Lean Development – Selecting the Right Tools for Maximum Success

Presentation Organization

- **Introduction to tools and the usage**

- **Introduction to Enterprise Frameworks**

- **Framework – Why should I care?**

- **Description of aFramework**

- **Description of the different layers of the framework and their role in improvement efforts**

- **How to apply to your project**

Introduction to tools and the usage - CMMI

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- **See** how I do my tasks by writing them – defined processes

- **Am** I following my defined processes?

- **Am** I measuring my defined processes?

- **I** can identify improvements because they're defined, controlled and measured

Introduction to Tools – Tactical solutions

- **Process improvement methods, models and techniques are like tools.**
  - Pick the tool for the job
  - If you only have a hammer in your tool box, every problem will look like a nail!
  - Tools are used together to insure overall improvement

Tool Box	Six Sigma	Lean	Theory of constraints
Theory	Reduce variation	Remove waste	Manage constraints
Focus	Problem focused	Flow focused	Systems constraints

Introduction to Tools – Six Sigma, Lean, TOC Comparison

- **Complexity of problem**
  - High – Theory of Constraints
  - Medium – Lean
  - Low – Six Sigma
- **Organizational culture**
  - Authority driven – Theory of constraints
  - Authority approved/team-shared work – Six Sigma
  - Teamwork directed – Lean
- **Driving factors**
  - Logic – Theory of Constraints
  - Data – Six Sigma
  - Flow – Lean
- **ROI visibility**
  - High – Six Sigma
  - Medium – Theory of Constraints
  - Low – Lean

Introduction – Frameworks

- **The biggest Issue with improvement tools is not learning the tools but proper application.**
  - Improvement methods widely defused
  - Shotgun approach ineffective
  - Organizations have hard time focusing efforts
  - Low hanging fruit picked
    - Need to make improvements higher in the organization
    - Need to improve the organization's health
- **Frameworks are key to focusing the organizational efforts**

Introduction – Frameworks

- **Most people have some understanding of the organizational framework.**
  - Organizational chart
    – I know my boss/program/division/company/etc
  - Learned in High School English the 5 W and H.
    – What, Where, Who, When, Why and How
  - Understand the organization has different functions
    – Executive leaders, IT, Engineering, Quality, Operations, etc
    – May or may not understand their respective relationship

- **A Framework is simply helps to integration of things and their relationships**

Framework – Why should I care?

- **The layers of the framework are self-organizing**
  - Will always work to be integrated
  - Will not inherently be efficient or effective
- **Resolving conflicts in the frameworks are key to process improvement**
  - There will always be conflict in the framework
  - Unresolved conflict will increase uncertainty resulting in increased cost and schedule while decreasing quality
  - Conflicts often are resolved in ways that create constraints as the organization changes

