict

Once documented, address Issues, Conflicts, and Changes in order to drive continuous process improvement and enhance the social environment.

## Conflict

- Conflict can also arise from any knowledge area/source, typically interpersonal
- Document them for deliberate resolution and future reference
- Conflict is naturally bound with growth... embrace it!

*Conflicts can be:*

- *Interpersonal*
- *Project-oriented*
- *"Managed"*

*Manage Conflict:*

- *Triage; assess the urgency*
- *Address when appropriate*
- *Address deliberately*
- *Manage aligned to Team Charter*



- Dictate your view at the expense of other's
- Sometimes appropriate, usually as a last resort or if the situation is emergent
- Win/Lose

*Force/Direct*

**Approaches**

# Manage Conflict

Once documented, address Issues, Conflicts, and Changes in order to drive continuous process improvement and enhance the social environment.

## Conflict

- Conflict can also arise from any knowledge area/source, typically interpersonal
- Document them for deliberate resolution and future reference
- Conflict is naturally bound with growth... embrace it!

*Conflicts can be:*

- *Interpersonal*
- *Project-oriented*
- *"Managed"*

*Manage Conflict:*

- *Triage; assess the urgency*
- *Address when appropriate*
- *Address deliberately*
- *Manage aligned to Team Charter*



- Partially or temporarily satisfy parties
- Lowering of potential/standards
- Lose/Lose

*Compromise*

*Force/Direct*

**Approaches**



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- *Address deliberately*
- *Manage aligned to Team Charter*

*Withdraw*

*Compromise*

*Force/Direct*



- Postpone resolution for immediate accord
- "Lose the battle to win the war"
- Lose/Win

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- *Address deliberately*
- *Manage aligned to Team Charter*

*Accommodate*

*Withdraw*

*Compromise*

*Force/Direct*



- Concede position to allow agreement
- Prioritize other's desires
- Lose/Win



# Manage Conflict

Once documented, address Issues, Conflicts, and Changes in order to drive continuous process improvement and enhance the social environment.

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- Document them for deliberate resolution and future reference
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*Conflicts can be:*

- Interpersonal
- Project-oriented
- "Managed"

*Collaborate*

*Accommodate*

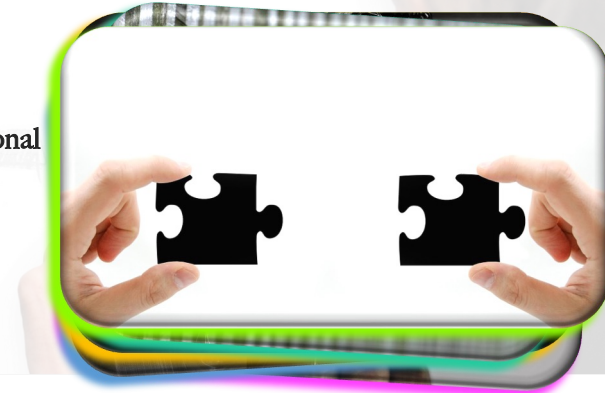
*Manage Conflict:*

- Triage; assess the urgency
- Address when appropriate
- Address deliberately
- Manage aligned to Team Charter

*Withdraw*

*Compromise*

*Force/Direct*



- Teamwork
- Interdependence
- Achieving unforeseen, higher potential
- Win/Win

# Assess & Implement Change

Once documented, address Issues, Conflicts, and Changes in order to drive continuous process improvement and enhance the social environment.

## Change

- Change is inevitable, so proceduralization is key
- Document them for processing into potential project changes
- Change is *also* naturally bound to growth... embrace it, too!

## Change log

### Change is:

- Inevitable
- A precursor to improvement
- Necessary but difficult

### Assess & Implement Change:

- Use change request form
- Assess effect on project
- Process through specified
- Change Control System
- Communicate change decision

#	Description	Origin	Date	Requested Date	Authority	Status	Notes
↓	↓	↓	↓	↓	↓	↓	↓

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**Assess & Implement Change:**

- **Use change request form**
- **Assess effect on project**
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- **Change Control System**
- **Communicate change decision**

### Change Request Form

- |                                |                                  |
|--------------------------------|----------------------------------|
| ✓ Change #                     | ✓ Authority                      |
| ✓ Requestor                    | ✓ Place in Change Control System |
| ✓ Description                  | ✓ Next review                    |
| ✓ Impact to project objectives | ✓ Status                         |
| ✓ Impact to Scope              | ✓ Notes                          |
| ✓ Impact to Schedule           |                                  |
| ✓ Impact to Cost               |                                  |
| ✓ Risk of non-action           |                                  |

