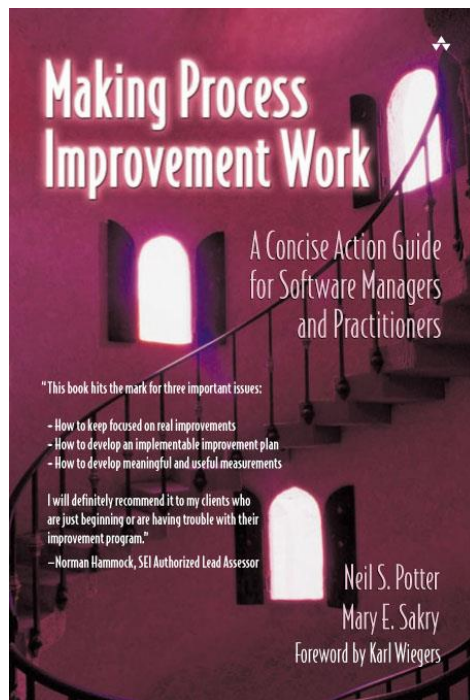


**Revisions of Appendices B and E for the book,  
*Making Process Improvement Work*, by Neil Potter and Mary Sakry  
*CMMI Development V2.0 Mapping***



Revision of Appendix B – Mapping goals and problems to CMMI V2.0 -- page 2

Revision of Appendix E – Summary of CMMI V2.0 – page 8

**Revision of Appendix B – Mapping goals and problems to CMMI (v2.0)**

<b>Goal: Reduce release cycle to 6- to 9-months for product X</b>	
<b>Problem</b>	<b>CMMI V2.0 Practices that would help</b>
<p>1. Changing requirements.</p>	<p><b>CONFIGURATION MANAGEMENT (CM)</b></p> <p>2.2: Develop, keep updated, and use a configuration and change management system.</p> <p>2.3: Develop or release baselines for internal use or for delivery to the customer.</p> <p>2.4: Manage changes to the items under configuration management.</p> <p><b>REQUIREMENTS DEVELOPMENT AND MANAGEMENT (RDM)</b></p> <p>2.5: Develop, record, and maintain bidirectional traceability among requirements and activities or work products.</p> <p>2.6: Ensure that plans and activities or work products remain consistent with requirements.</p>
<p>2. Loss of resources – difficult to replace people with specialized skills who leave the project.</p>	<p><b>PLANNING (PLAN)</b></p> <p>2.2: Plan for the knowledge and skills needed to perform the work.</p> <p><b>MONITOR AND CONTROL (MC)</b></p> <p>2.4: Take corrective actions when actual results differ significantly from planned results and manage to closure.</p> <p><b>RISK AND OPPORTUNITY MANAGEMENT (RSK)</b></p> <p>2.1: Analyze identified risks or opportunities.</p> <p>2.2: Monitor identified risks or opportunities and communicate status to affected stakeholders.</p> <p><b>ORGANIZATIONAL TRAINING (OT)</b></p>

	<p>2.1: Identify training needs.</p> <p>2.2: Train personnel and keep records.</p> <p>3.1: Develop and keep updated the organization’s strategic and short-term training needs.</p> <p>3.2: Coordinate training needs and delivery between the projects and the organization.</p> <p>3.4: Develop, keep updated, and use a training capability to address organizational training needs.</p>
<p>3. Too many features for the 6- to 9-month development cycle.</p>	<p>ESTIMATING (EST)</p> <p>2.1: Develop, keep updated, and use the scope of what is being estimated.</p> <p>2.2: Develop and keep updated estimates for the size of the solution.</p> <p>2.3: Based on size estimates, develop and record effort, duration, and cost estimates and their rationale for the solution.</p> <p>PLANNING (PLAN)</p> <p>2.1: Develop and keep updated the approach for accomplishing the work.</p> <p>2.3: Based on recorded estimates, develop and keep updated the budget and schedule.</p> <p>2.6: Ensure plans are feasible by reconciling available and estimated resources.</p> <p>2.7: Develop the project plan, ensure consistency among its elements, and keep it updated.</p> <p>2.8: Review plans and obtain commitments from affected stakeholders.</p> <p>RISK AND OPPORTUNITY MANAGEMENT (RSK)</p> <p>2.1: Analyze identified risks or opportunities.</p> <p>2.2: Monitor identified risks or opportunities and communicate status to affected stakeholders.</p>

	<p>REQUIREMENTS DEVELOPMENT AND MANAGEMENT (RDM)</p> <p>3.5: Ensure that requirements are necessary and sufficient.</p> <p>3.6: Balance stakeholder needs and constraints.</p>
<p>4. Poor quality of incoming code from other groups.</p>	<p>PLANNING (PLAN)</p> <p>3.3: Identify and negotiate critical dependencies.</p> <p>MONITOR AND CONTROL (MC)</p> <p>3.2: Manage critical dependencies and activities.</p> <p>PEER REVIEWS (PR)</p> <p>2.3: Prepare and perform peer reviews on selected work products using established procedures.</p> <p>VERIFICATION AND VALIDATION (VV)</p> <p>2.1: Select components and methods for verification and validation.</p> <p>1.1: Perform verification to ensure the requirements are implemented and record and communicate results.</p> <p>1.2: Perform validation to ensure the solution will function as intended in its target environment and record and communicate results.</p> <p>3.1: Develop, keep updated, and use criteria for verification and validation.</p> <p>PRODUCT INTEGRATION (PI)</p> <p>3.1: Review and keep updated interface or connection descriptions for coverage, completeness, and consistency throughout the solution's life.</p>
<p>5. Inadequate availability of test equipment.</p>	<p>GOVERNANCE (GOV)</p> <p>2.2: Senior management ensures resources are provided for developing, supporting, performing, improving, and evaluating adherence to expected processes.</p>

