



PMI® SeminarsWorld®

Mastering Scope Management:
The Heart of Project Management
17 May 2019

Brad Bigelow

Principal Technical Advisor, SHAPE (NATO)

#PMIseminars

Disclaimer

- The views and opinions expressed in the following PowerPoint slides are those of the individual presenter.
- These PowerPoint slides are protected under the copyright laws of the United States of America and other countries. Used by permission. All rights reserved. Project Management Institute and PMI are registered trademarks. All other trademarks are the property of their respective owners.
- The PowerPoint slides are for registered attendees of the PMI® SeminarsWorld®.

Day One Recap

- Scope: The Basics
- Scope: The Not-So-Basics
- Digging Deeper into Scope
- Why Scope is Fuzzy and What to Do About It

Let's Review Your Expectations

- What were you expecting to get out of this class?
- How well are we meeting those expectations?

DAY TWO EXERCISE PROJECT:

FINANCE 21



- Family-owned, family-run
- Founded in 1905
- Plants in Canada and USA

Acme Gadget Manufacturing Corporation (AGMC)

AGMC: Trusted by Coyotes Worldwide





eGadget

- CEO-driven, virtual C-suite
- Founded in 1995
- Outsourced manufacturing

New Gadgets for a New World!



Day Two Exercise Project

- Before:
 - Two financial management systems
 - Two financial management units
- After:
 - One system, one set of processes
 - Two locations/one organization



Scope Management through the Project Lifecycle

- Before the Project
- Initiation
- Planning
- Executing
- Monitoring & Control
- Closure
- After the Project

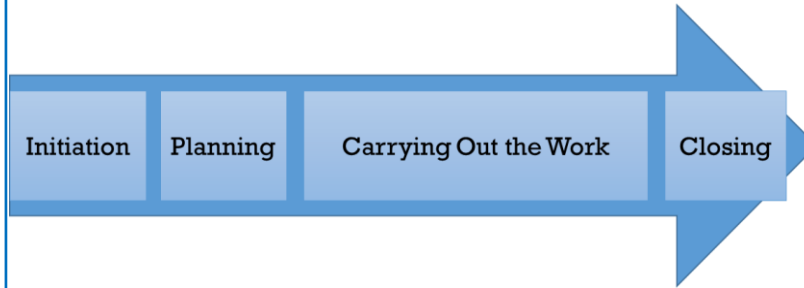
SCOPE MANAGEMENT THROUGH THE LIFECYCLE BEFORE THE PROJECT

The Larger Life Cycle

What Happened in the Past

What Led to Project Initiation

What is Going On During the Project



What will Happen After the Project

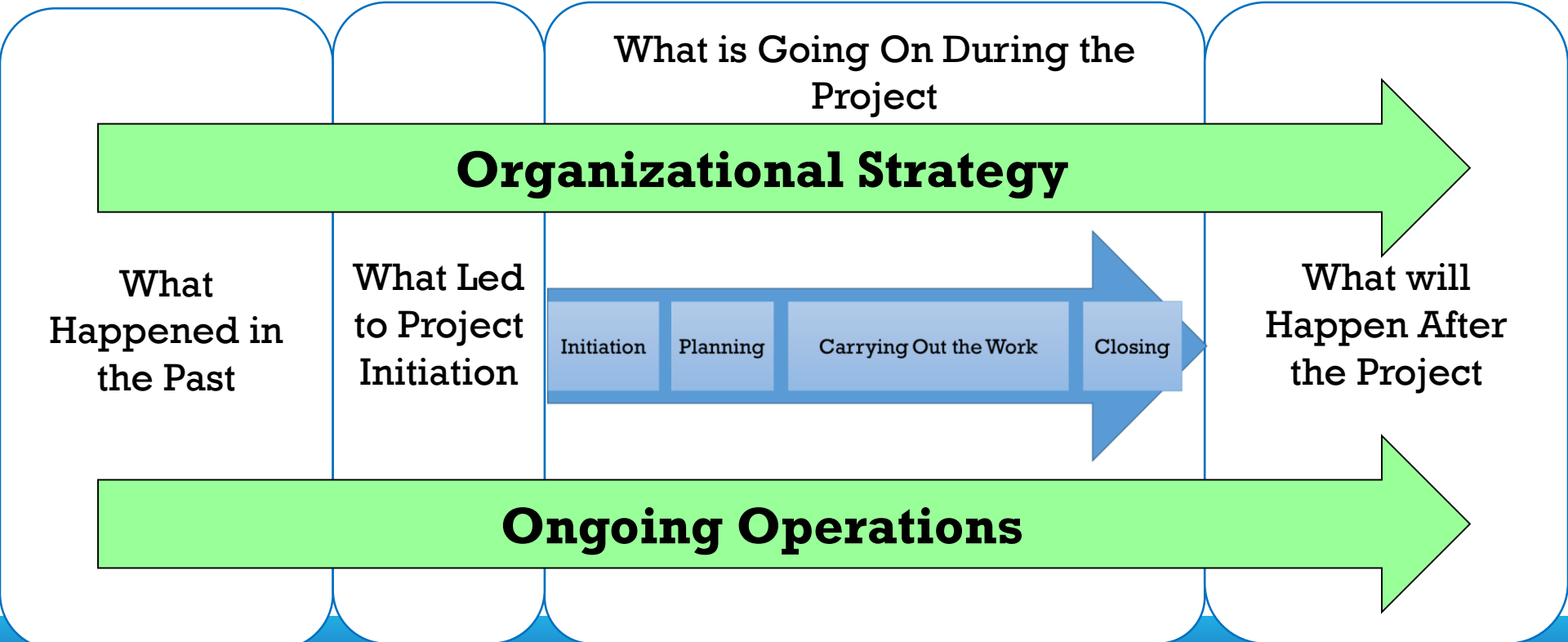
The Larger Life Cycle

**What
Happened in
the Past**

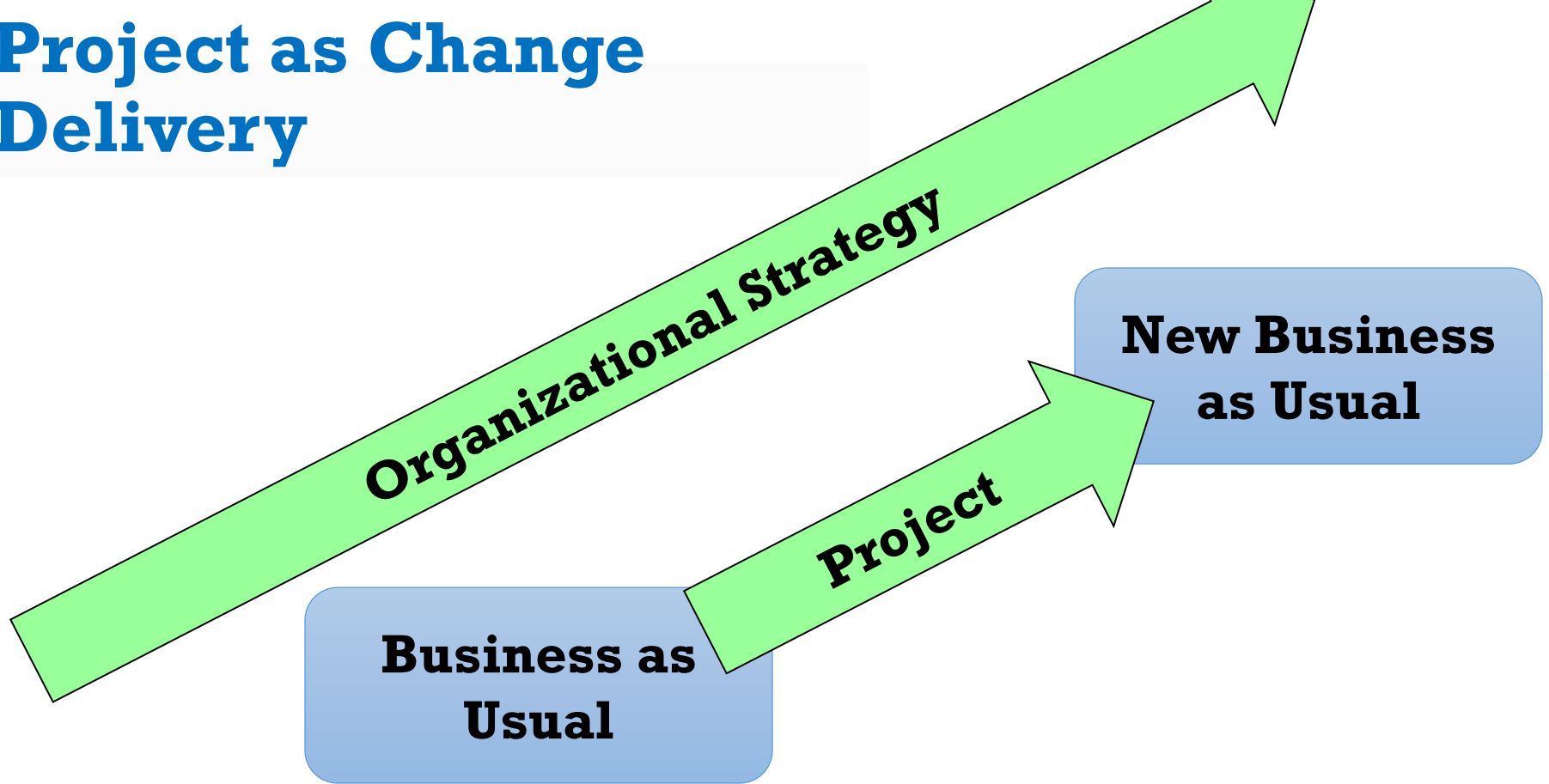
What is Going On During the

- **Enterprise Environmental Factors**
 - Organizational culture
 - Infrastructure
 - Personnel
 - Market Forces
 - Regulations
 - Organizational Process Assets

The Larger Life Cycle



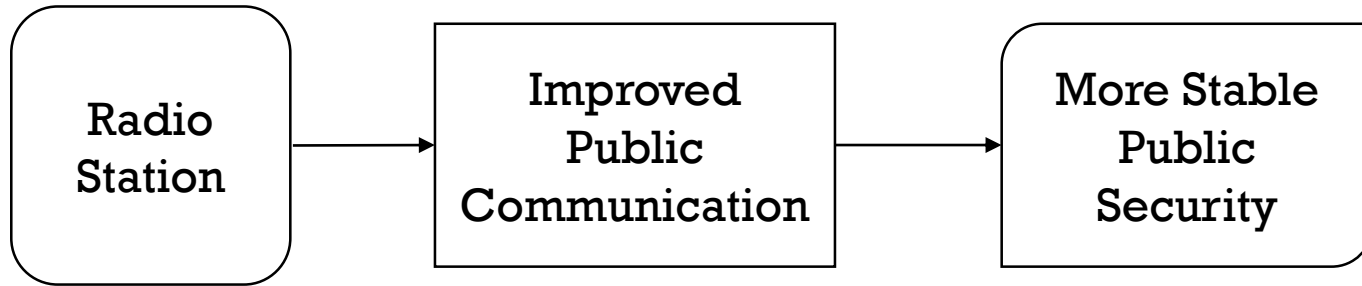
Project as Change Delivery



The Basic “Why” Model

- Projects deliver **outputs**
- The outputs enable **outcomes**
- The outcomes realize **benefits**
- The benefits achieve **strategic objectives**

A Benefits Model



*Project
Delivers*

Output

Enables

Outcome

Realizes

Benefit

Exercise #1:

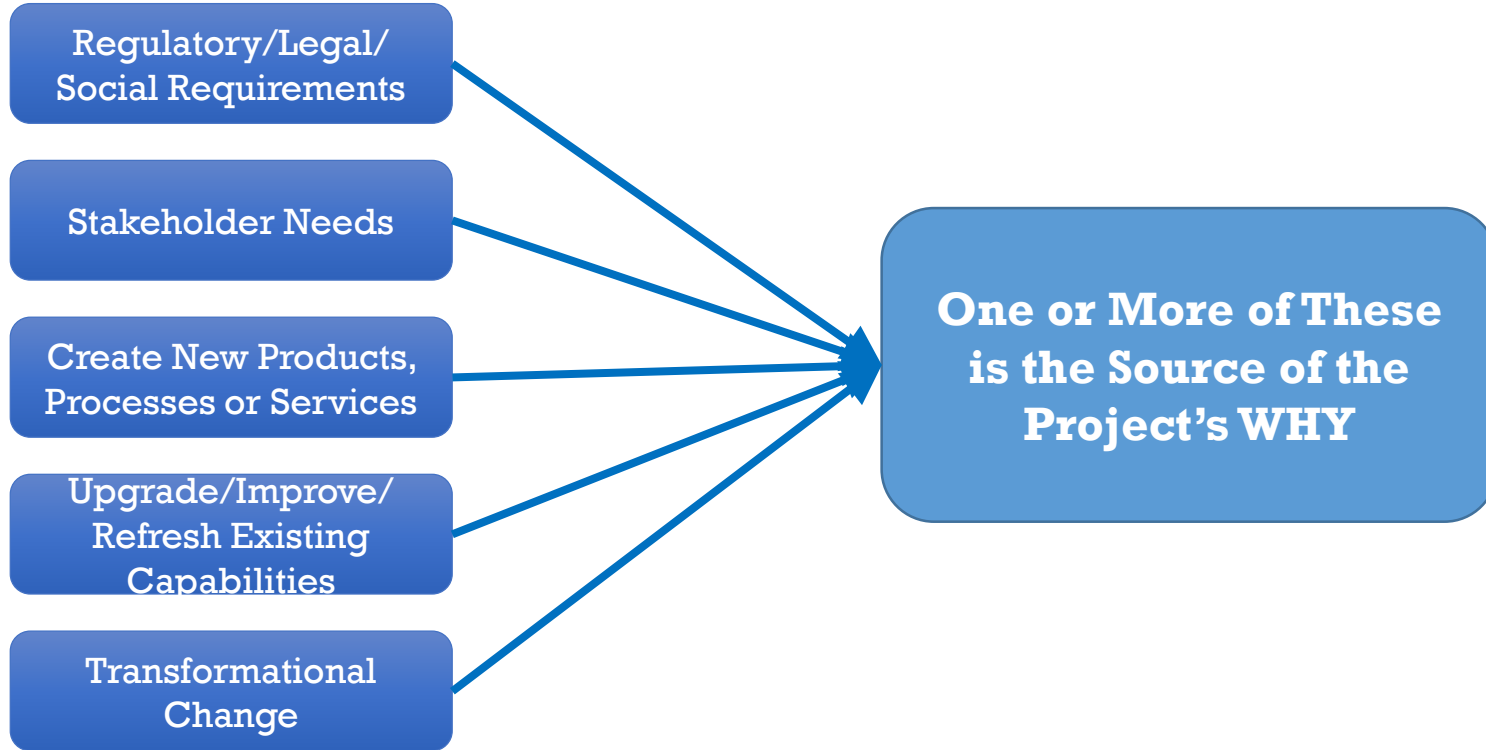
- For the Finance 21 project, identify:
 - Two expected Outcomes
 - Two Benefits expected to result from each

SCOPE MANAGEMENT THROUGH THE LIFECYCLE: PROJECT INITIATION

What Leads to Project Initiation

- Grand Strategy/Deliberate Planning
- Innovation
- Bottom-Up
- Necessity
- Opportunity
- Accidents and Disasters

Project Initiation Context



Initiation

- Business Case
- Change Drivers
- Organizational Assets
- Enterprise/Environmental Factors

Output: Project
Charter

Initiation

- Business Case
- Change Drivers
- Organizational
- Environmental Factors

Project Inputs: The Why

Output: Project
Charter

Scope in the Project Charter

- “The Scope section addresses the Who, What, Where, When, and Why of a project.”*

*Most of the Project Charter templates you will find on the Internet

Project Business Case

- In theory:
 - Developed by the project sponsor
 - Estimates the costs, implementation issues, desired outcomes and expected benefits
 - Provides the basis for Project Initiation and Project Charter
 - Reviewed and updated throughout the project's life cycle

Project Business Case

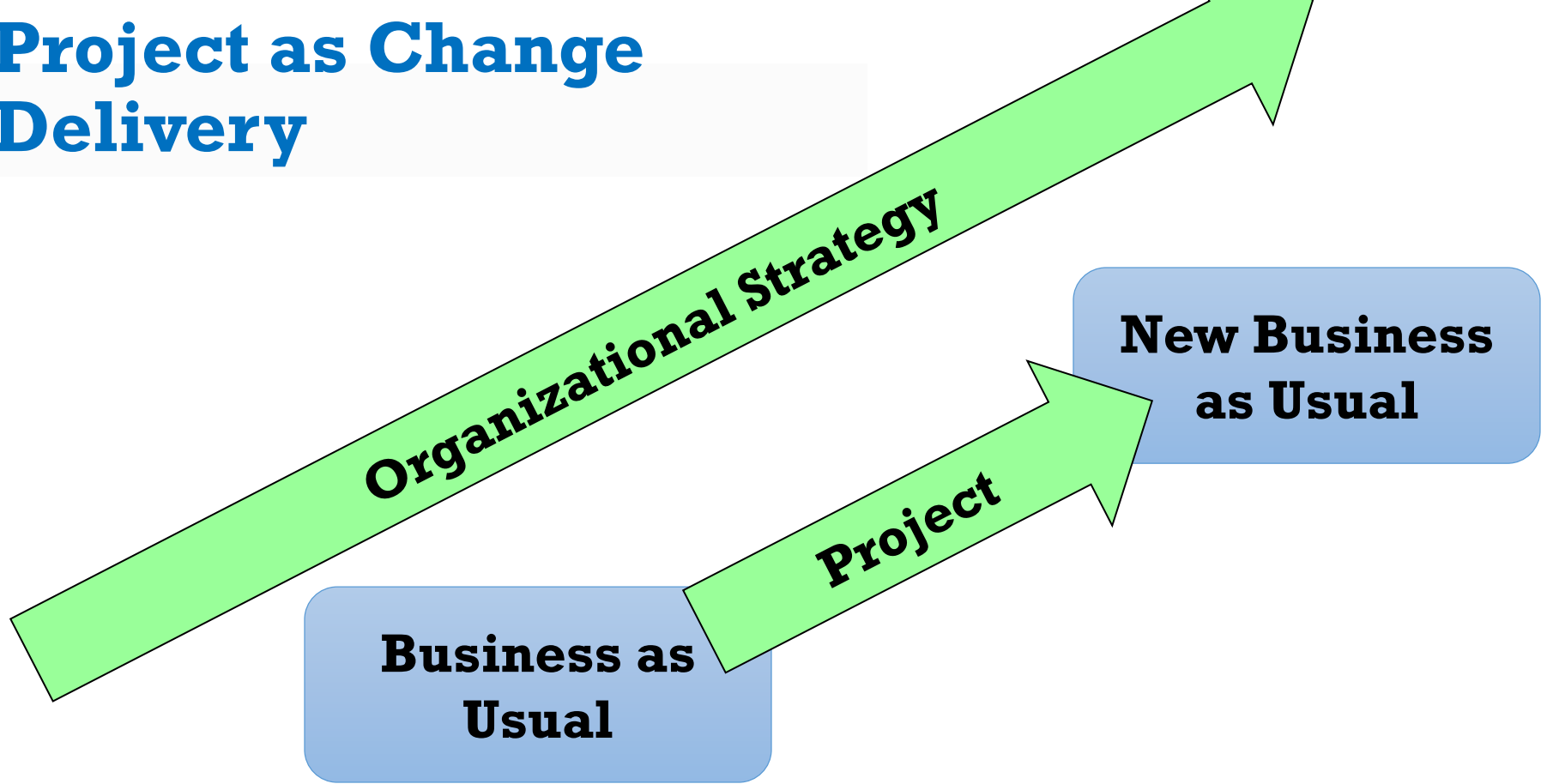
- In practice:
 - Developed by the project sponsor
 - Estimates the costs, identification issues, desired outcomes and benefits
 - Provides a basis for Project Initiation and
 - Reviewed and updated throughout the project's life cycle

All, Some, or None
of These

Reverse Engineering the Project Business Case

- In many cases, projects are initiated without a complete Business Case
- This means the Business Case is assembled through work in Project Initiation and Planning:
 - Identifying the Business Needs
 - Describing the “As Is” and “To Be” situations
 - Identifying Project Stakeholders
 - Defining the Project Scope
 - Analyzing options and their costs and benefits

Project as Change Delivery



Project as Change Delivery



**Why Do
Projects
Succeed?**

**New Business
as Usual**

**Business
Usual**

Project success dimensions:

Kerzner (2009)

- Within allocated time
- Within budgeted cost
- At the **proper performance or specification** level
- With **acceptance by customer**
- With **minimum or mutually agreed scope changes**
- **Without disturbing the main flow of work of the organization**
- **Without changing the corporate culture**

Lechler and Dvir (2010)

- On schedule
- On budget
- **Met specifications**
- **Improve performance**
- **Used by customers**
- **Positive impact**
- **Satisfied customers**
- Perceived as an Economic success

Project success dimensions:

Kerzner (2009)

- Within allocated time
- Within budgeted cost
- At the proper performance or specification level
- With acceptance by customer
- With minimum or no impact on the main business of the organization
- Without changing the corporate culture

Lechler and Dvir (2010)

- On schedule
- On budget
- High performance
- Satisfied by customers
- Positive impact
- Satisfied customers
- Perceived as an Economic success

What do they tell us about scope?