# Assess & Implement Change

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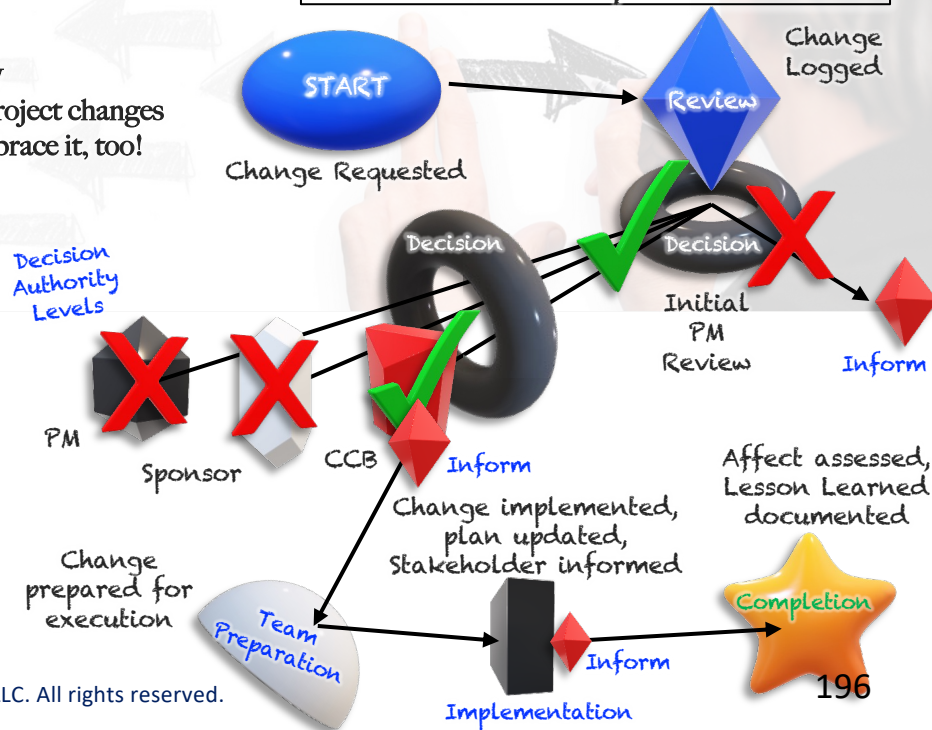
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- Change Control System
- Communicate change decision

## Change Request Flow



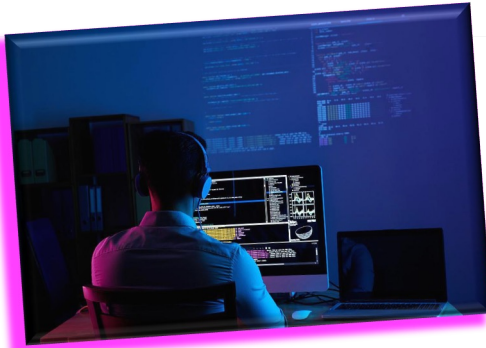


# Continuously Improve

Continuous improve can be sought and executed in any subject of project management. As PMs, we seek every opportunity to improve social interactions, system function, and procedural effectiveness/efficiency.

## Kaizen

- Responsible members encouraged to find improvements
- Small, incremental improvement
- Promotes personal responsibility



## Plan. Do. Study. Act (PDSA)

- Continuous loop of improvement through basic project functions
- Seek improvement in all facets
- Model of trial, error, experiment, improvement



# Record Lessons Learned

Once documented and now addressed, record lessons learned from Issues, Conflicts, and Changes in order to improve future projects and to avoid repeating mistakes.

- ✓ Record on a *Lessons Learned Register*
- ✓ Each project has a *Lessons Learned Register*
- ✓ Each *Lessons Learned Register* is archived within a *Lessons Learned Repository*
- ✓ Both used to reference past success and facilitate future success

*Agile - repeat each iteration/sprint!*  
• *Retrospectives*



# Execute & Adjust



Communicate & Engage

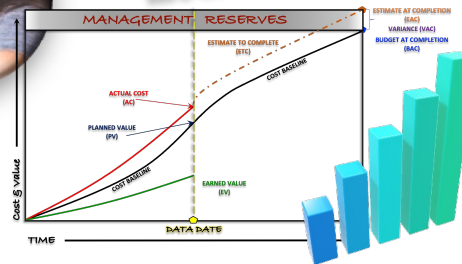


Management



Adjust

Measure Performance



Continuously Improve



Record lessons learned





# Close

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# Section Objectives

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## Close Concept

- Closure Justification
- Work Completion
- Project Closure
- Document Archival

# Closure Justification

**Projects can end for many reasons:**

- **Work is completed**
  - All Deliverables are Accepted ✓✓
- **Unfeasible change of requirements**
- **Loss of funding**
- **Unacceptable risk**
- **Unneeded**
- **Unmanageable legal changes**
- **Economic changes (global effects)**



