

Making Sense of Process Improvement Programs and Appraisals

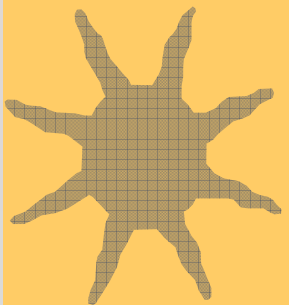
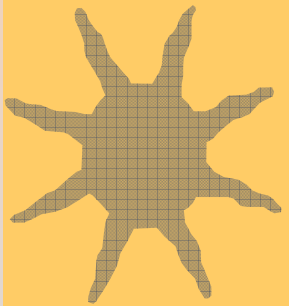
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AGENDA

- Establish the Context
- Key Sponsorship Questions
- Stakeholder Perspectives
- Tried & Tested Ways - More from Less
- Conclusion



Establish the Context

With organizations under pressure to demonstrate quarter-on-quarter business results **effective time available to conduct day-to-day business activities has shrunk**

A quarter, averages approximates to only **45 business days**

- Factoring for time spent on knowledge gain or learning curve
- Accommodating changing business requirements
- Could be much lesser on non-trivial projects
 - ▶ Volatile technologies
 - ▶ Requiring geographically leveraged solutions
 - ▶ When aggregated over an year

Establish the Context

It is therefore perceived that: **available time** which can be set aside for audits, appraisals and process improvement activities given such harsh business conditions **is very limited**, and therefore must be put to the best use

Development activities are **no longer a single site activity**; process improvement has to ensure integration of practices deployed across multiple development sites including those of the customer

Gains made from process improvement **should have a sense of permanence** – possible only when a strong management foundation is established in units to manage needed competencies to execute

Establish the Context

Rough order estimate of appraisal effort:

- CMMI and People CMM with a Level 5 scope (data from 8 similar appraisals):

Appraisal	Class C Staff Days	Class B Staff Days	Class A Staff Days
Appraisal 1	30.0	30.0	130.0
Appraisal 2	20.0	20.0	140.0
Appraisal 3	20.0	16.0	149.0
Appraisal 4	20.0	20.0	125.0
Appraisal 5	20.0	20.0	190.0
Appraisal 6	25.0	26.0	130.0
Appraisal 7	19.0	20.0	115.0
Appraisal 8	22.0	22.0	156.0
Average	22.0	21.8	141.9
Standard Deviation	3.5	4.1	22.0
Mode	20.0	20.0	130.0

- ~1 person year for approach, deployment & institutionalization verification for a **single model**, **single site of approximately 500~750 associates**

Sponsorship Questions:

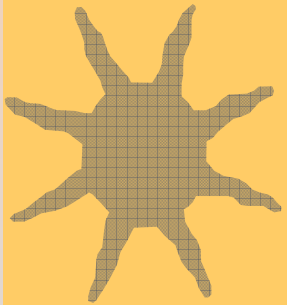
How to ensure process improvement, audits and appraisals –

- Are less intrusive
- Outcomes have immediate applicability
- Is able to bring down – ‘Cost of Process Improvement’ (CoPI)
 - ▶ CoPI ranges from \$200 to \$375 per associate per appraisal period (typically 4 months)
 - ▶ For a 500 person organizational unit

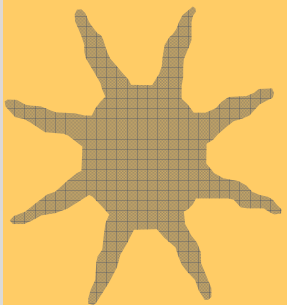
Key Sponsorship Questions



Question 1: If the process improvement initiative is a single '**organizational development**' initiative, can the same teams work to institutionalize practices on both the CMMI and People models?

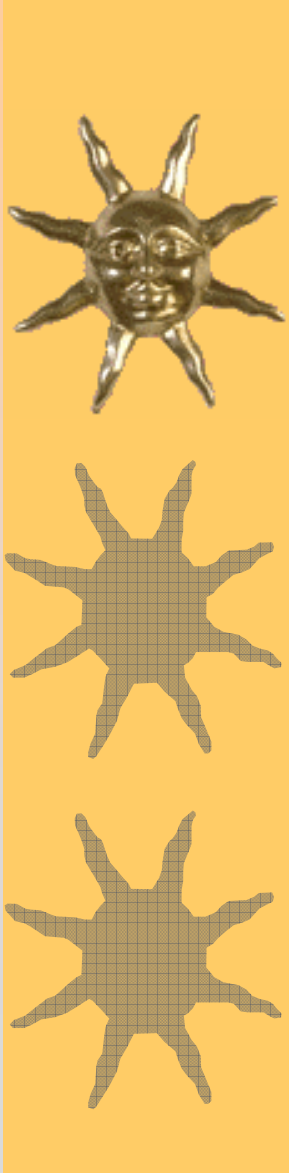


Question 2: How can **multiple models be leveraged** to effect common improvements to the process infrastructure?