Project as Change Delivery

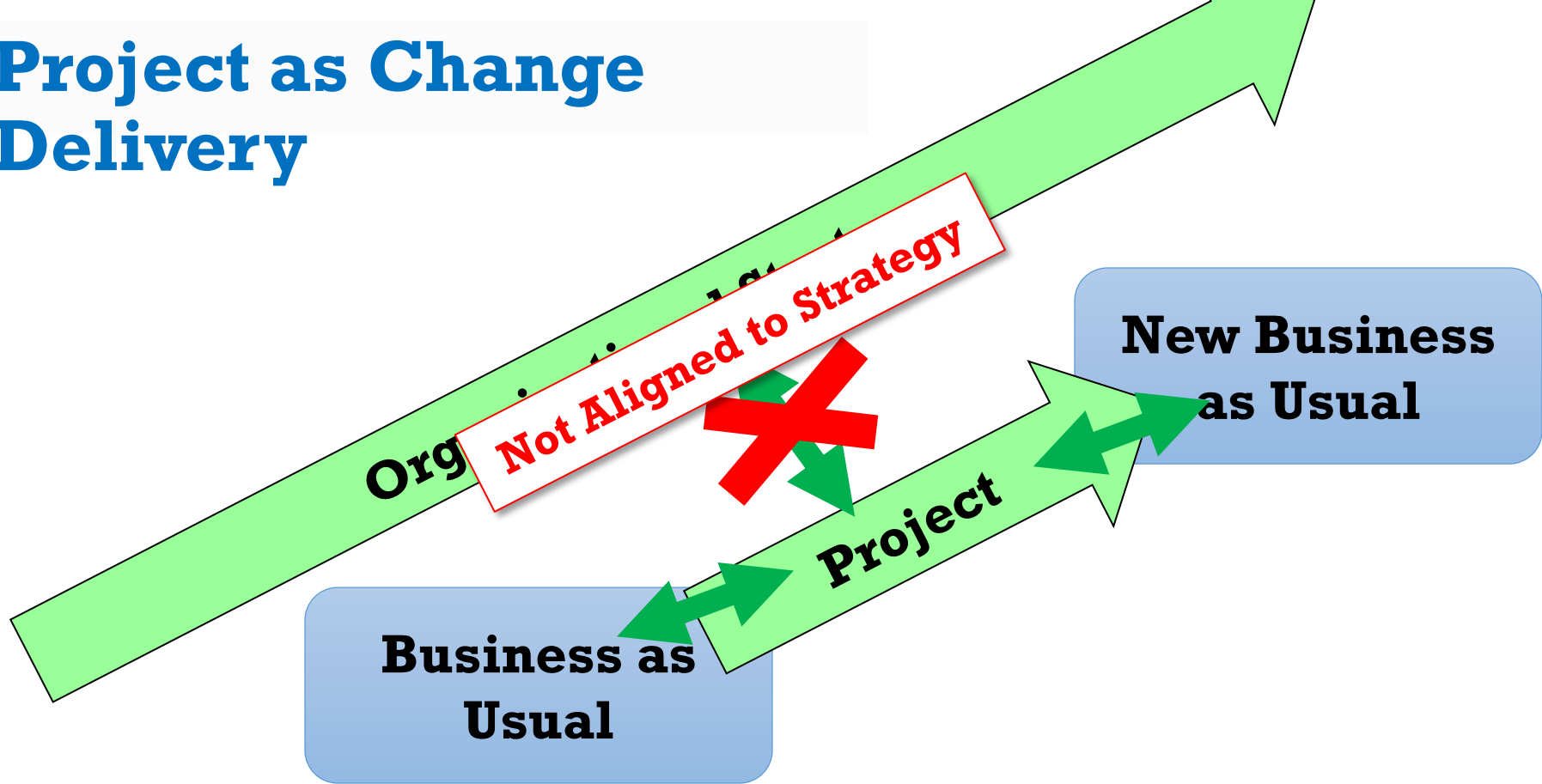


**Why Do
Projects
Fail?**

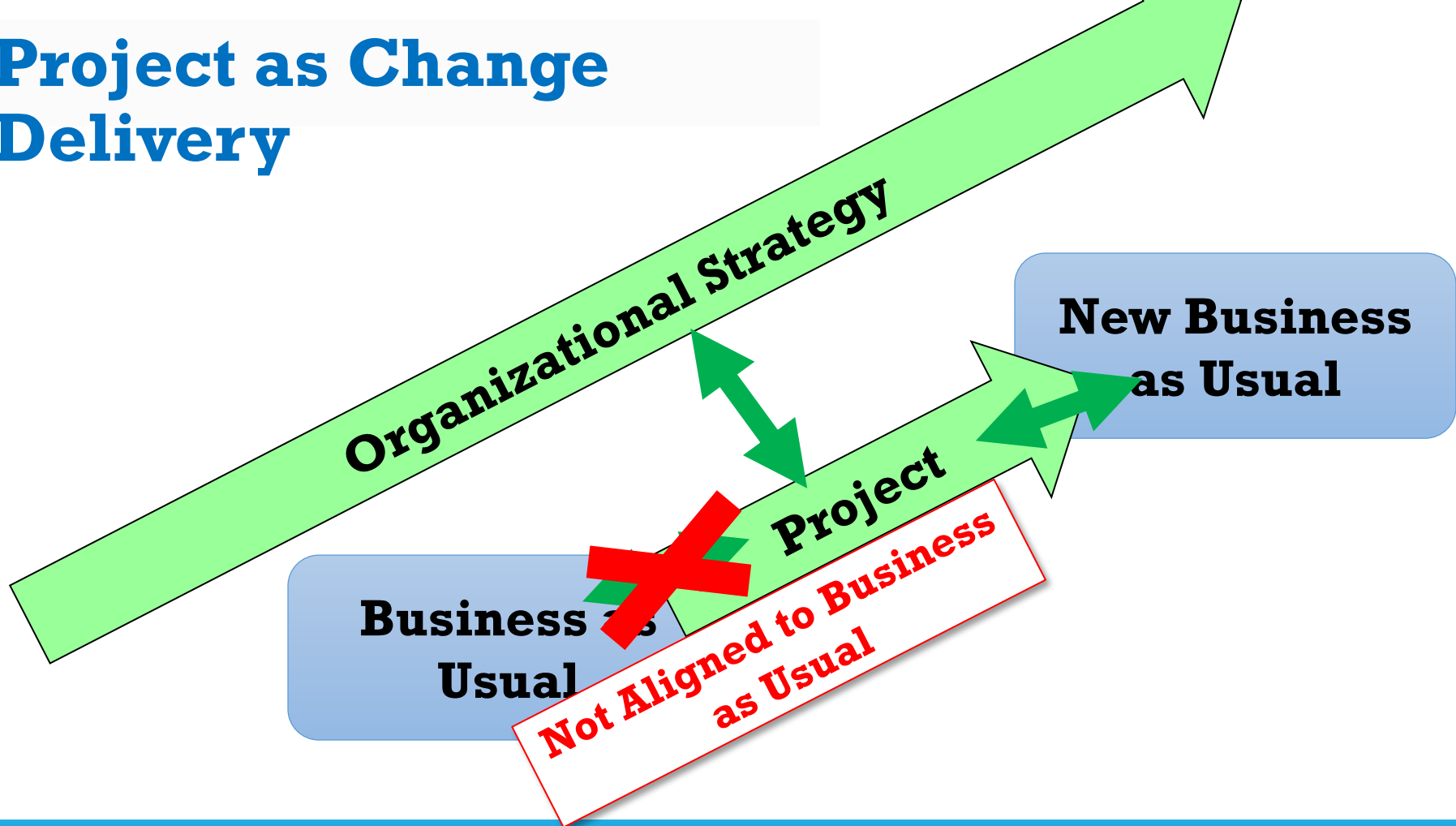
**New Business
as Usual**

**Business
Usual**

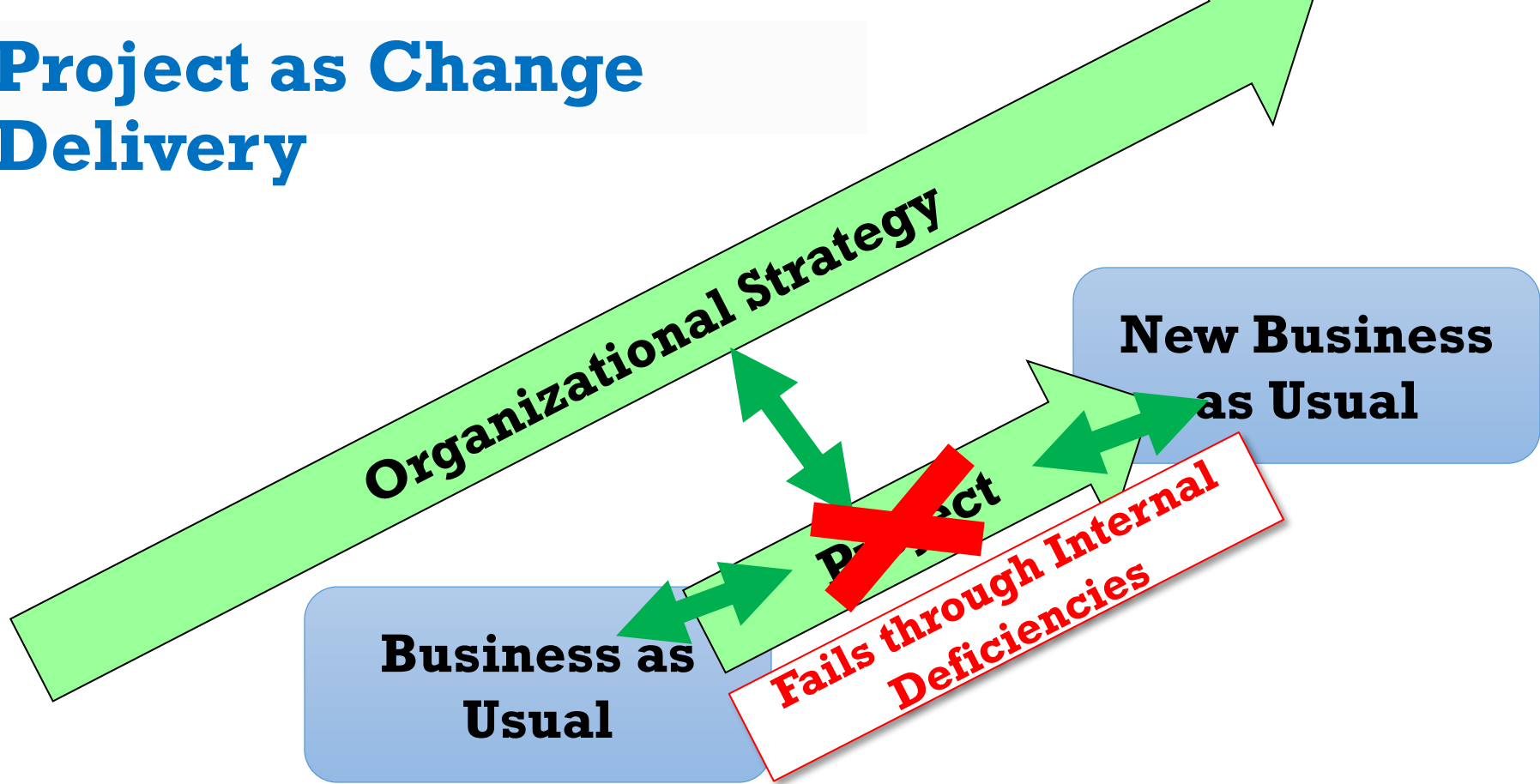
Project as Change Delivery



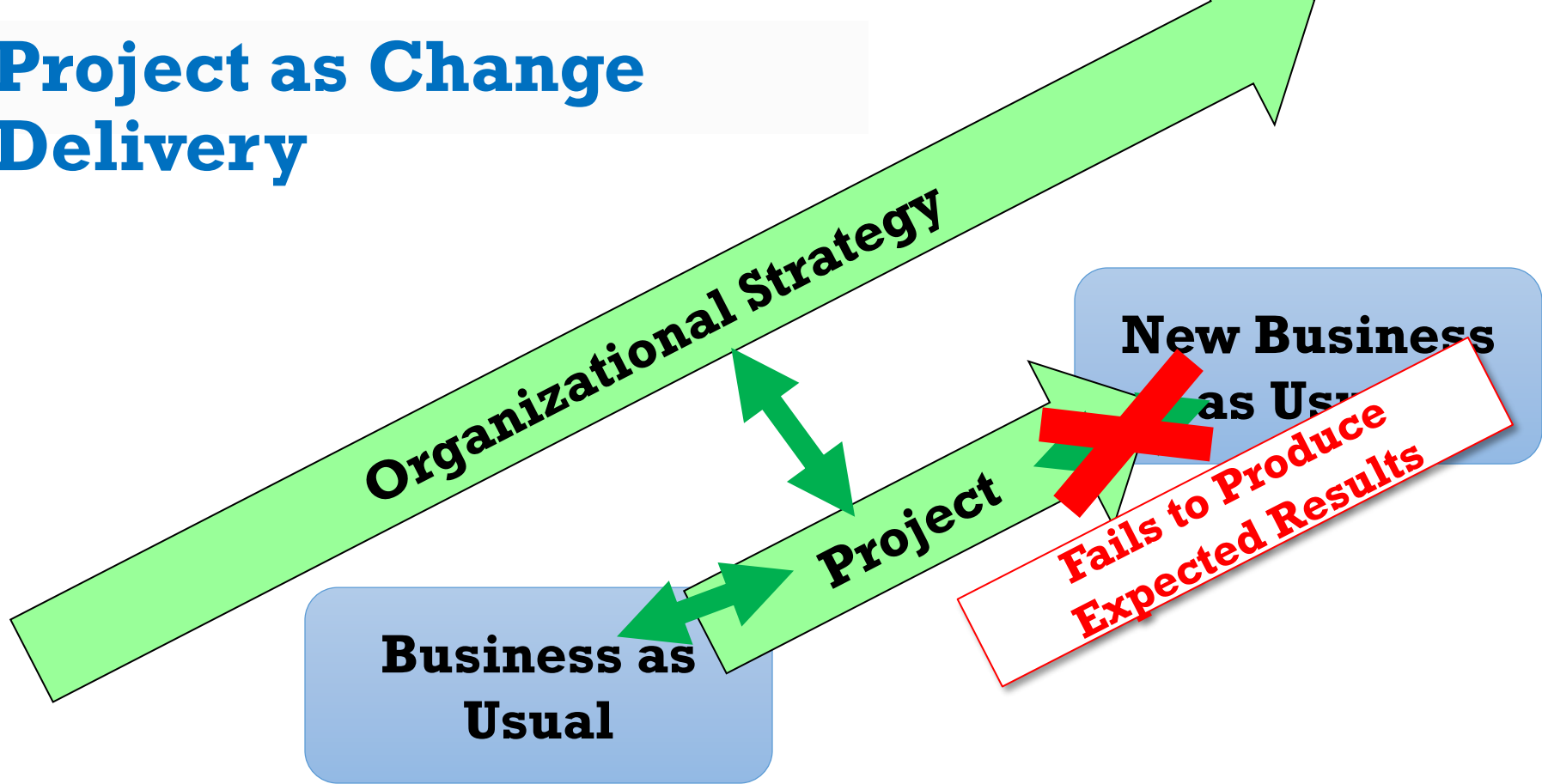
Project as Change Delivery



Project as Change Delivery



Project as Change Delivery



Exercise #2:

- For the Finance 21 project, identify:
 - Three Questions that **MUST** be answered in the Project Charter to reduce the risk of project failure

SCOPE MANAGEMENT THROUGH THE LIFECYCLE:

SCOPE PLANNING, PART 1

Project Archaeology



Project Archaeology

- Organizational strategy/planning documents
- Policies and procedures
 - How projects are managed
 - How the affected/supporting business units operate
- Templates
- Lessons identified/learned
- Subject Matter Experts
- Tools/Applications/Databases/Portals



Quintilian's Hexameter

Quis?

Who?

Quid?

What?

Ubi?

Where?

Quibus auxiliis? By what means?

Cur?

For what purpose?

Quomodo?

How?

Quando?

When?