# Work Completion



Deliverables are ACCEPTED

- Acceptance Criteria

**Product Backlog is complete**

- Value Achieved

Identified



Verified



Validated



Accepted



# Project Closure

## Project Termination:

- Deliberate action
- Procedural completion
- Close procurements
  - Assess contract details
  - Ensure work completed
  - Formal Acceptance
  - Complete payments
  - Return resources
  - Record Lessons Learned
- Termination Checklist

## Termination Checklist



Review Scope, Schedule, Cost



Review Quality Standards



Inspect quality of deliverables



Ensure formal acceptance/signature



Review contractual closure



Ensure payments made/received



Communicate completion to stakeholders



Update repositories

# Document Archival

## Management Plans



## Business Case



## Team/Project Charter



## Final Project Report



All project documents should be reviewed, updated, & archived

- PM Plan
  - Subsidiary/Components Plans
  - Baselines/Product Backlog
- Lessons Learned Register/Repository
- Knowledge Repository
  - Naming convention
  - Document storage location
  - Access/security
- Final Project Report
- Review, Retrospective, Demo notes

# Celebrate!

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**Celebrate project completion**

**Intentionally “adjourn” project team**

**Update records with team member performance**

**Thank all involved!**

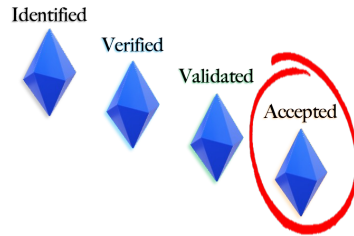




# Close



## Work Completion



## Closure Justification

### Termination Checklist

- ☒ Review Scope, Schedule, Cost
- ☒ Review Quality Standards
- ☒ Inspect quality of deliverables
- ☒ Ensure formal acceptance/signature
- ☒ Review contractual closure
- ☒ Ensure payments made/received
- ☒ Communicate completion to stakeholders
- ☒ Update repositories

## Project Closure

## Document Archival



## Celebration & Acknowledgement!



# Conclusion

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# Section Objectives

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## Conclusion Review

- Course Objectives
- PMP® Exam Tips
- Holistic Review
  - Initiation
  - Planning
  - Executing & Adjusting
  - Closing
- Next Steps

# Course Objectives

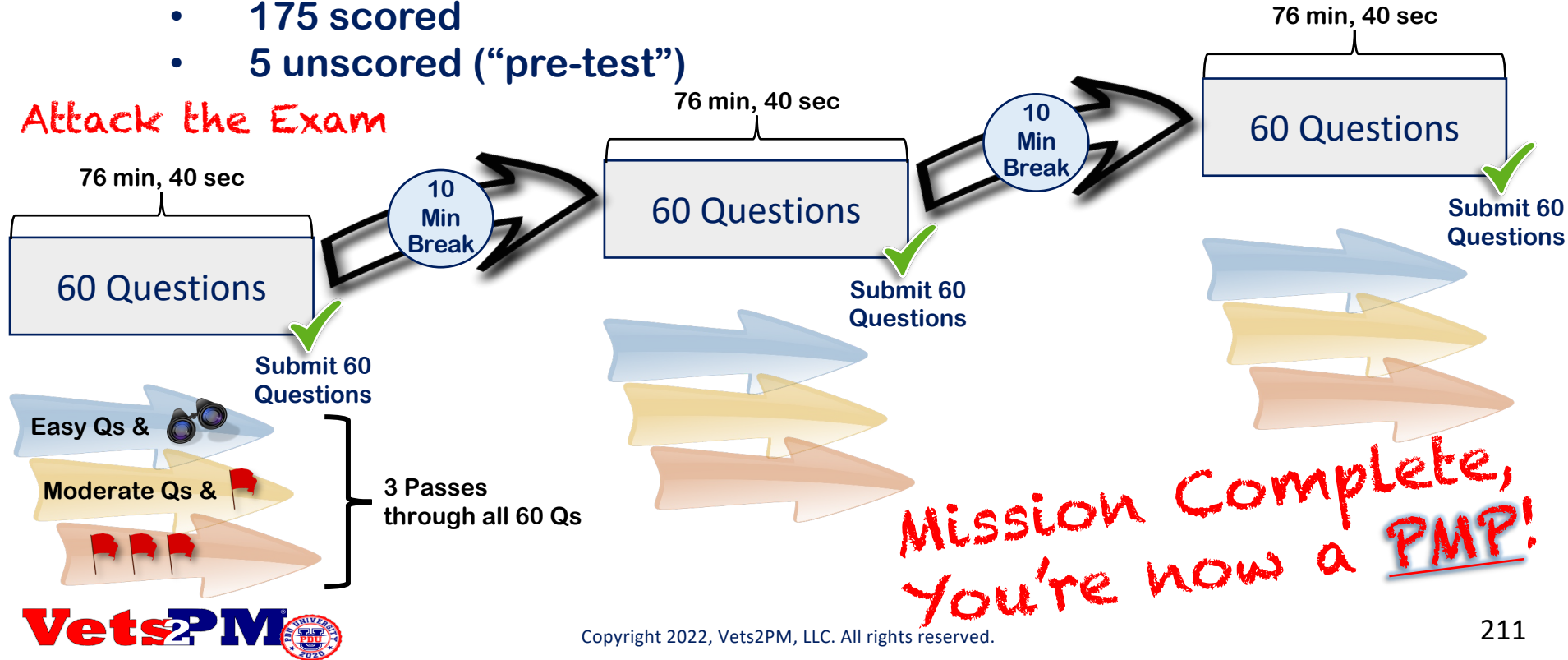
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- Teach you how to take and pass the PMP® exam. “Period.”
  - Exam-taking techniques and tips
  - A *key* decision-making model to approach exam questions
  - The appropriate “lens” through which to take the exam
    - “How PMI thinks; how they see PMs”
  - Methodology differences
  - Exam-centric, “boot stomp” topics throughout a sequential project flow:
    - Initiate, Plan, Execute & Adjust, and Close
  - Exam-prep activities, questions, and practical tools
  - Holistic overview and conclusion