Question 3: Can an **integrated CMMI, People CMM audit/appraisal** help to maximize resource utilization and return on investment?

Key Sponsorship Questions



Question 4: Can an **incremental appraisal** be adopted for two or more organizational units within the same process/appraisal context having multiple scope?

Question 5: In what ways can a **single appraisal period** be put to best use wherein SCAMPI for CMMI and People CMM can establish maturity indicators on both models?

Question 6: For multi-site appraisals, can relevant process areas alone be examined in separate onsite periods with **aggregation of results**?

Stakeholder Perspectives:

Sponsor's perspective:

- Tell us what we don't know already!

Project team's perspective:

- Process improvement, appraisals and audits should be non-intrusive
- Must be content focused

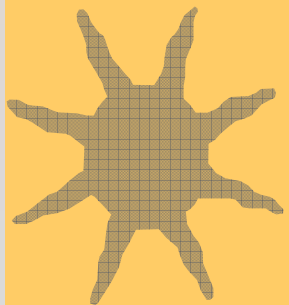
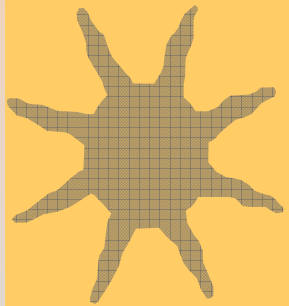
Customer's perspective:

- "Ok with it, as long as my timelines and deliverables are not hurt and you don't ask for more money!"

Stakeholder Perspectives

Typical expectations of process improvements, appraisals and audits

- Should be an integral part of activities which are required to deliver on business expectations and business results
- Should make 'qualitative judgments' of the sufficiency criteria while assessing alignment
- Should ensure seamless integration of work products resulting from practices and tools in piecemeal developmental conditions
- Should not contribute to any additional overheads which are difficult to plan in a shrinking timeline to deliver



Stakeholder Perspectives

More expectations ...

- Should be non-intrusive with minimal impact on performing mainline project activities
- Should effectively utilize 'face-time' from audits/appraisals to fork out process improvement opportunities aligning with the expectations of best practices from 'several' models/frameworks
- Should be 'content driven' rather than 'format driven'
- Should set project teams up, to 'succeed'; "Drive out fear!" – Dr. Deming's 14 points

Tried & Tested Ways:

Combine the merits of CMMI and People CMM

- Into a single process program,
- while addressing compliance requirements on other models
- Adopt a single audit and appraisal process, such as SCAMPI for CMMI and People CMM

Tried & Tested Ways – More from Less

Making Sense of process improvement programs and appraisals, by –

- Combining all process improvement initiatives into a single – ‘organizational development’ initiative
 - ▶ CMMI and People CMM build process capability and workforce capability
- Considering other compliance requirements (ISO, ITIL) & certification requirements (BS7799, BS15000) as well
- Integrating activities leading to project execution and process improvement activities by assigning dual responsibilities for project execution and process improvement to individuals

Tried & Tested Ways – More from Less

Making sense, by ...

- Establishing an integrated process improvement team which builds both CMMI and People CMM practices into the process – such as a Competency Development Team

- Keeping the number of individuals with ‘primary’ process improvement, audit and appraisal responsibility to –
 - ▶ A very small minimum with,
 - ▶ those who can offer the necessary support on both the CMMI and People CMM

Tried & Tested Ways – More from Less

Making sense, by ...