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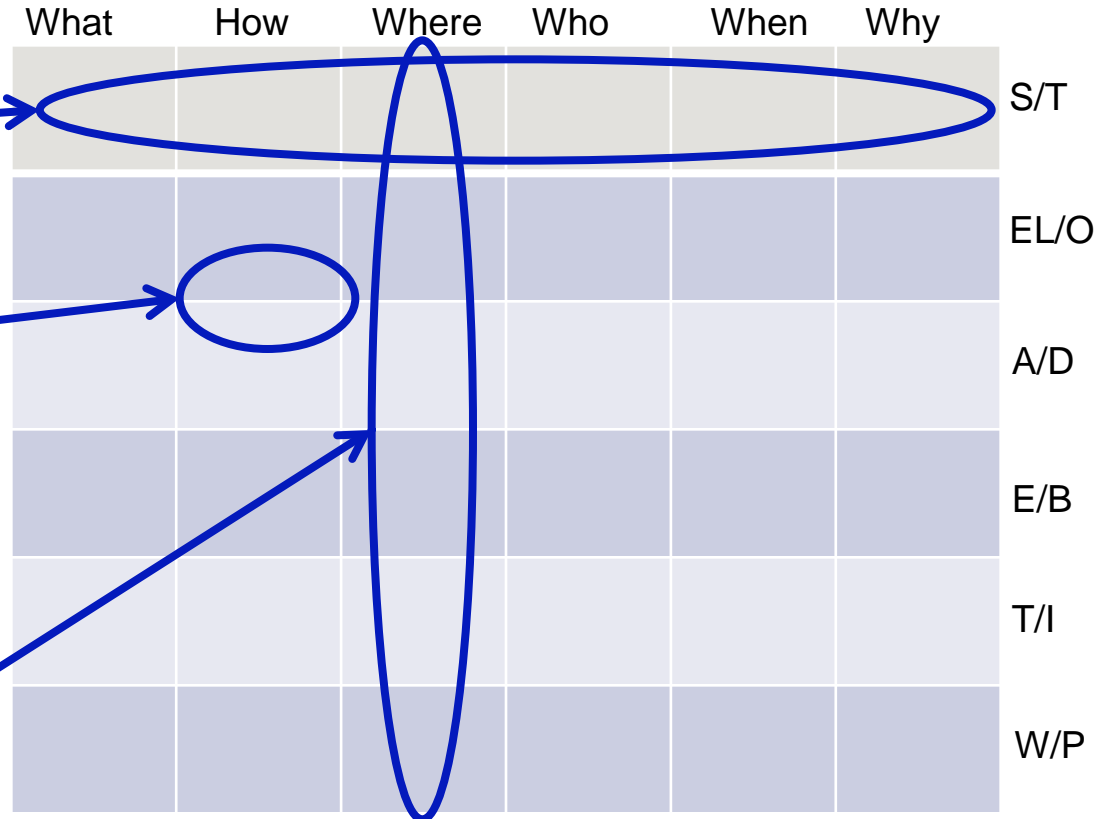
Introduction – Frameworks

- **Classification system is by John A. Zachman**
  - 6X6 Matrix
  - 5 W and H across the top
  - 6 different "transformational" layers
  - Available from http://www.zachmaninternational.com/

- **DODAF 2.0**

Introduction – Framework

- **The easiest savings comes from resolving conflicts within a layer.**

- **Resolving conflicts between two layer results in 10X the savings**

- **The higher the conflict is in the architecture the greater the saving and the resistance**

- **The integrating a column multiples the savings as the conflicts between all the layer of that column are resolved.**

What	How	Where	Who	When	Why	
						S/T
						EL/O
						A/D
						E/B
						T/I
						W/P

Introduction –Framework

- **Primary activity of the layer change and thus need to use different tools**
- **Top two layer are addressing the "Whys" of the business**
- **The middle two layer are addressing the "Whats" of the business**
- **The bottom two layer are addressing the "Hows" of the business**
- **Tools need to match the primary task of the layer**
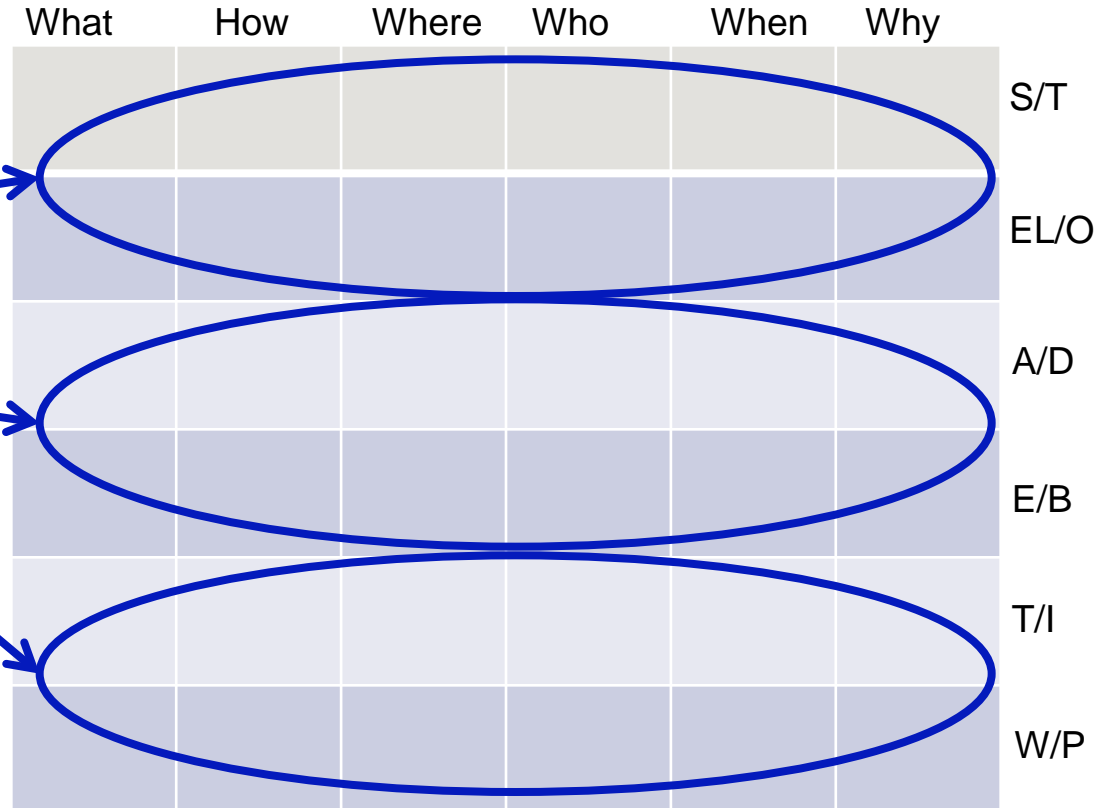
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Frameworks and Tool Selection – How to apply