# PMP® Exam Execution

- 180 total questions, 230 minutes
  - 175 scored
  - 5 unscored (“pre-test”)

*Attack the Exam*



# PMP® Exam Studying

This PMP® Exam crash course is intended to be intense

- High volume of material
- Moderate complexity

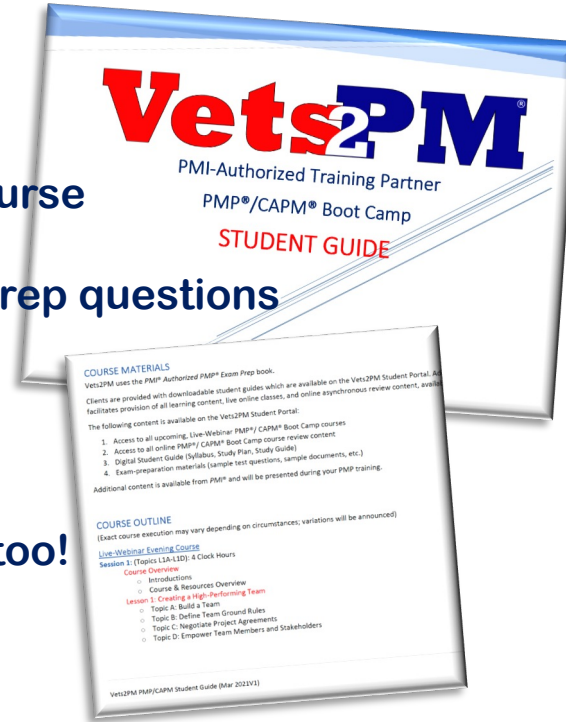
We recommend ~~30 days~~ of studying *after* completion of this course

- Use the 30-Day Study Plan; tailor length of time as needed
- Review course videos and materials; heavy focus on exam-prep questions
  - 2-3 hours per day
  - 5-6 days per week
  - 3-5 weeks

Life circumstances will vary, therefore your studying path will, too!