- Institutionalizing a mechanism –
 - ▶ To obtain improvement suggestions from practitioners to address the needs of both, the process requirements and the workforce capability development requirements – using reengineering teams
 - ▶ That promotes a single metrics program which offers ‘quantitative’ understanding on both, process capability and workforce capability
 - ▶ That uses a single appraisal process such as SCAMPI for CMMI and People CMM

Tried & Tested Ways – More from Less

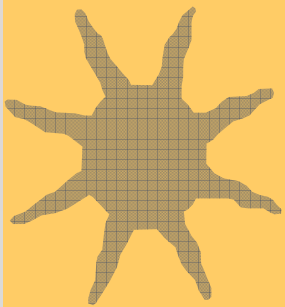
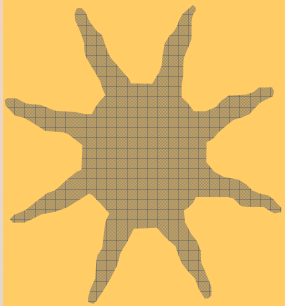
Making sense, by ...

- Establishing a cultural change for congruence –
 - ▶ Expect and mandate a demonstrated **competency change** among relevant stakeholders for every effected process improvement
 - ▶ Best way to bring in a sense of accountability and responsibility
- Investing in training a joint SCAMPI appraisal team which can conduct both a CMMI and a People CMM appraisal
 - ▶ Balanced team of business and Quality professionals

Tried & Tested Ways – More from Less

Making sense, by ...

- Using common PIID formats to identify and develop practice implementation indicators for both the CMMI and People CMM models



PA	SG/SP	Definition	Site Practices (State the equivalent practice in the site)	PROJECT ALPHA
CM	SG 1	Establish Baselines Baselines of identified work products are established.		
	SP 1.1	Identify Configuration Items Identify the configuration items, components, and related work products that will be placed under configuration management.	SCIs for the project are identified by the PL as part of project planning activity. P.Ref. Software Configuration Management [QP601CM1 19.0] [D1] Identify SCIs section Ref. Project Plan - software configuration management section - SCI identification section [D1] Project Plan Review checklist - Configuration Management section[D2]	The Configurable items related to work products are identified and documented in the "Software Configuration Management" section of the SMP. XXXXXXXXX_SMP.doc XXXXXXXXX_SMP_Tailoring XXXXXXXXX_SMP_Review Checklist.doc
	SP 1.2	Establish a Configuration Management System Establish and maintain a configuration management and change management system for controlling work products.	All identified work products will be version controlled and configuration controlled. This is done either by a tool [VSS] or manually. The configuration control mechanism to be followed by the projects will be documented in project plan. P.Ref. Software Configuration Management [QP601CM1 19.0] [D1] Version Control section Configuration Control section Ref. Project Plan - software configuration management section - Configuration Control [D1] Change Request Log [D1] Change Request Form [D1] VSS repository [CM tool repository] [D1] Configuration Status Report [D2] Project Plan - Project Environment - Tools Section - Tools used if any for configuration control section [D2] Configuration Audit Reports [D2]	The configurable work products are maintained in the CMXTRA as defined in the "Software Configuration Management Plan" in SMP. XXXXXXXXX_SMP.doc CMXTRA KX

Process Area	Goal ID	Goal/Practice Statement	References to Implementation Artifacts	
			Organizational Implementation	Unit Level Implementation
STAFFING	Goal 1	Individuals or workgroups in each unit are involved in making commitments that balance the unit's workload with approved staffing.		
	Practice 1	Responsible individuals plan and coordinate the staffing activities of their units in accordance with documented policies and procedures.	Unit heads (Delivery & Competency) plan the staffing activities as described in the Staffing Procedure. Requirementst are mapped to the current resource availability and if available, they are transferred.	Same as organizational practices
	Practice 2	Each unit analyzes its proposed work to determine the effort and skills required.	Staffing Plans prepared based on allocations of Annual Budgets, Resource Forecasts, Proposals, Contracts, SOW and Staffing Procedure In Support projects, the proposed work is basically determined by full time equivalents (FTEs) as a resource assigned to particular project	Same as organizational practices
	Practice 3	Individuals and workgroups participate in making commitments for work they will be accountable for performing.	Based on the SOW, skill and level requirements are mapped to individuals available with ICA. Project Manager identified, project team identified and project kick-off happens. For existing projects, commitments happen between projects (delivery) and competency organizations. Commitment of resources to projects will be based on skill matrix available with the Competency Organization.	Same as organizational practices

Tried & Tested Ways – More from Less

Making sense, by ...