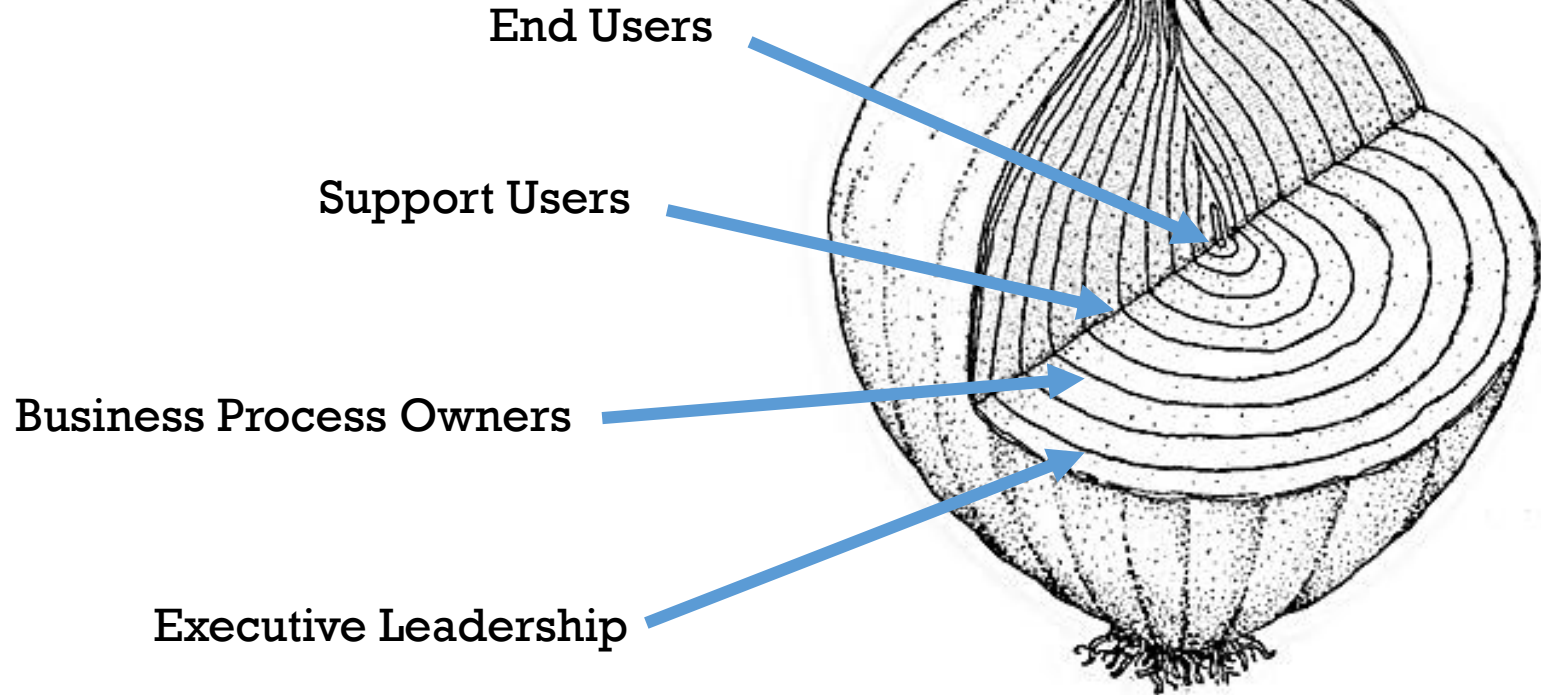


Stakeholders

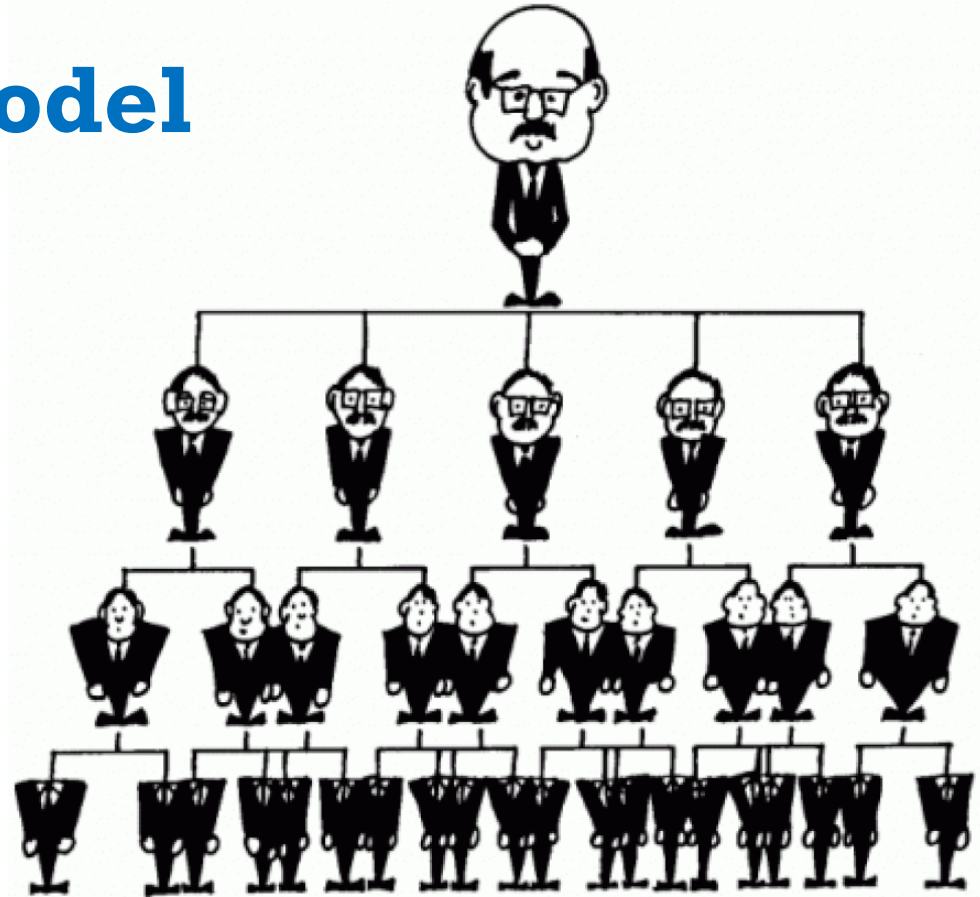
Stakeholder Identification and Analysis

- Internal/External
- Interests
- Influence
- Authority
- Rights
- Ownership
- Knowledge
- Level of Commitment
- Means to Communicate/Engage