**“Practice is the best of all instructors.”**

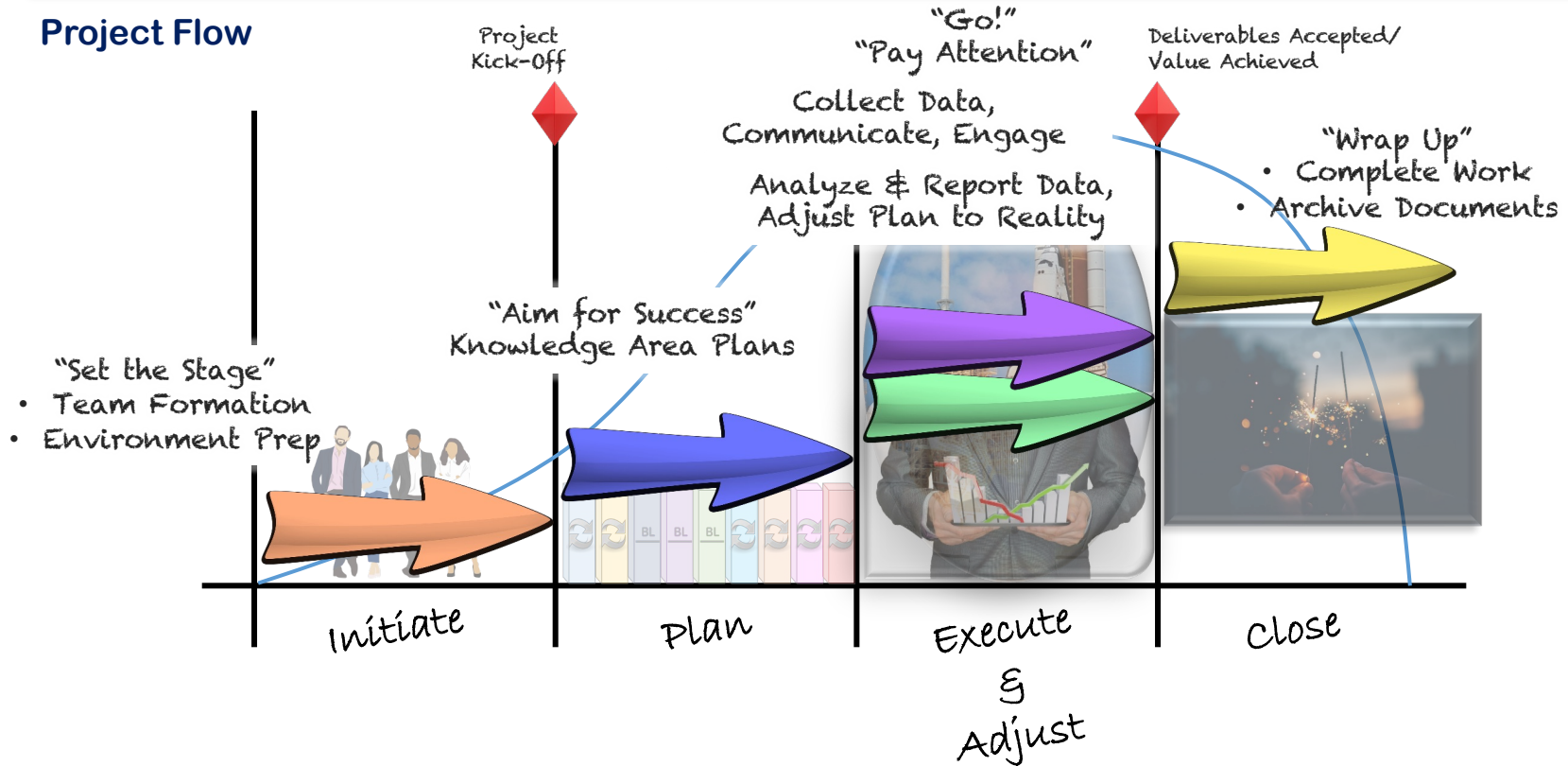
—Publilius Syrus (1st century Latin writer)