- Verifying process deployment during the pre-onsite period or a SCAMPI Class B
 - ▶ On both the CMMI and People CMM model requirements

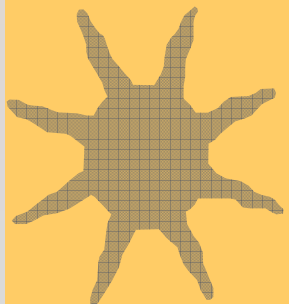
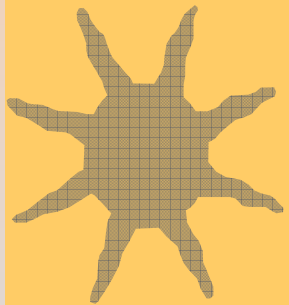
- Utilizing the onsite data gathering sessions –
 - ▶ To establish process institutionalization by eliciting views of practitioners on both models
 - ▶ Common data gathering sessions maximize the utility value of the ‘face-time’ given to the appraisal team by practitioners

Tried & Tested Ways – More from Less

Making sense, by ...

- Establishing improvement opportunities –
 - ▶ Which address the dual needs of process implementation and institutionalization
 - ▶ On both the CMMI and People CMM

- Minimizing repetition of appraisal activities by –
 - ▶ Separating and cascading the outcomes of appraisals,
 - ▶ ensuring verification of ‘approach, deployment and institutionalization’ with defined objectives



Tried & Tested Ways – More from Less

Making sense, by ...

- Ensuring appraisals and audits add value –
 - ▶ By effectively highlighting and exploring ‘alternative practices’ which accomplish the intent behind the stated and implied requirements of the process models
 - ▶ By not contributing significantly to the ‘cost of quality’ and ‘cost of process improvement’ metrics
 - ▶ By making ‘qualitative’ assessments of the work-products – being ‘content driven’ rather than ‘format driven’

Tried & Tested Ways – More from Less

Making sense, by ...

- Leveraging from commonality in CMMI & People CMM. For example:
 - ▶ **Staffing, Workforce Planning, Empowered Workgroups** positively impacts Project Management process areas of CMMI
 - Balance resources and commitments
 - Individuals participate in establishing commitment
 - Work Analysis to improve estimates
 - Selection and transition of individuals into and out of work assignments done in an orderly manner helps to manage project execution
 - Strategic hiring: can enable growing a complete competency or a line of business

For more examples, please refer to paper on:

“Shoehorning CMMI Initiatives With People CMM”, SEGP 2006

Tried & Tested Ways – More from Less

Leverage from commonality in CMMI & People CMM

CMMI V1.1	People CMM V2.0
Project Planning Project Monitoring and Control Risk Management Integrated Teaming Supplier Agreement Management	Staffing Workforce Planning Empowered Workgroups
Integrated Teaming Organizational Environment for Integration Decision Analysis and Resolution	Communication & Coordination Participatory Culture Mentoring Competency Integration
Organizational Training Organizational Process Focus	Training & Development Competency Analysis Competency Development Workgroup Development
Organizational Process Definition	Competency Based Assets
Organizational Innovation and Deployment	Continuous Capability Improvement Continuous Workforce Innovation Organizational Performance Alignment

Tried & Tested Ways – More from Less

Leverage from commonality in CMMI & People CMM

CMMI V1.1	People CMM V2.0
Requirements Management Requirements Development Product Integration Technical Solution Verification Validation	Competency Based Practices
Measurement and Analysis Quantitative Project Management	Quantitative Performance Management
Organizational Process Performance	Organizational Capability Management
Configuration Management	
Process and Product Quality Assurance	
Integrated Supplier Management	
Causal Analysis and Resolution	
	Performance Management
	Compensation
	Career Development
Ability to Perform - Institutionalization Practice	Work Environment



Conclusion

With large scale adoption of the multiple flavors of the CMM – Software CMM, People CMM and CMMI – comes, management responsibility to make sense of the process improvement programs to address key organizational issues which are strategic and business oriented.

One of the key challenges faced today by management, as an organization gains in process maturity is to change how they manage and lead – under ambiguous conditions –

- Volatile or unproven technologies
- Make ‘right assumptions’; estimates ‘evolve’
- How good and relevant are the old numbers?

Conclusion

There is also a great difficulty to allocate separate timeframes for appraisals due to business demands –

- Effective time available to conduct day-to-day business has shrunk
- An integrated CMMI, People CMM implementation program within a single appraisal context is very much desirable

All said and done, both, the CMMI and People CMM promote **‘Organizational Development’** by growing a **culture of ‘Professional Empowerment’** of individuals’

Thank You!

DISCUSSIONS, Q&A

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