The Onion Model

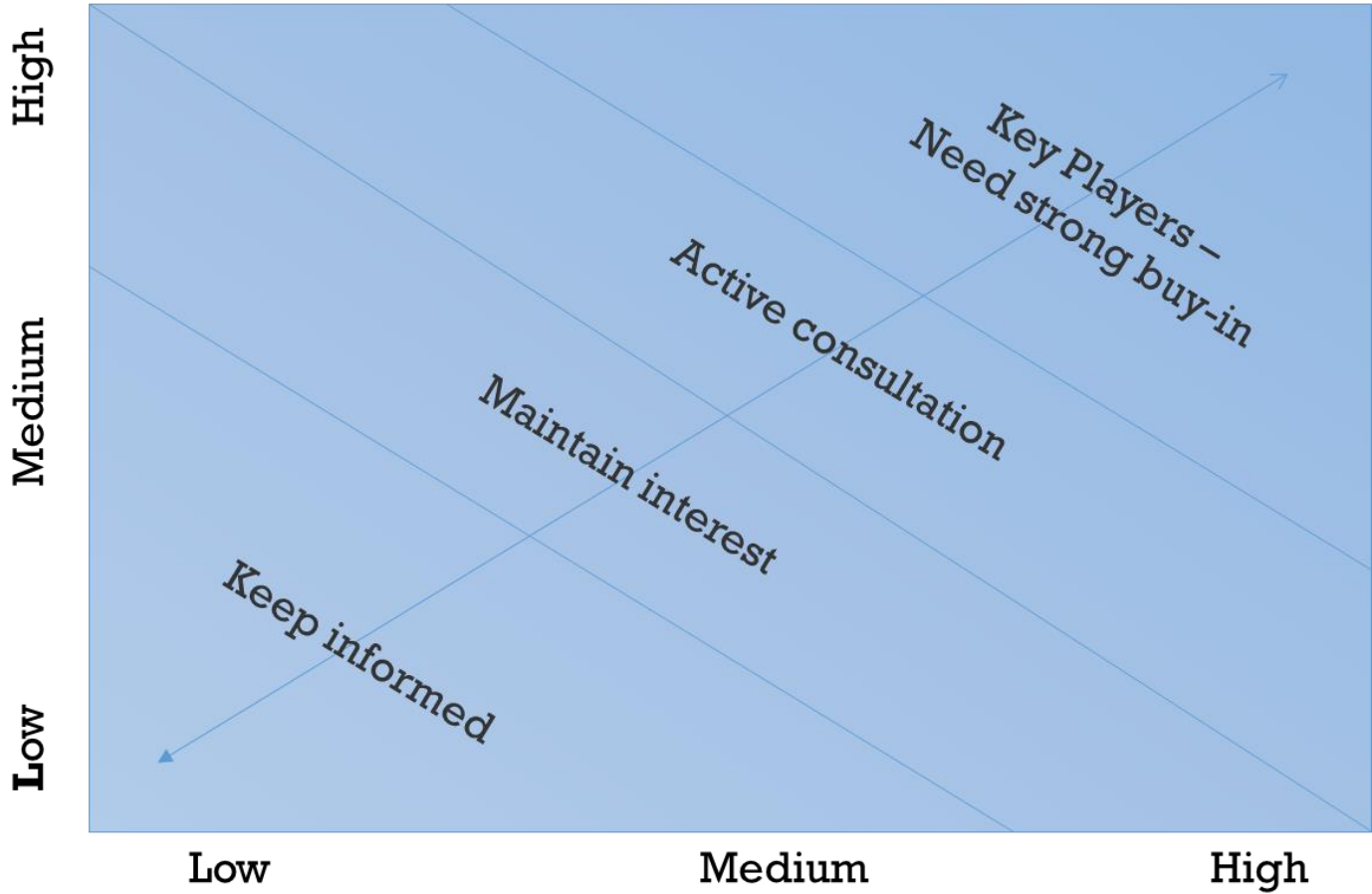


The Pyramid Model

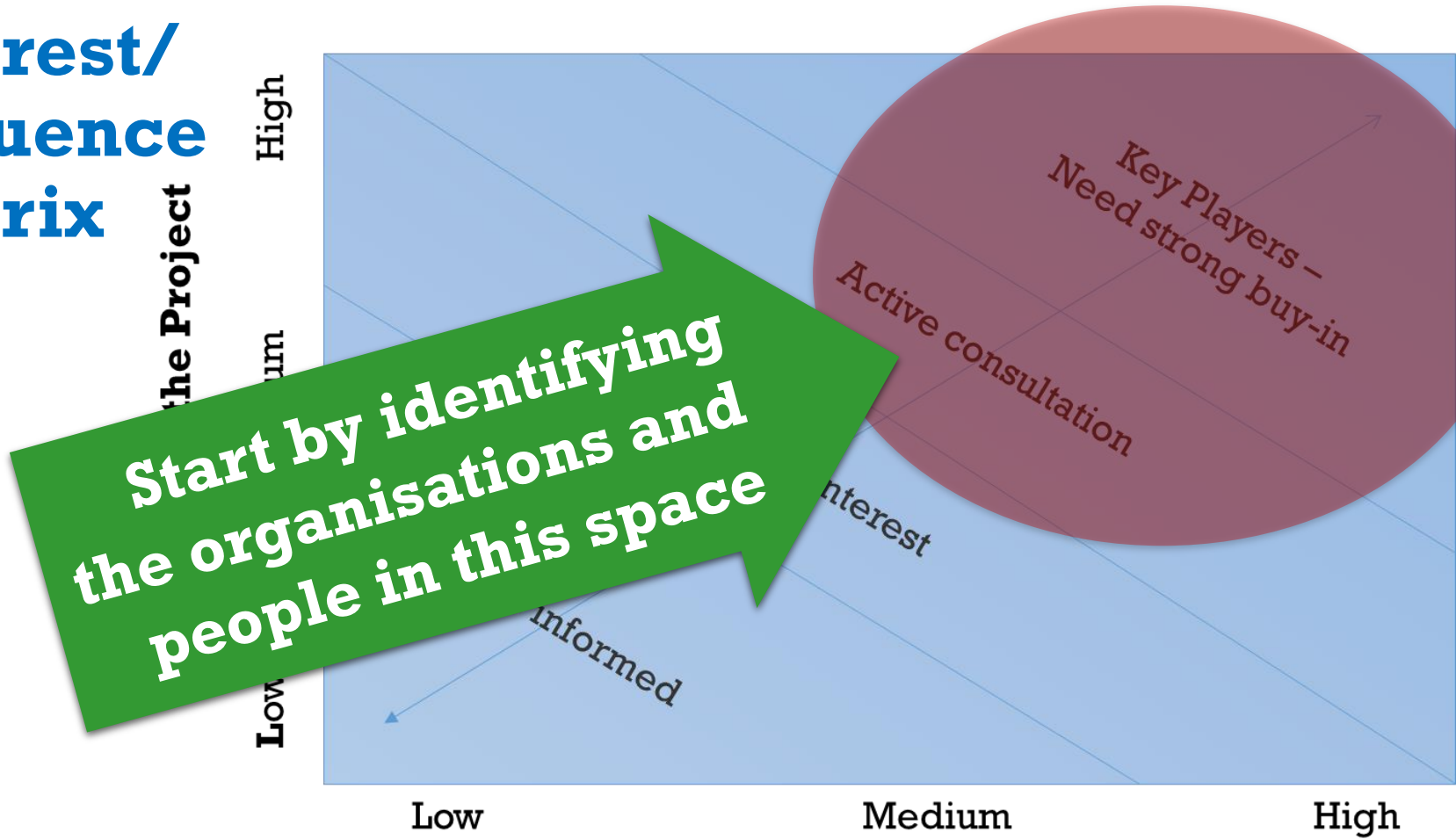


Interest/ Influence Matrix

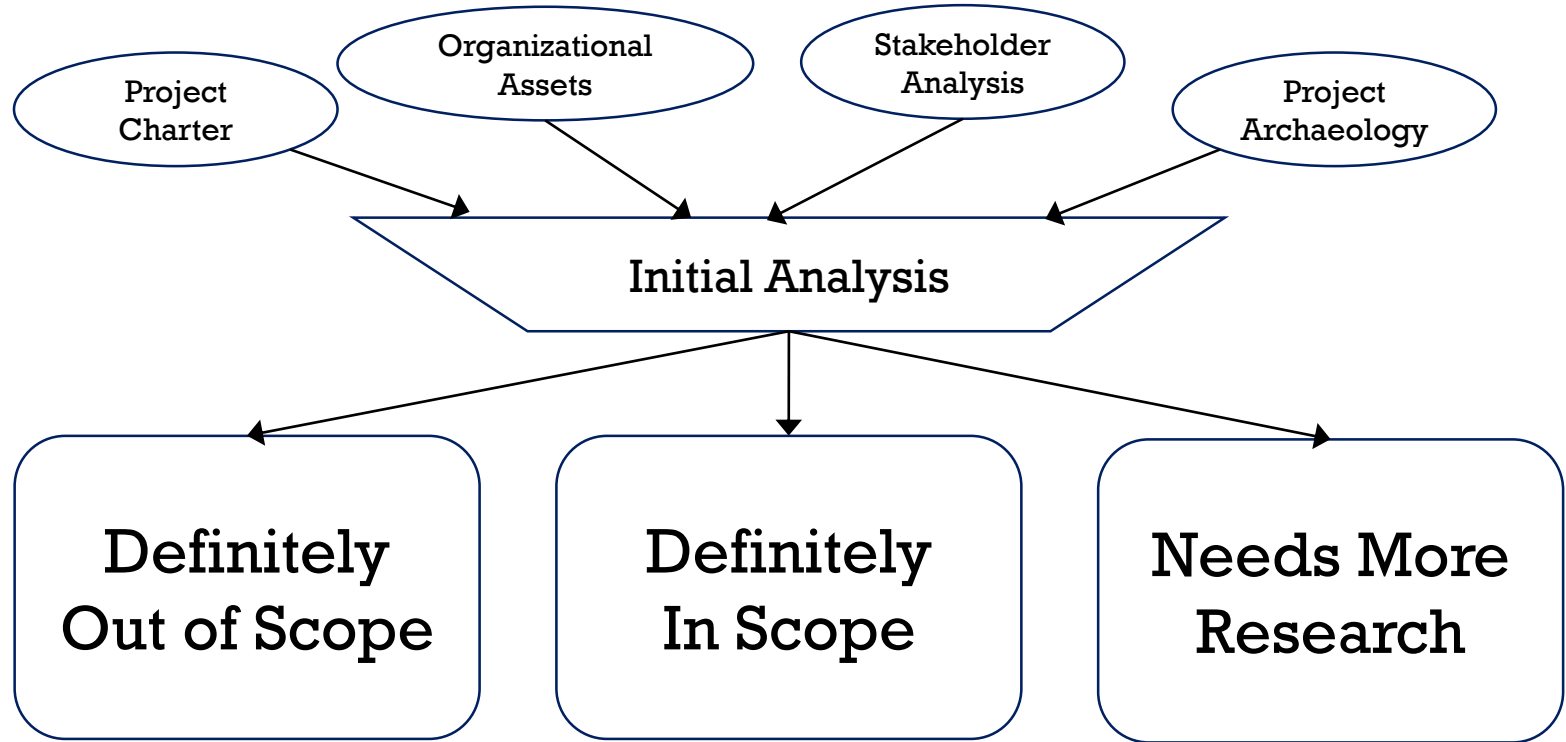
Interest in the Project



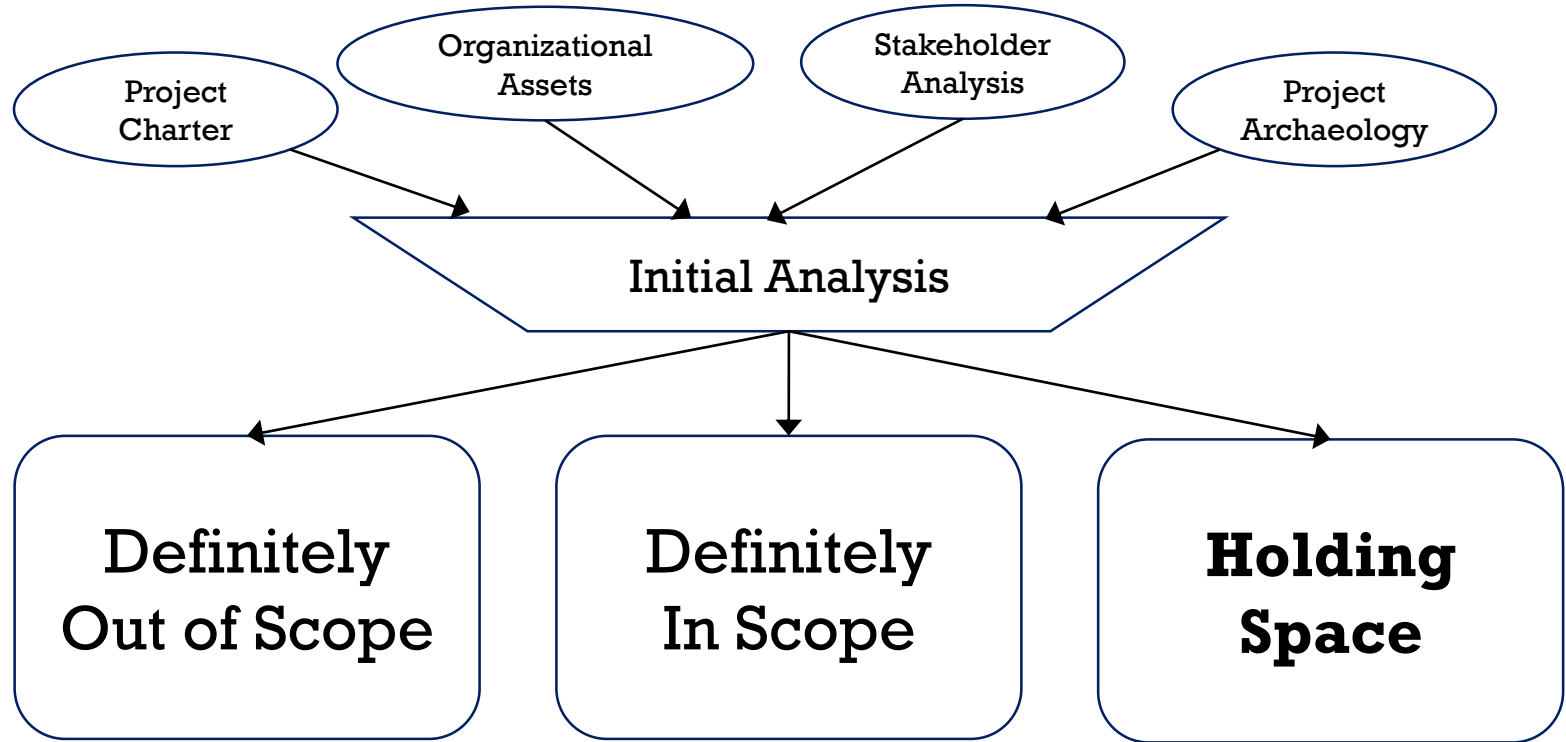
Interest/ Influence Matrix



Project Triage



Project Triage



MoSCoW Analysis: Sorting Through Requirements

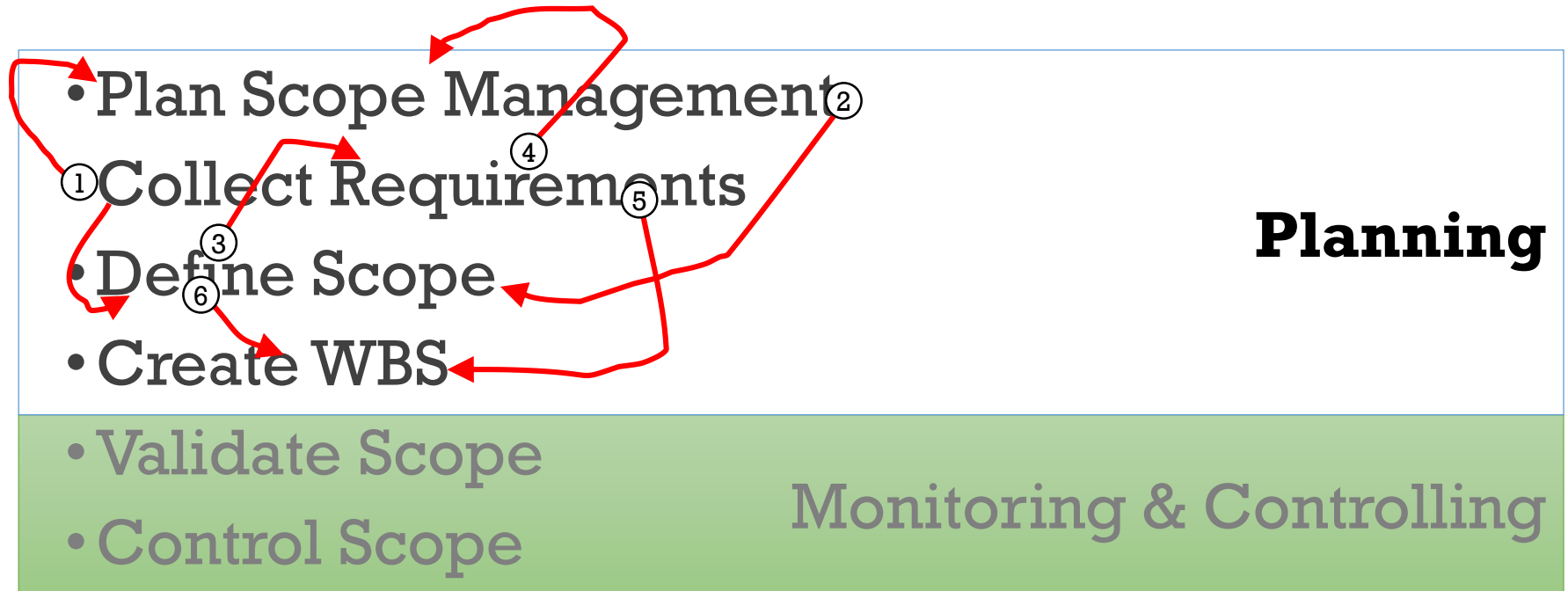
Scope

- **Must Have**
- **Should Have**
- **Could Have**
- **Won't Have**

Definitely In

Definitely Out

Scope Management is NOT a Waterfall Process



Exercise #3:

- Describe the Head of the Finance Department of AGMC:
 - Internal/External
 - Influence
 - Interests
 - Authority
 - Rights
 - Ownership
 - Knowledge
 - Contribution
 - Means to Communicate/Engage

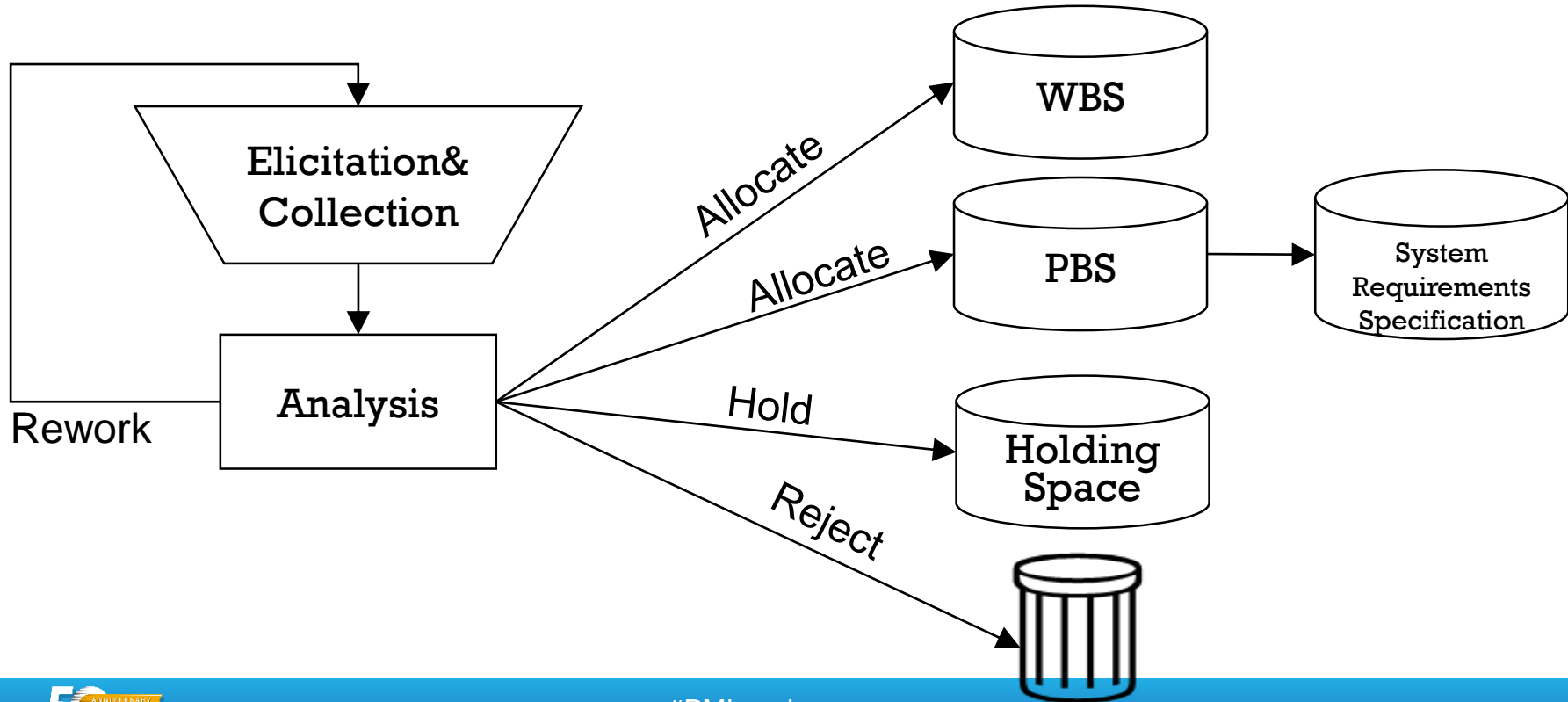
SCOPE MANAGEMENT THROUGH THE LIFECYCLE:

SCOPE PLANNING, PART 2

Planning Scope – Part Two

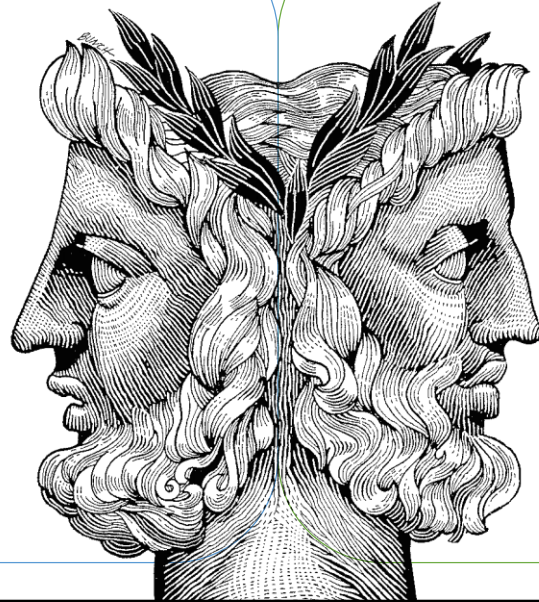
- Detailed Requirements Analysis
- Defining the Scope Structure:
 - PBS
 - WBS
 - Requirements Baseline

Requirements Analysis



Requirements Elicitation/Analysis

AGMC/eGadget
Business
Processes &
Stakeholders



Project
Scope
Baseline

Will Finance 21 Need a Business Analyst?

Work Aspects: Change Approach

- **Green Field?**
 - Little or no existing infrastructure, least impact on current operations
- **Upgrade/Improvement?**
 - Backwards compatibility, synchronization with existing operations, before/after comparisons
- **Transformational?**
 - Transition from “As Is” to “To Be,” slack in transforming workforce, before/after comparisons

What is the Change Model?

Predictive

- **Scope**
 - **Time**
 - **Cost**
-
- Determined early in the project
 - Baselined
 - Changes carefully managed

Iterative

- **Scope**
-
- Determined early in the project
- ↻
- **Time**
 - **Cost**
- ←
- Modified as understanding of the product increases

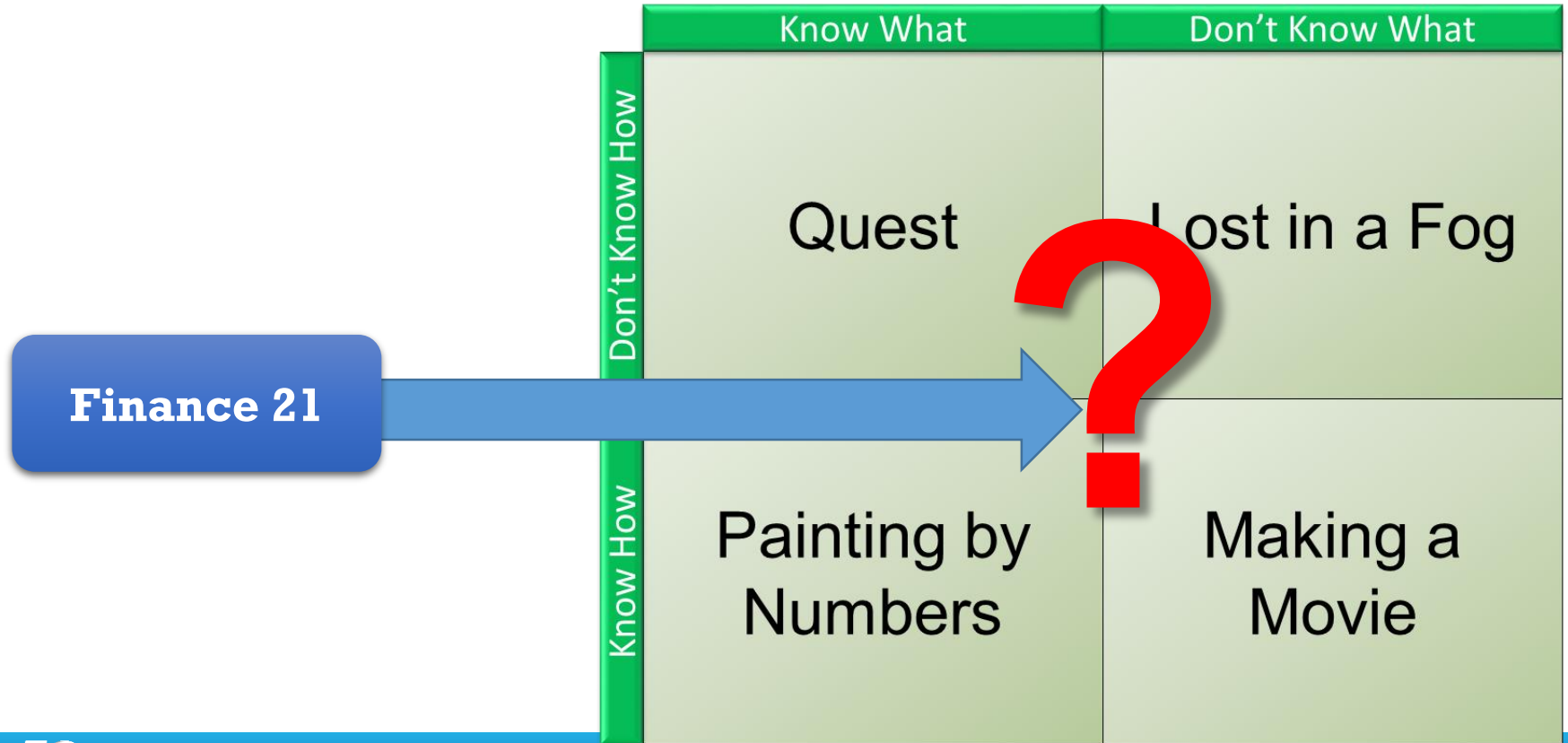
Agile

- **Time**
 - **Cost**
-
- Increments (sprints) of work
- ↻
- **Scope**
- ←
- Which deliver and clarify

Maturity

- Have we done this type of work before?
- Have we dealt with this type of product before?
- If not ... Is there anyone we can ~~copy~~ learn from?

Know What/Know How Matrix



Organizational Culture



- Family-owned, family-run
- Founded in 1905
- Plants in Canada and USA
- Average age in the Finance department: 43

- CEO-driven, virtual C-suite
- Founded in 1995
- Outsourced manufacturing
- Average age in the Finance department: 29

Governance

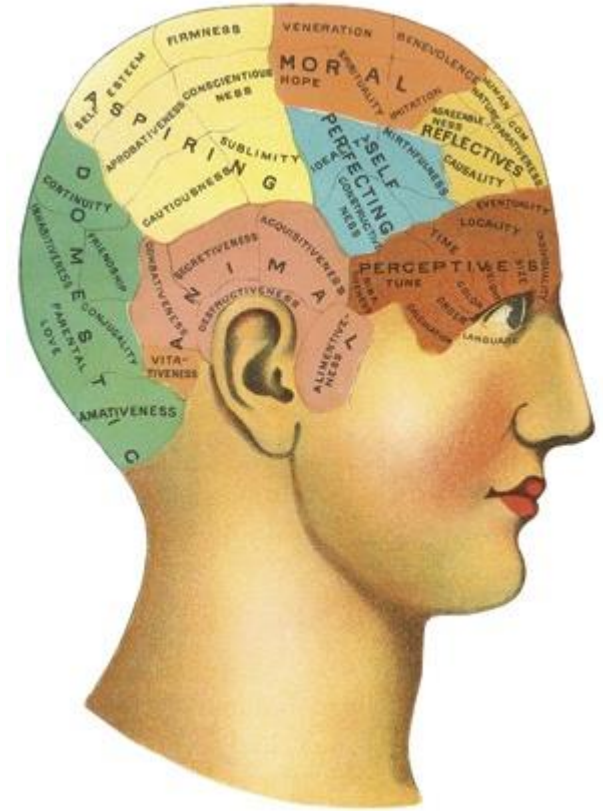
- Who/What does the Project Manager report to?
 - Internal Project Management
 - Project Board
 - Project Sponsor
 - Program Management Office
 - Corporate Board or Committee
 - Public Board or Committee
- Are there any back-channels? Do they matter?

Decision Making

- Who can approve changes to:
 - Project Scope Baseline?
 - Contracts and Agreements?
 - Project Budget?
 - Project Schedule?
- And how fast do these processes work?

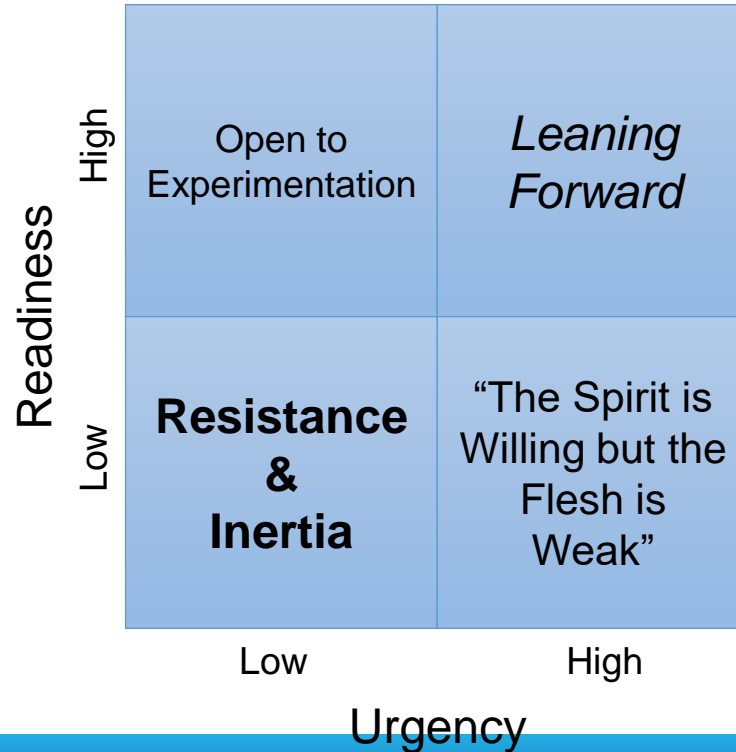
Cognitive Biases

- Groupthink
- Overconfidence
- Selective Perception
- Sunk Cost
- Illusion of Control
- Available Data



Change Appetite

What Can the Project
Expect To Encounter?



Project team

- Aspects to consider:
 - Co-located? Dispersed? Virtual?
 - Do they share a common language? Culture? Time Zone?
 - What is the level of commitment of team members?
 - What are their Priorities? Constraints?
 - What is their level of authority?
 - What is their level of expertise/experience?

Geography



Project Support Issues - IT

- Information & Knowledge Management
 - Repository
 - Logs
 - Reporting
- Requirements Tools
 - Business Analysis
 - Requirements Database
- Communications
 - Email
 - VTC
 - Chat/Collaboration

Project Support Issues – Admin/HR

- Paying for the Project Management Team
 - Consultancy?
- Workspace
- Travel
- Other Commitments

Product Breakdown Structure

- Will Finance 21 need a PBS?

The New Software

- **Functionality**
 - Business Processes
 - Usability
- **Non-Functional Requirements**
 - Security
 - Support
 - Data migration
 - Interfaces
 - IT Support
- **Delivery: Cloud vs. On-Premise**
- **Costs**
 - Investment
 - Licensing
 - Support



Market Survey

- Available Products
 - Functionality
 - Pricing
- Procurement/Implementation options
- Experiences of Other Users



Contractors/Vendors

- How are they contributing?
 - As suppliers?
 - As developers?
 - As producers?
 - As integrators?
 - As workforce capacity?
 - As consultants/subject matter experts?
 - Onsite? Offsite?
 - Some or all of the above?

Transition/Handover

- Tied to the change model (e.g., Green Field)
- Transition impacts on WBS (and PBS?):
 - Workforce training/retraining
 - New/adapted procedures
 - Parallel operation (old/new)
 - Fallback option
 - Initial operational support
 - Life Cycle support

Other Aspects of Scope

- Boundaries
- Constraints
- Sustainability
- Change Appetite
- Volatility (e.g., Market, Organization, Technology)
- Time

Requirements Validation

- How to validate:
 - WBS?
 - PBS?
 - Requirements/Specifications?