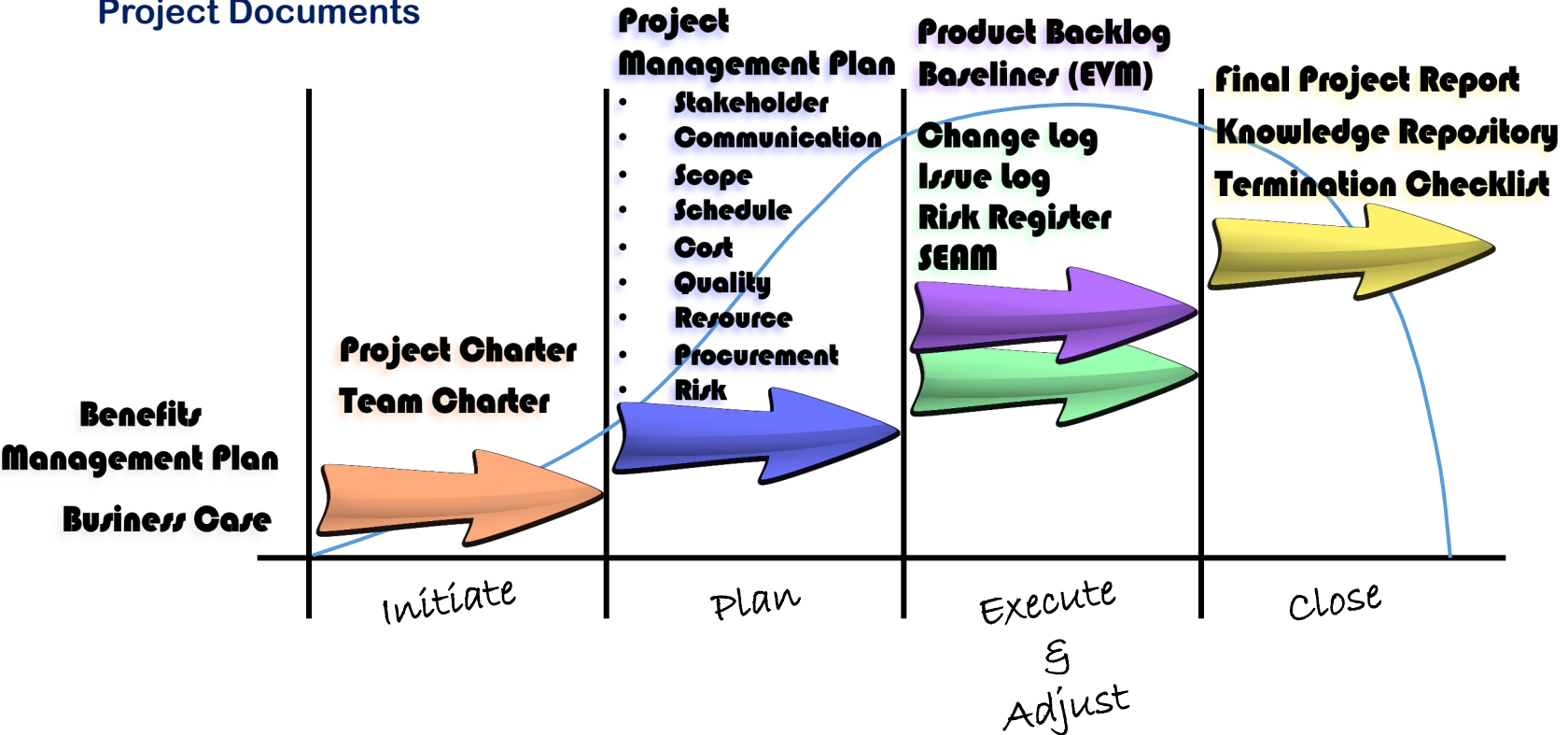
# Holistic Review

## Project Flow



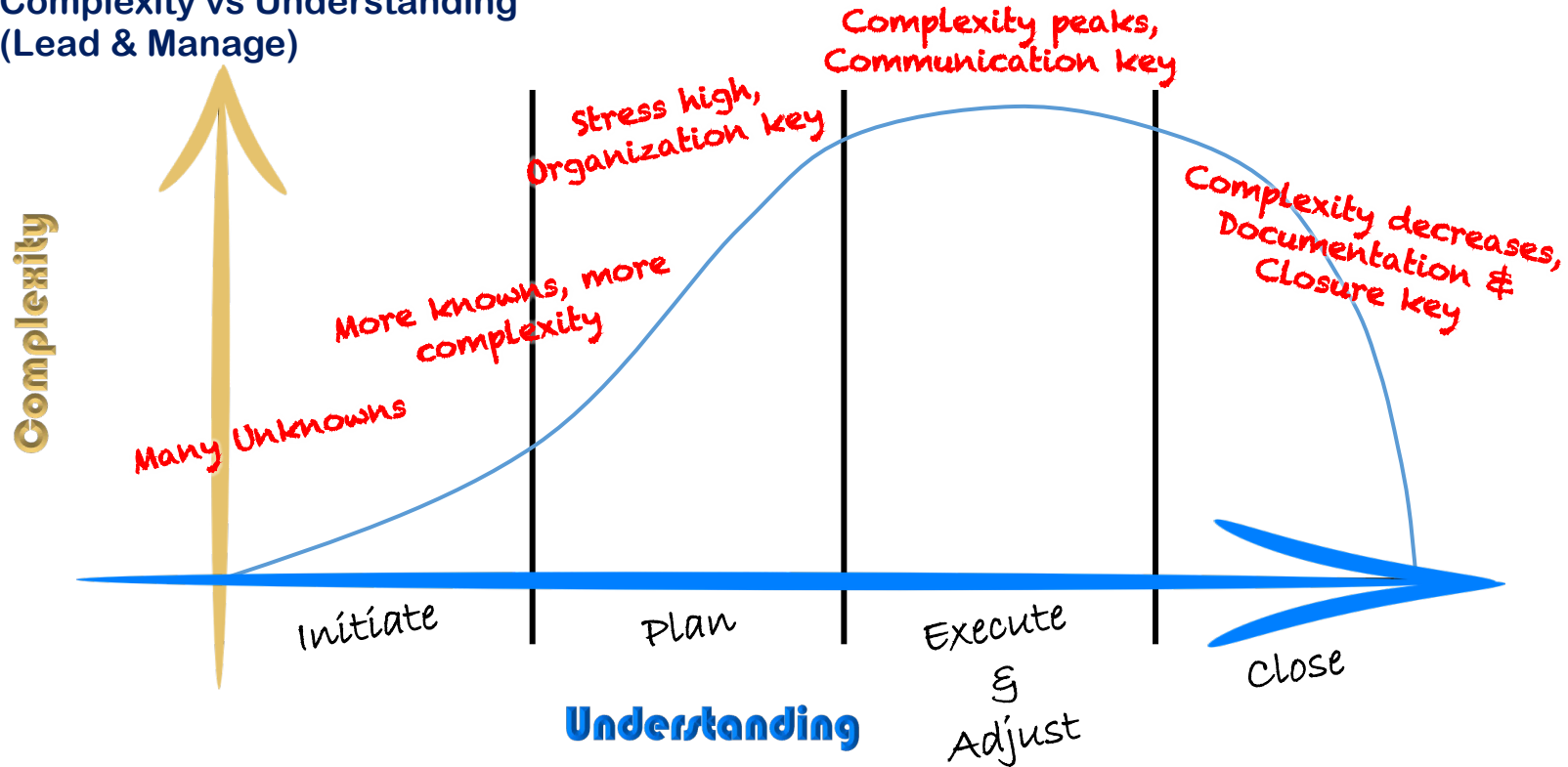
# Holistic Review

## Project Documents



# Holistic Review

Complexity vs Understanding  
(Lead & Manage)



