Lean SCAMPI℠

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Applicable Lean Constructs

- Value stream mapping
  - Focus on customer value (appraisal sponsor)
  - Waste elimination
    - Wait time
    - Motion
    - Management
    - Partially done work
    - Defects
    - Task switching
    - Anything not of value to the sponsor
  - Takt time/cadence
  - Synchronization
- Kanban decision making
- Poka Yoke (mistake proofing)
What do we mean by “Lean SCAMPI”? 

- Perceptions of “fat SCAMPI”
  - Appear focused on “Conduct Appraisal” phase of SCAMPI A MDD
    - Takes “too long”
    - Takes “too many resources”
    - Is “too expensive”

- Lean scoping considerations
  - Restrict to ARC-compliant methods like SCAMPI A?
  - Expand to include the ARC (Appraisal Requirements for CMMI)?
  - Restrict to “Conduct Appraisal’ Phase?

- Lean Thinking requires us to ask these questions:
  - Is the customer clearly identified?
  - Are the end products of maximum value to the customer?
  - Has waste been eliminated?
  - Has “pull” or takt time been established?
  - Have appraisal activities been synchronized within the appraisal cadence?
A Workflow View (single appraisal)

Indicates that, in general, an individual SCAMPI process flows correctly.

2.1 Prepare Participants
- Conduct participant briefing

2.2 Examine Objective Evidence

2.3 Document Objective Evidence

2.4 Verify Objective Evidence

2.5 Validate Preliminary Findings
- Conduct validation briefing(s)

2.6 Generate Appraisal Outputs

* Direct artifacts
* Indirect artifacts
* Affirmations
* Multiple instances
* Nonfocus projects

So let’s look at waste in this workflow
Top Level SCAMPI Process

- Application to Project maturation is problematic
  - Project process capability will grow over time to target
  - Multiple appraisals over project life cycle may be needed
- Current state waste:
  - Wait times between Planning and Conduct induces waste due to work product degradation (defect induction)
  - Lack of takt time or cadence induces waste across multiple appraisals.
  - Value to the sponsor is challengeable
    - Is the organizational scope optimal?
    - Is the appraisal output of highest value considering large investment?
Plan and Prepare for Appraisal

Lean suggests:
Analyzing requirements over time (eg to achieve a goal)
Including needs of all sponsors (organizational, acquirer, project)

Lean suggests:
Global appraisal plan for period/org. unit covered
Plan extensions (“just in time”) for specific appraisals

Lean suggests:
Qualified, ready pool of expert appraisal team members (tacit knowledge)
“Just in time” training to solidify and prepare team

Lean suggests:
“Push” initial objective evidence that is automatically available from PIID or other process map
“Inventory” should be a Kanban (readiness) criteria, not an activity

Lean suggests:
This is all waste
Readiness Review should be a Kanban decision

Plan and Prepare for Appraisal Processes

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(Arc Compliant)
Conduct Appraisal

Lean suggests:
Briefing to Participants: Could be done on an overall appraisal cadence, updating participants as to upcoming/ongoing appraisals

ARC/SCAMPI compliant suggestions:
Software-enabled PIIDs (often done),
Bringing data-owners into the appraisal team environment to help find the evidence more efficiently if necessary,
Start “conduct appraisal” “phase early” to allow team members to examine, document, and verify objective evidence over a period of a few weeks
Invest in tacit knowledge of appraisal team members to gain speed and efficiency
Lean suggests: Pre-scripting/automating appraisal outputs to make submission of appraisal results as efficient and accurate as possible.
External (Acquirer) Sponsor

- Desires efficient, fast, inexpensive project-level appraisals
  - Responsive to acquirer’s program risks
  - Checks compliance with supplier’s project process-performance maturation forecast
  - Verifies organization’s support of project start-up and maturation

- Approaches:
  - Use Class C appraisals to verify progress on supplier’s process-performance maturation curve
  - Use Class B appraisals to verify milestone achievements in supplier’s process-performance capability
Statistically sample full instance population for defects in objective evidence
- All instances = all projects and all organizational offices
- Several tests of hypothesis available, depending on assumptions about the normality of the underlying population and the sample size
- Failure to reject null hypothesis would equate to a benchmark assertion with a specified confidence level
- Advantages:
  - Lower appraisal costs
  - Virtually all instances open to appraisal
My Answers to the Lean Questions

• Is the customer clearly identified?
  – Sponsor of internal process improvement: Fully specified.
  – Sponsor who is an acquirer: Largely specified.
  – Sponsor who is a manager of a single project: Largely unspecified.

• Are the end products of maximum value to the customer?
  – Internal process improvement: questions related to ROI, timeliness, and usefulness for guiding improvements
  – Acquirer: Organizational Maturity Levels or CL profiles do not appear to be of maximum value
  – Project Manager: Appraisal process support of project process-performance appears limited

• Has waste been eliminated?
  – There appear to be multiple opportunities to reduce waste

• Has “pull” or takt time been established?
  – Notion of appraisal cadence in support of sponsor’s goals appears largely unaddressed

• Have appraisal activities been synchronized to the appraisal cadence?
  – Not in formal methods available to the public
Summary

- ARC-Compliant Lean approaches:
  - Strategic approaches to multiple appraisals
    - Strategic plans leave only tactical planning to each appraisal
    - Provided at an expected cadence
    - Taking advantage of expert appraisal team members
    - Synchronizing information flow across the organization
  - Leaning the single appraisal process
    - Planning = minor extension to strategic appraisal plan
    - Kanban decision making where possible
  - Focus on project process-performance
    - Use of project process-performance maturation curve
    - Internal monitoring and verification
    - Acquirer monitoring and verification

- ARC Non-compliant Lean approaches:
  - Statistical sampling and tests of hypotheses to benchmark and estimate process-performance capability
Questions?