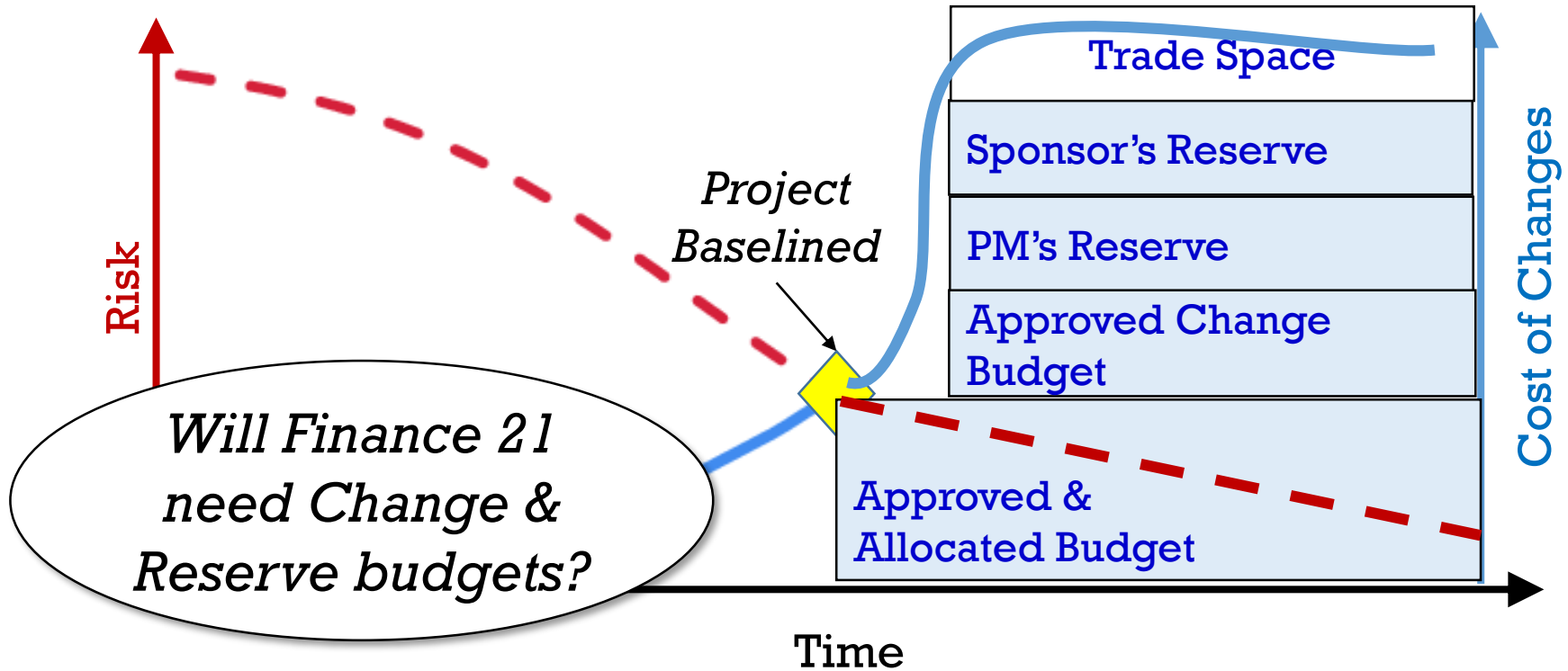
- How to make sure someone takes ownership and validates the requirements?

Mitigation measures:

- Estimates with confidence levels/margins of error
- Contingency budget
- Change budget
- Tolerances
- Costed Risks
- Adaptive Life Cycle
- Rolling Backlog
- Scope Holding Pen

Most Important of All:
**Constant
Communication!**

Mitigating Risk & Cost of Change



Exercise #4:

- Finance 21 has to deal with stakeholders and activities in both Dublin and Toronto.
- How can these geographic challenges be addressed in:
 - The Work Breakdown Structure?
 - The Product Breakdown Structure?
 - Project Management Support?

SCOPE MANAGEMENT THROUGH THE LIFECYCLE: PROJECT EXECUTION

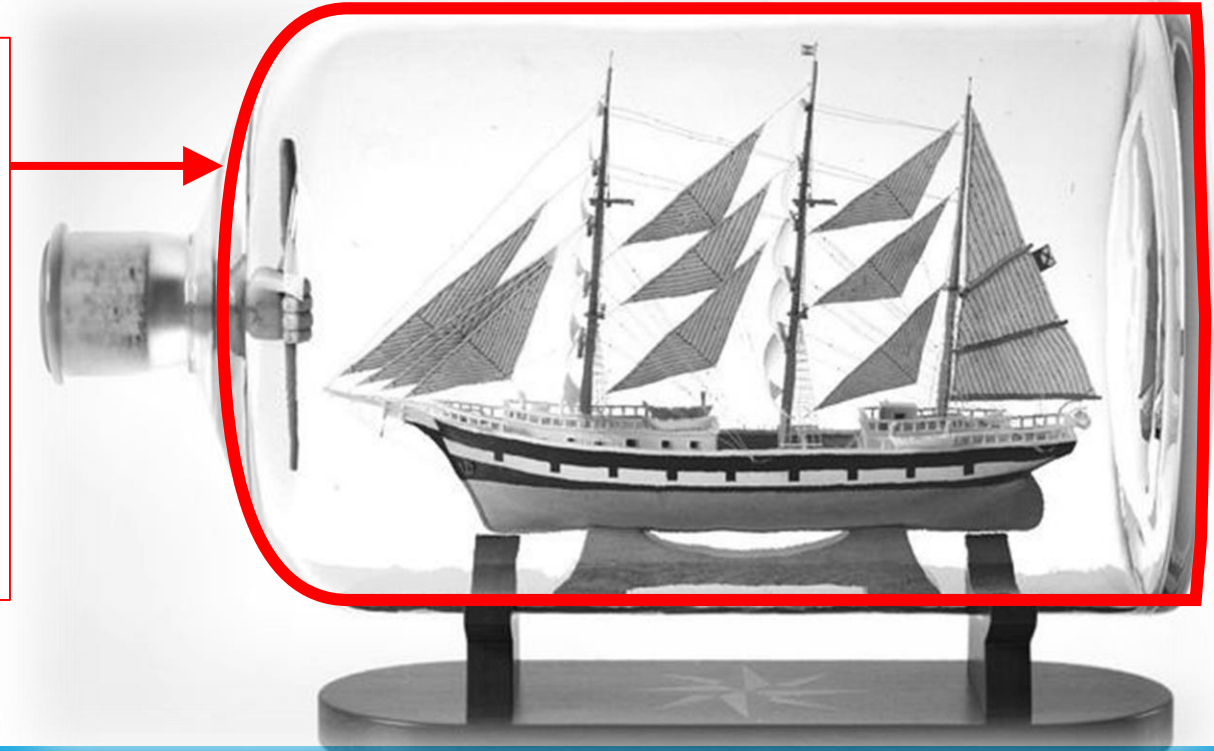
Project Execution

- Initiating Work
- Updating Baselines
- Managing Backlog and/or Scope Change
- Managing Acceptance

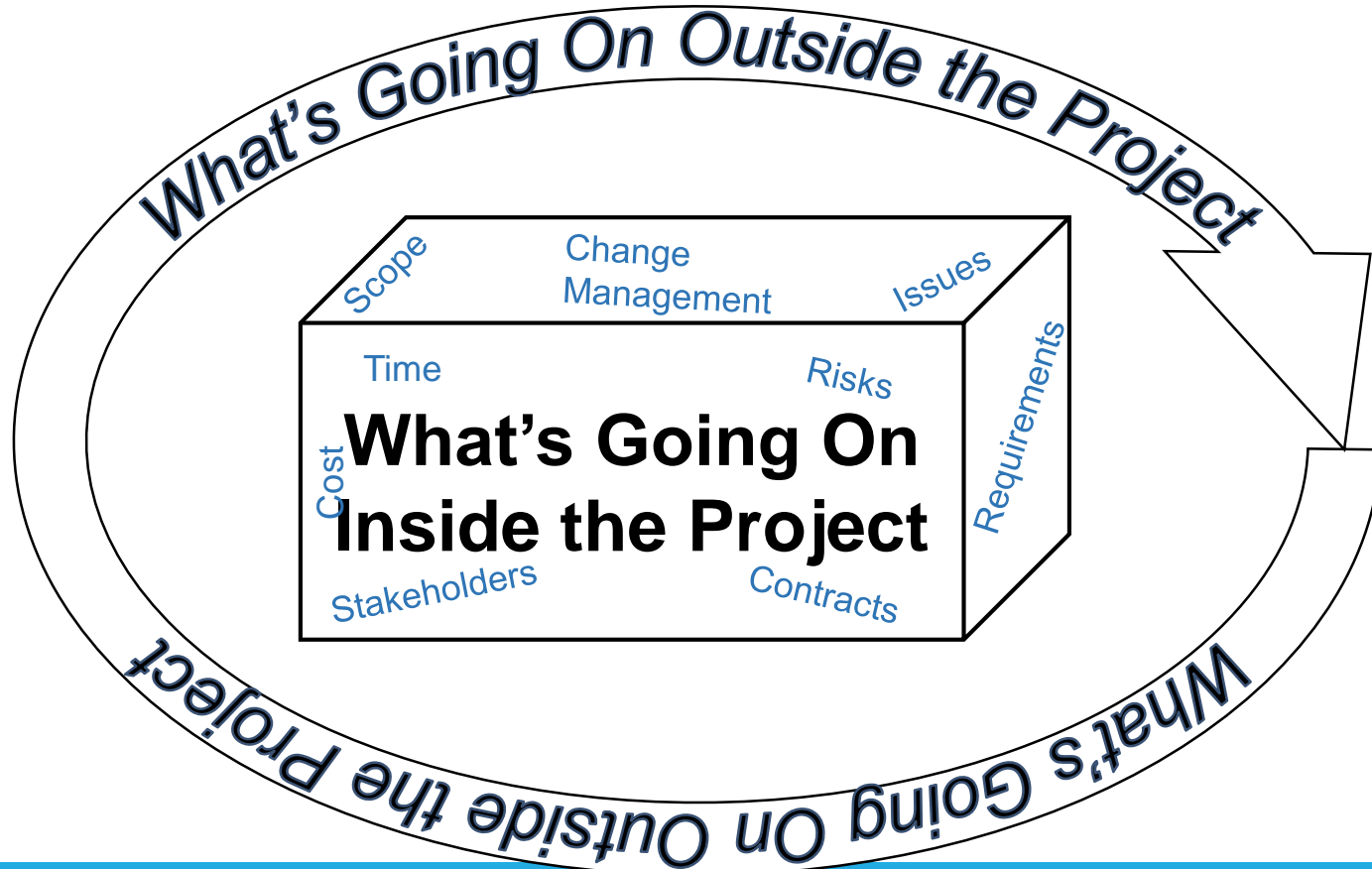
Project Execution

Limits of the
Project
Baseline:

- Time
- Cost
- Scope



Two Aspects of Project Execution



Monitoring and Control

- Tools:
 - Reporting (against WBS/PBS)
 - In-work checkpoints
 - Milestone reviews
 - Product Backlog
 - Change requests
 - Deficiency reports
 - Lessons Identified/Lessons Learned

Monitoring and Controlling

- The Aim is to Identify and Fix Problems as Early as Possible
- Quality = Honesty
- Proactive vs. Active vs. Reactive

