



NORTHROP GRUMMAN

DEFINING THE FUTURE



10 Common Mistakes Appraisers Make

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Background

- **The accuracy, value, and buy-in obtained in a SCAMPI appraisal is directly related to the skill and experience of the appraisers, and the manner and structure in which the appraisal is conducted**
- **This presentation will discuss proven techniques for simplifying and streamlining the SCAMPI process**
- **Based on the successful improvements pioneered by Northrop Grumman on over 60 SCAMPI A appraisal and over 100 SCAMPI B and C appraisals, across a set of 12 lead appraisers and over 200 appraisal team members**

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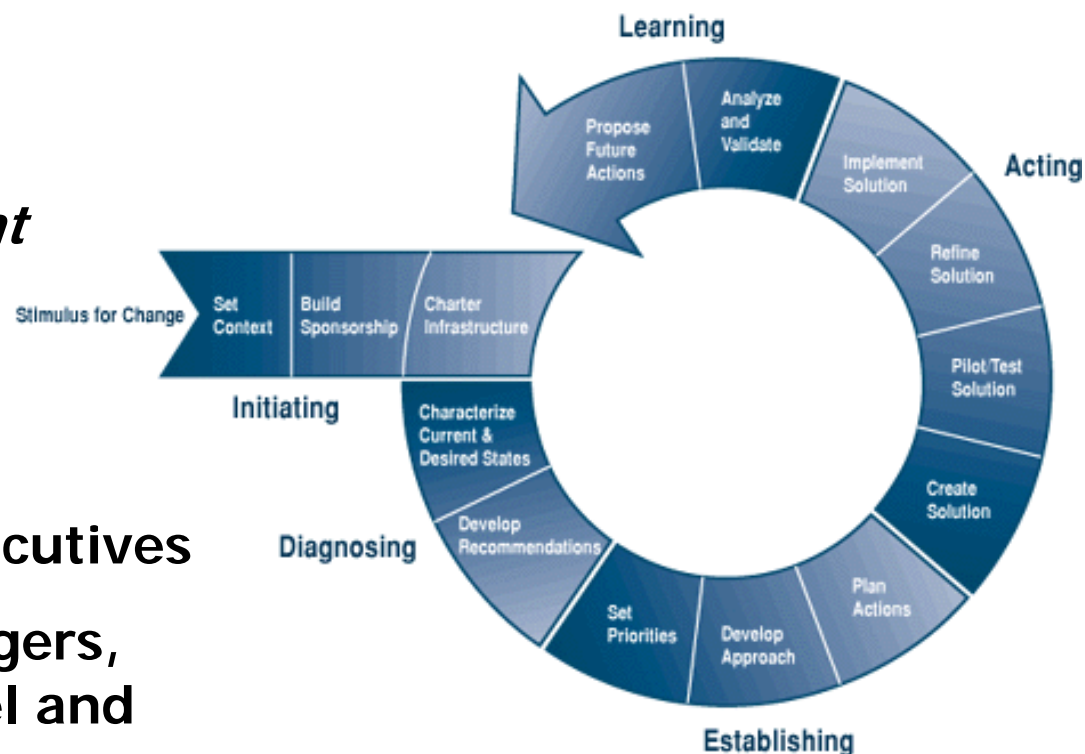
Multiple Purposes of a SCAMPI Appraisal

Appraise an organization against the CMMI model

- Ensure accurate results

Promote process improvement

- Identify potential improvement actions
- Encourage buy-in of the performers, managers, executives
- Educate performers, managers, executives about the model and process improvement
- Assess organizational and project culture