# Next Steps - Apply

- Create an account at pmi.org
- Initiate a PMP® application
- Use the ***Application Completion Tool\**** to consolidate and record your PM experience
  - (If audited) Complete audit instructions
    - Contact us for *free* audit defense
  - (If rejected) Complete correction instructions
    - Contact us for *free* application correction
- Upon acceptance, schedule your PMP® exam
  - Recommended to test within 4 weeks of completing this course *and* the 30-Day Study Plan



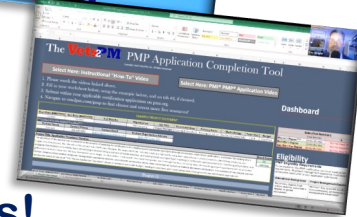
\* The Application Completion Tool is provided for *free* as part of your Vets2PM membership, and is found on your Vets2PM Student Portal

# Next Steps - Study



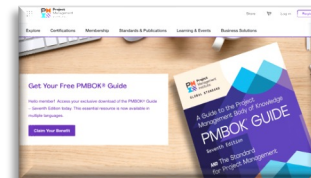
## • Vets2PM Student Portal

- On-Demand PMP® Exam Crash Course
  - Videos, Project Manager Essential Toolbox (PMET), exam-prep questions, etc.
- Vets2PM PMP Application Course
  - The Application Completion Tool (ACT)
- Many other *free* materials to facilitate your success!



## • Project Management Institute (PMI®)

- PMBOK Guide 7<sup>th</sup> Edition
  - “Project Management Body of Knowledge Guide”
- Project Management Professional Exam Content Outline (PMPECO)
- PMI.org (articles, standards, publications, etc.)



# Next Steps – Contact Us!



**Eric**

(Founder & CEO)



**Kelly**

Director of Staff



**Jeremy**

(Chief Operations Officer)



**Cathy**

(Director of  
Career Services)



**Garrik**

(Lead Instructor)

Reach us at our first name (as below)  
@vets2pm.com!



# Vets2PM<sup>®</sup>



## Project Management Professional (PMP<sup>®</sup>) Exam Crash Course

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Thank you!

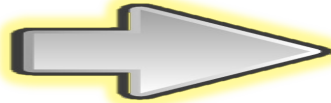
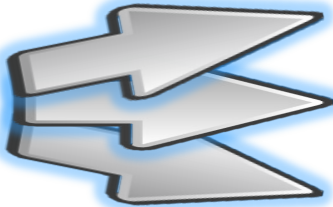


# PMP® Exam Approach

## PM decision-making model:

*Determine where you are on this model for each exam question to help you determine "the next best step."*

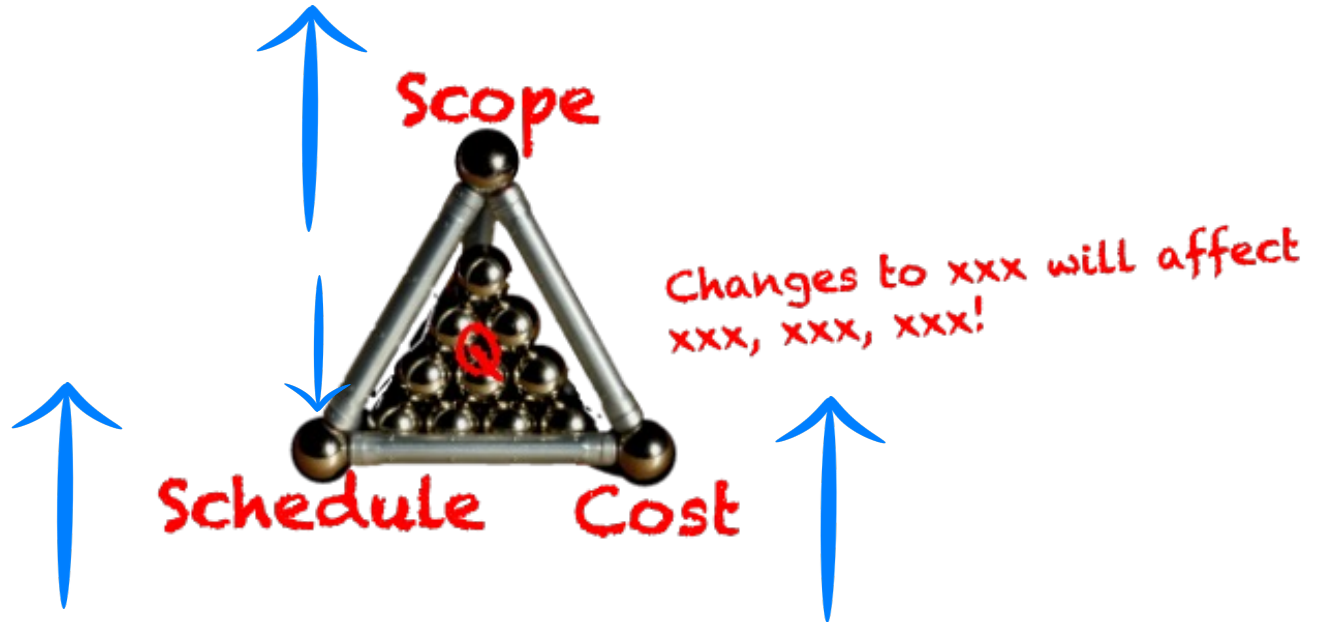
- 1) A problem is posed
- 2) Confirm that the problem exists
- 3) Assess options for resolving the problem
- 4) Choose an option
- 5) Execute the option
- 6) Assess whether the desired effect has been achieved
- 7) ... back to 1: is a problem still being posed...