- **Attempt to fill in the framework**
  - **Difficulties in completing highlights improvement opportunities**
- **Empty blocks or controversial block answers highlight conflicts**
  - Upper layer use Theory of Constraint
  - Middle level use Design for Six Sigma
  - Lower levels use Lean/six sigma

Frameworks and Tool Selection – How to apply

- **Multiple blocks within a layer**
  - For mid or lower level layer – Determine if issue is flow or data or conflict
    - Flow – Lean
    - Data – Six sigma
    - Conflict – Theory of Constraints
  - For high level layer start with Theory of Constraints

Frameworks and Tool Selection – How to apply

- **Vertically-aligned blocks are conflicts and transformations difficulties**

  - Theory of Constraints preferred tool

  - Focus effort to resolve similar business questions

  - Caution not to jump layers

  - For high level layer start with Theory of Constraints
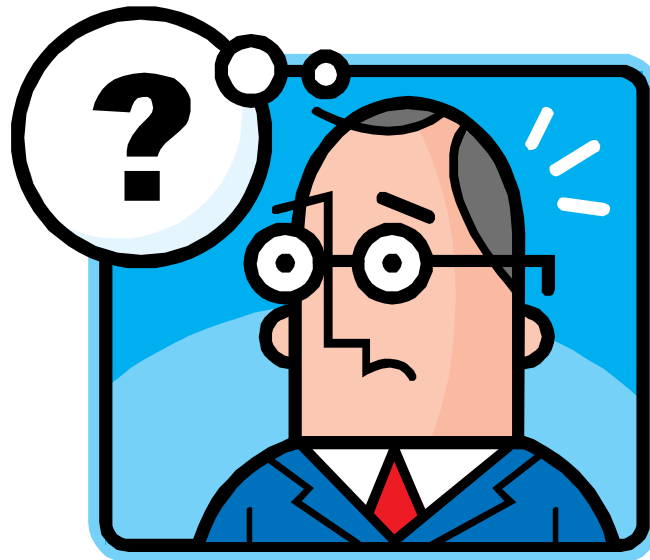
Conclusions

- **There are multiple tool boxes with a wide range of tools**

    - This presentation only touched on Three

- **Using a framework helps to find improvement opportunities**

- **Holes in the framework highlight the organizational conflicts**

Conclusions

- **Resolving conflicts in the architecture results in saving.**
  - Higher in the framework the greater the saving
  - Conflicts between the layer result in larger savings than resolving the conflict within the layer
- **Knowing the conflict type and location helps determine the correct tool set.**

Reference

- **Zachman information
http://www.zachmaninternational.com/**

- **DODAF 2.0 information**