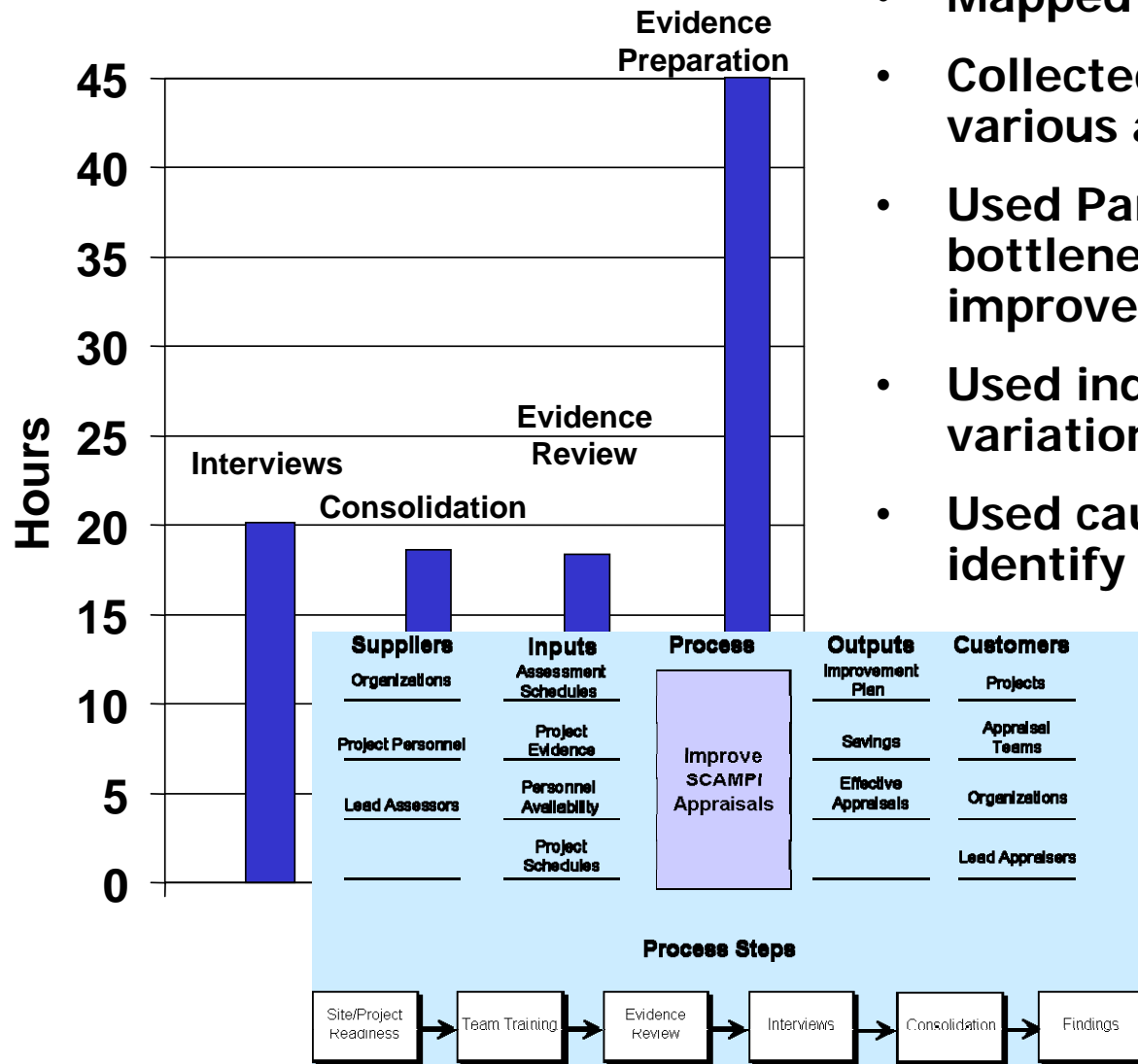
- **The SCAMPI method has significant flexibility and tailoring options**
 - Implicit in the MDD
- **Unfortunately, some Lead Appraisers do not recognize these choices and implement only what they previously have used**

- **Formal or informal?**
 - How formal is information sharing in the organizational?
 - How does formality effect perceived accuracy? Fairness?
- **Interview-focused or evidence-focused?**
 - SCAMPI A is evidence focused
 - How distributed is decision making?
- **Educational or audit?**
 - How knowledgeable is the organization about model implementation?
 - How will misconceptions be perceived?
- **Cooperative or adversarial?**
 - How are external views perceived?
 - What value can an external view provide?

Selecting and Effective Appraisal Style, Hefner and Williams, NDIA CMMI, 2008

"10 Common Mistakes Appraisers Make", Hefner, 2008

Quantitative Management and Causal Analysis Applied to SCAMPI



- Mapped the appraisal process
- Collected metrics on time spent on various appraisal activities, defects
- Used Pareto chart to identify bottlenecks, opportunities for improvement
- Used individuals charts to study variation in the appraisal process
- Used causal analysis methods to identify potential improvements

Minimizing SCAMPI Costs via Quantitative Methods, Ulrich, and Hefner, CMMI Technology Conference and User Group, 2003

10 Common Mistakes

Planning

1. Not emphasizing preparation
2. Using discovery-based techniques
3. Not ensuring sufficient experience on the team
4. Failing to coach
5. Not handling the logistics

On-site

6. Confusing the purpose of evidence review and interviews
7. Not driving to closure
8. Over-limiting who attends the draft findings
9. Not providing project-specific findings
10. Not focusing on buy-in and improvement

Not emphasizing preparation

Date: 1-Oct-03		© 2003 Northrop Grumman Space and Mission Systems		Software POCs		Last Name		First		Phone Number		Systems PC	
Project:		SAT Version 4.3e		Project Manager:								Project M	
Division: Select a Division		CMMI_SAT_2K_V4_3e.xls		Project SAT POC:								Project SA	
Tool Controls	Levels	<input type="radio"/> Level 2	<input type="radio"/> Level 3	<input type="radio"/> Level 4	<input type="radio"/> Level 5	LOE	<input checked="" type="radio"/> Hide	<input type="radio"/> Show	Software Engineering				
	Scope	<input checked="" type="radio"/> All	<input type="radio"/> Plan	<input type="radio"/> No Plan	<input type="radio"/> My Ans'r Area	ORG	<input checked="" type="radio"/> Lock	<input type="radio"/> Unlock					
CMMI & ISO Ref	Export	Maturity Level		Import	Typical Evidence	Baseline Status	Current Status	Actual Evidence	Implementation Plan	Actual	Remarks	Baseline Status	C/S
Level 2 – Managed						Level 2 – Managed							
Requirements Management						Requirements Management							
	SG 1	G	Requirements are managed and inconsistencies with project plans and work products are identified.										
R	SP-11	P	Does the project develop an understanding with the requirements providers on the meaning of the requirements?	meeting records, review records, an agreed to set of written requirements	No	No						No	
R			Does the project obtain commitment to the requirements from the	sign off								No	
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- One of the biggest time wasters is trying to understand the evidence
 - “Defects” cause re-work
- Solutions
 - Have the organization provide a process overview, with terms, scope of the organization/projects, approach to GPs, etc.
 - Explain expectations for evidence – recursion, iteration
 - Annotate all evidence – Why does this document show?