# “Iron Triangle”

- Changes to one aspect result in changes to others
- Aka Triple Constraint
- Major “points” are the Baselines we create!





# Estimating Techniques

## Predictive

Think "AP3"

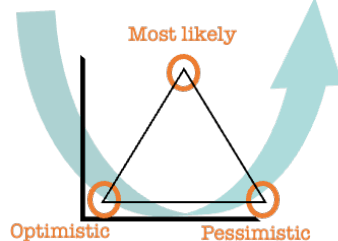
**Analogous** = Expert guess

**Parametric** = Expert guess + Comparison  
(decomposing activity to smaller segments)

**3-Point** =

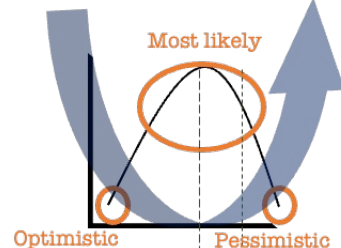
"Triangular"  
"Simple Average"

$$\frac{O + M + P}{3}$$



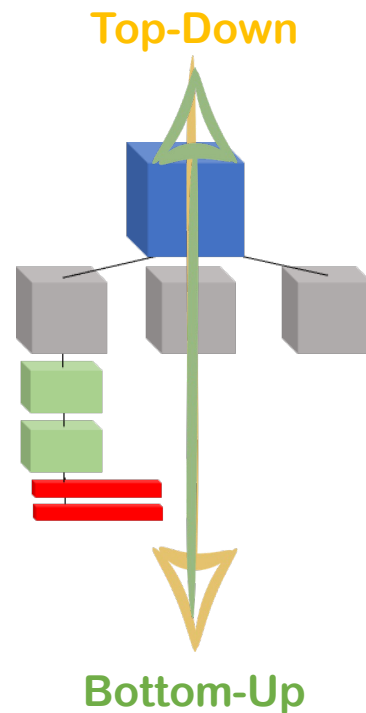
"BETA-D"

$$\frac{O + 4M + P}{6}$$



Standard  
Deviation

$$\frac{O - P}{6}$$





# Estimating Techniques

## Agile

### General Concept

- Precise end-state of the project unknown...
  - So precise estimates not possible nor helpful
- Estimate per iteration/sprint...
  - Therefore, no definitive time-based estimating



### User Stories

- Narrative description of a product function or end-state from a customer/end-user's perspective
- Translated into work effort by project team (SMEs)
  - Point-structured for estimating



### Planning Poker

- Use numbers from Fibonacci Sequence
  - 1, 2, 3, 5, 8, 13, 21, 34
    - 1 = easiest, 34 = hardest
- Team votes on each task to present perceived effort involved





# Consensus Techniques

## Predictive



### Voting

- Unanimity (100% agree)
- Majority (>50% agree)
- Plurality (<50% but still more votes than other options)

- Multi-Criteria Decision Analysis (MCDA)  
Narrow options, from broad to specific, considering unique project characteristics



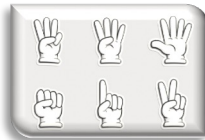
### Autocratic Decision

- Single member decides the vote

## Agile

### Fist of Five

- Range of agreement
- Better with small groups



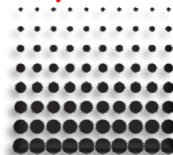
### Roman Voting

- Yes or No
- Better with large groups



### Dot Voting

- Choose from options
- Vote from allocated points



### Polling

- Consider discussion
- Present individual views