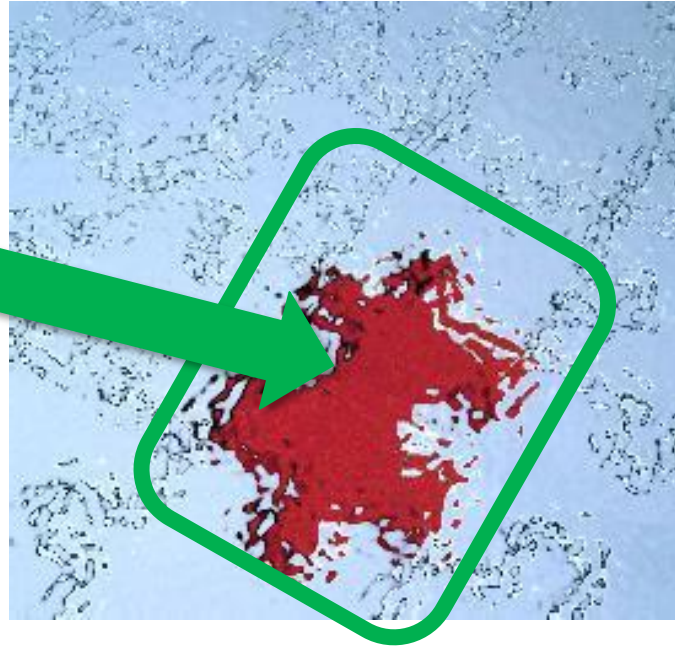


Every project that lasts more than 6 months **WILL** have to deal with changes

IT Projects In a Nutshell



Each IT Project
delivers a piece of a
jigsaw puzzle

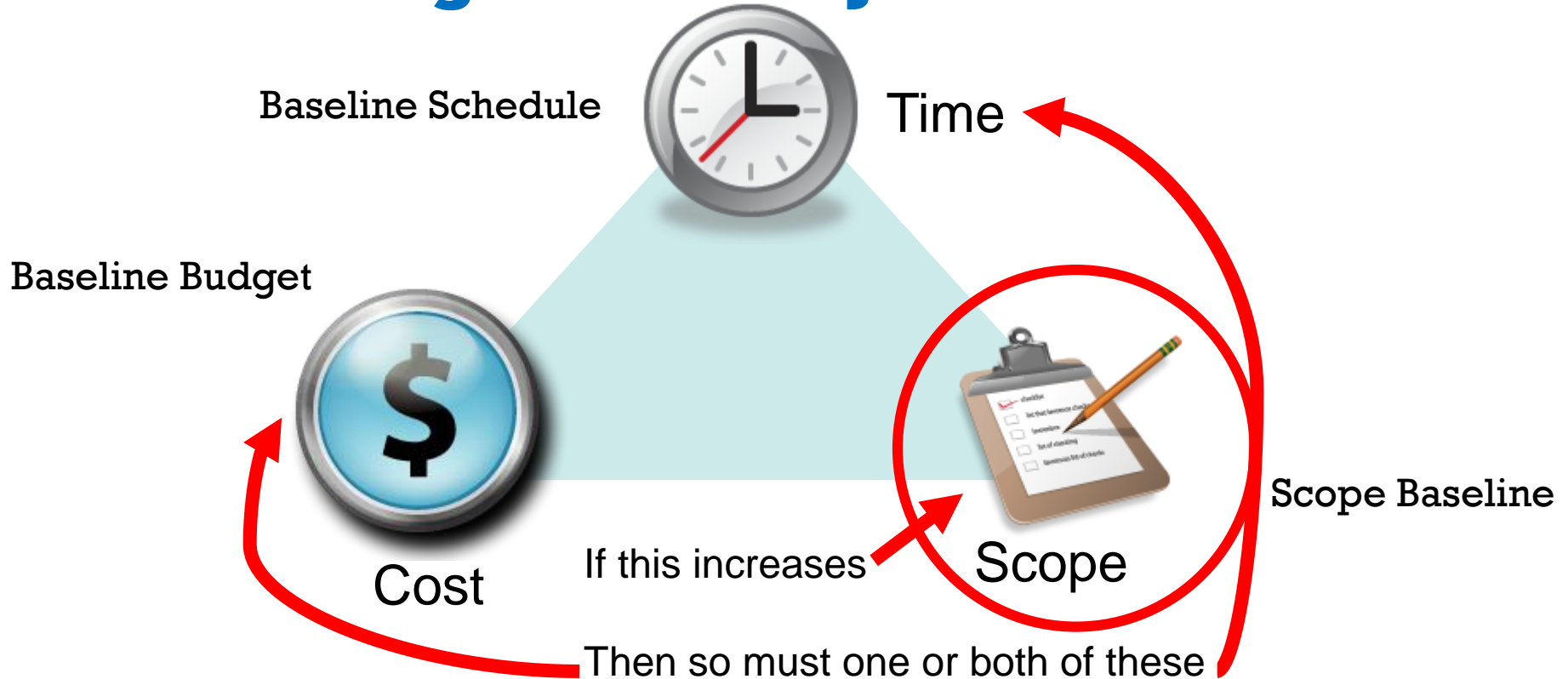


But the other pieces are
changing at the same time!

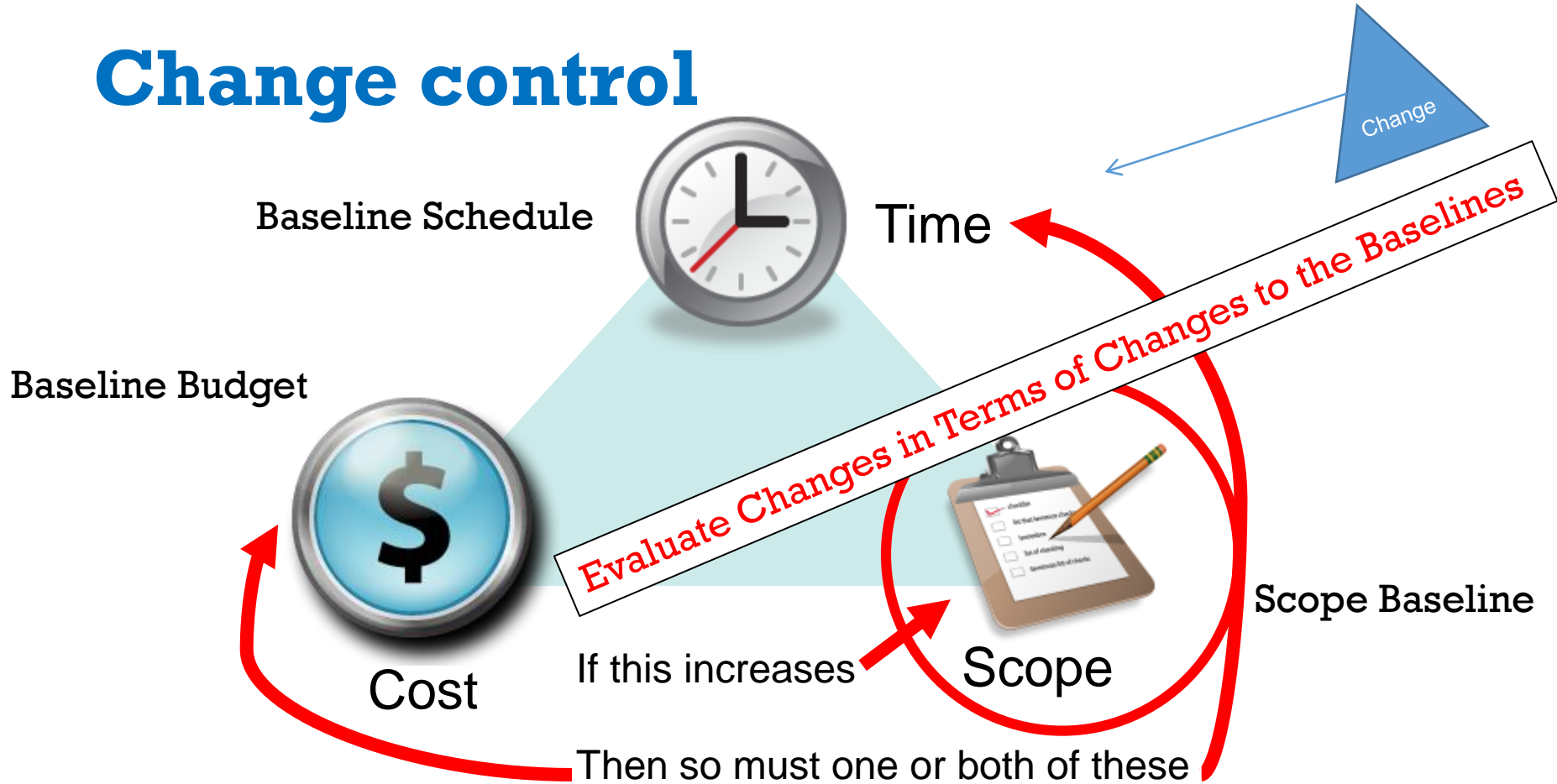
Change Control

- Identify
- Assess
- Approve/Disapprove
- Reflect via Baseline Changes

The Integrated Project Baseline



Change control



What the Project Team Sees



The Importance of Perspective

What the Project Board Sees



How the Project Manager Sees It



How the Stakeholders See It

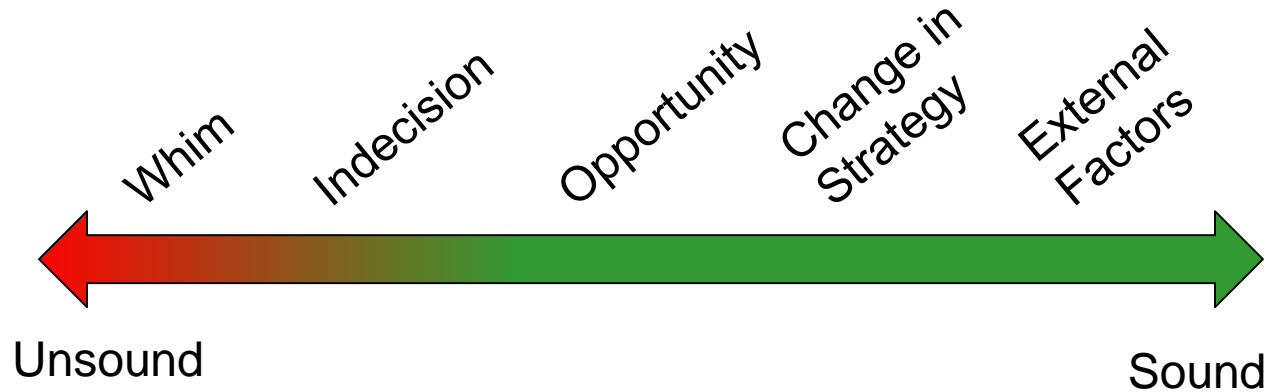




**Scope Creep is
Not Change:**

**It's *Uncontrolled*
Change**

Rationale for Change



Acceptance

- Work acceptance
- Product acceptance
- Contractual acceptance

- Considerations:
 - Criteria
 - Approach
 - Dealing with Deficiencies

Coordinating with Other Knowledge Areas

- How does Scope affect/work with:
 - Integration
 - Schedule
 - Cost
 - Quality
 - Resources
 - Communications
 - Risk
 - Procurement
 - Stakeholders

Exercise #5:

The Attack of the Hidden Assumptions!

Which would you like, sir?
Missing Data? Incorrect Data?
Duplicate Data?



SCOPE MANAGEMENT THROUGH THE LIFECYCLE: PROJECT CLOSURE

Closing



Acceptance

- Work ends ... Products get used/owned
- Who takes ownership? And what happens afterward?

Transition

- What happens to the scope management artefacts?
 - Archived
 - Handed over
 - Maintained by PMO
 -?



Is this the End of the Project?



Or the Start of the Outcomes?

Audit/Lessons Learned

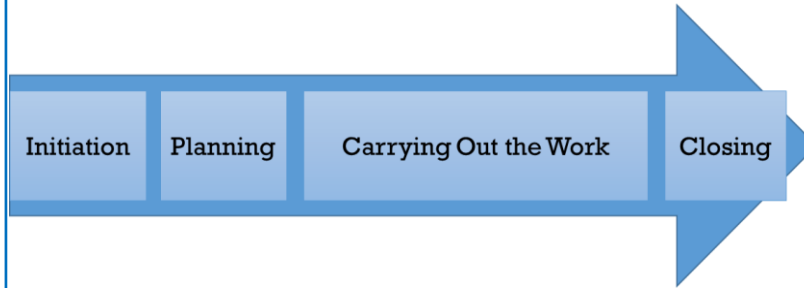
- **Financial:** Closing the Project Budget
Asset Accounting
- **Management:** Performance Audit
Outcome/Benefits Tracking
- **Project:** Lessons Learned Review

The Larger Life Cycle

What Happened in the Past

What Led to Project Initiation

What is Going On During the Project



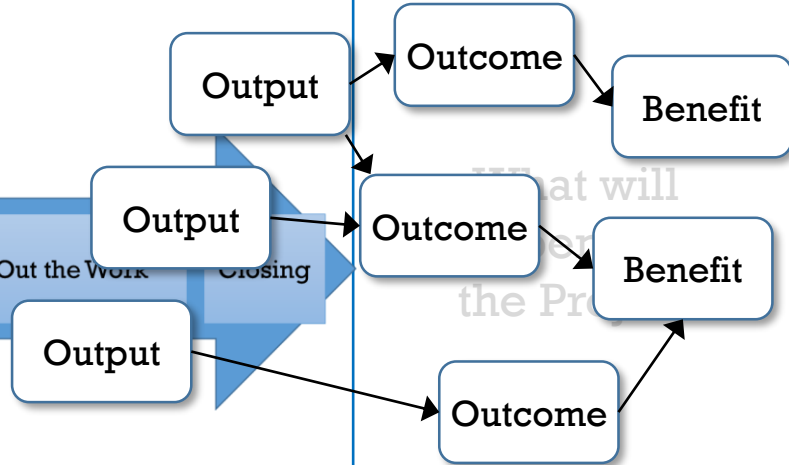
What will Happen After the Project

The Larger Life Cycle

What Happened in the Past

What Led to Project Initiation

What is Going On During the Project



The **success**
of a project is
usually
measured
after it's over.



Exercise #6:

- Finance 21 is finished:
 - Four months late
 - 3 million Euro over budget
- How can we tell if we have achieved the outcomes and realized the benefits?

Course Recap

- Basics
- Not-so-Basics
- Mastering Scope “Fuzziness”
- Scope Management through the Project Lifecycle

Final Exercise:

- Course Take-aways
 - What will you take home from this course?
 - What would you change for the next class?

Questions?



Course evaluation

Grade

A₁

B

A

Keep in Touch

LinkedIn: <https://www.linkedin.com/in/bradbigelow/>

Email: bigelow.brad@gmail.com

"PHABLO"
73-2-170

SLY & THE FAMILY STONE

THANK YOU

4.50

EVERYBODY
IS A STAR

EPIC
5-10555