The old CBA IPI appraisal was designed for “discovery”

- Organization didn’t understand the CMM model, hadn’t tried to comply with it, didn’t know if it had value
- Senior management wanted an outsider’s assessment of where the organization stood
- Appraisers measure, prioritize, strategize, teach, motivate



Selecting an Effective Appraisal Style, Hefner and Williams, NDIA CMMI, 2008

The SCAMPI method is designed for “verification”

- Organization has learned about the model, thinks it has implemented it correctly, realized value and shortcomings
- Senior management wants an independent, expert assessment
- Appraisers verify, correct, encourage further improvement



“10 Common Mistakes Appraisers Make”, Hefner, 2008

Not ensuring sufficient experience on the team

- **The single biggest driver for appraisal accuracy and efficiency is appraisal team experience**
 - Model understanding, especially in different contexts
 - Appraisal method understanding
- **Ensure mini-team selection and pairings leverage personalities and appraising styles**
 - Pair seasoned appraiser with “newbies”
 - Have a detailed and not so detailed person on the same mini-team
 - Internal to the organization (driver) and an External (added layer of objectivity) on a mini-team.
- **Availability is not a skill**
 - Select team members that can play well with others (seems obvious)
 - It takes a certain mindset to appraise (vs. audit) and to follow the MDD



- **Lead Appraisers sometimes take too large a role in the appraisal**
 - Dominate less experienced members, inhibit consensus
 - Limit organizational buy-in (“just the Lead Appraiser’s opinion”)
- **Take turns leading interviews**
 - “Clean-up” can be a educational opportunity
- **Explain what is happening, purpose of each appraisal step**
- **When composing teams, think about educating the organization**
 - Having the same people on the teams can result in stale viewpoints
 - Some practitioners may view the appraisal team as the “in crowd” creating second class citizens



- **Ensure enough time is provided for each activity**
 - If possible, use historical data to generate estimates
 - Consider attributes (model scope, number of projects/instantiations, number of team members, experience, etc.)
 - If really advanced, apply quantitative methods
- **Address facility access, security, meals/snacks**
- **While onsite, use time-boxing to control schedule**
- **Plan for contingencies (e.g., sickness, network failures)**
- **Site coordinator (not appraisal team) should handle all onsite problems**

Confusing the purpose of evidence review and interviews

- **The purpose of direct evidence is to demonstrate a practice is being performed**
 - Need not review “goodness” other than reasonableness
- **Indirect evidence and interviews merely confirm the direct evidence**
 - Some organizational cultures do not emphasize indirect evidence
 - Need either indirect evidence or affirmation
- **Interviews do not prove a practice is not performed**
 - “No” answers typically mean the question was misunderstood
 - “I don’t know” simply means more validation is needed



- **Adopt a “checklist” mentality**
 - Are they performing the practice, or not?
- **Focus on reasonableness of the implementation, not goodness**
 - If commenting on goodness, must ensure you understand the context, objectives, and constraints
- **Use a “parking lot” to capture controversial issues**
 - Often resolved by requesting additional evidence



Over-limiting who attends the preliminary findings

Only appraisal participants may participate (i.e., only people who provided data may participate in validation).

- MDD, v1.2

- **This could include anyone who provided evidence (impossible to confirm)**
 - Limiting attendees decreases buy-in and accuracy
- **Purpose is to look for more direct evidence or interviewees**
 - Focus only on weaknesses
 - Ensure audience understands the findings, and what direct evidence is needed to dispute them
 - May need to address model misunderstanding

- **The SCAMPI method permits project-specific findings to be provided, as long as appraisal outputs are not attributed to an individual**
- **Preliminary findings should identify project-specific weaknesses**
 - Avoid “Some projects do not ...” - limits unnecessary work
 - Consistent with a “verification” appraisal
 - Consistent with a “process-focused” culture
 - Consider providing a hardcopy (marked “Draft”)
- **Final findings should also identify project-specific weaknesses**
 - Consider whether to present to entire organization
 - Organization should consider both corrective and preventative actions

Not focusing on buy-in and improvement

- **Remember that the purpose of the appraisal is to promote process improvement**

- Identify potential improvement actions
- Encourage buy-in of the performers, managers, executives
- Educate performers, managers, executives about the model and process improvement
- Assess organizational and project culture