	<p>VERIFICATION AND VALIDATION (VV)</p> <p>2.2: Develop, keep updated, and use the environment needed to support verification and validation.</p> <p>PLANNING (PLAN)</p> <p>2.3: Based on recorded estimates, develop and keep updated the budget and schedule.</p> <p>2.7: Develop the project plan, ensure consistency among its elements, and keep it updated.</p>
<p>6. Lack of visibility within each life-cycle phase – it is difficult to know how much we are ahead or behind schedule.</p>	<p>ESTIMATING (EST)</p> <p>2.1: Develop, keep updated, and use the scope of what is being estimated.</p> <p>2.2: Develop and keep updated estimates for the size of the solution.</p> <p>2.3: Based on size estimates, develop and record effort, duration, and cost estimates and their rationale for the solution.</p> <p>PLANNING (PLAN)</p> <p>2.3: Based on recorded estimates, develop and keep updated the budget and schedule.</p> <p>2.4: Plan the involvement of identified stakeholders.</p> <p>2.7: Develop the project plan, ensure consistency among its elements, and keep it updated.</p> <p>MONITOR AND CONTROL (MC)</p> <p>2.1: Track actual results against estimates for size, effort, schedule, resources, knowledge and skills, and budget.</p> <p>2.2: Track the involvement of identified stakeholders and commitments.</p> <p>2.4: Take corrective actions when actual results differ significantly from planned results and manage to closure.</p>
<p>7. Don't always have the resources</p>	<p>PLANNING (PLAN)</p>

<p>available to complete the planned work.</p>	<p>2.1: Develop and keep updated the approach for accomplishing the work.</p> <p>2.3: Based on recorded estimates, develop and keep updated the budget and schedule.</p> <p>2.4: Plan the involvement of identified stakeholders.</p> <p>2.6: Ensure plans are feasible by reconciling available and estimated resources.</p> <p>2.7: Develop the project plan, ensure consistency among its elements, and keep it updated.</p> <p>2.8: Review plans and obtain commitments from affected stakeholders.</p> <p><b>RISK AND OPPORTUNITY MANAGEMENT (RSK)</b></p> <p>2.1: Analyze identified risks or opportunities.</p> <p>2.2: Monitor identified risks or opportunities and communicate status to affected stakeholders.</p>
<p>8. Difficult to find defects early.</p>	<p><b>PEER REVIEWS (PR)</b></p> <p>2.3: Prepare and perform peer reviews on selected work products using established procedures.</p> <p>2.4: Resolve issues identified in peer reviews.</p> <p><b>VERIFICATION AND VALIDATION (VV)</b></p> <p>2.1: Select components and methods for verification and validation.</p> <p>1.1: Perform verification to ensure the requirements are implemented and record and communicate results.</p> <p>1.2: Perform validation to ensure the solution will function as intended in its target environment and record and communicate results.</p> <p>3.1: Develop, keep updated, and use criteria for verification and validation.</p>

	<p>2.2: Develop, keep updated, and use the environment needed to support verification and validation.</p> <p>2.3: Develop, keep updated, and follow procedures for verification and validation.</p>
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## Revision of Appendix E – Summary of CMM V2.0

In March 2018, a new version of the Capability Maturity Model Integration (CMMI) and appraisal method were released.

The overall focus in V2.0 has been to drive home the point that the model is about improving organizational capability to improve performance for any type of project (Agile, Waterfall, or a hybrid). The figure below shows the new structure of the model.

Practice Area	Level 1	Level 2	Level 3	Level 4	Level 5
Causal Analysis and Resolution (CAR)	Blue vertical lines	Blue vertical lines	Blue vertical lines	Orange grid	Light pink horizontal lines
Decision Analysis and Resolution (DAR)	Blue vertical lines	Blue vertical lines	Blue vertical lines	Black	Black
Risk and Opportunity Management (RSK)	Blue vertical lines	Blue vertical lines	Blue vertical lines	Black	Black
Organizational Training (OT)	Blue vertical lines	Blue vertical lines	Blue vertical lines	Black	Black
Process Management (PCM)	Blue vertical lines	Blue vertical lines	Blue vertical lines	Orange grid	Black
Process Asset Development (PAD)	Blue vertical lines	Blue vertical lines	Blue vertical lines	Black	Black
Peer Reviews (PR)	Blue vertical lines	Blue vertical lines	Blue vertical lines	Black	Black
Verification and Validation (VV)	Blue vertical lines	Blue vertical lines	Blue vertical lines	Black	Black
Technical Solution (TS)	Blue vertical lines	Blue vertical lines	Blue vertical lines	Black	Black
Product Integration (PI)	Blue vertical lines	Blue vertical lines	Blue vertical lines	Black	Black
Supplier Agreement Management (SAM)	Green diagonal lines	Blue vertical lines	Blue vertical lines	Orange grid	Black
Managing Performance & Measurement (MPM)	Green diagonal lines	Blue vertical lines	Blue vertical lines	Orange grid	Light pink horizontal lines
Process Quality Assurance (PQA)	Green diagonal lines	Blue vertical lines	Blue vertical lines	Black	Black
Configuration Management (CM)	Green diagonal lines	Blue vertical lines	Black	Black	Black
Monitor and Control (MC)	Green diagonal lines	Blue vertical lines	Blue vertical lines	Black	Black
Planning (PLAN)	Green diagonal lines	Blue vertical lines	Blue vertical lines	Orange grid	Black
Estimating (EST)	Green diagonal lines	Blue vertical lines	Blue vertical lines	Black	Black
Requirements Development & Management (RDM)	Green diagonal lines	Blue vertical lines	Blue vertical lines	Black	Black
Governance (GOV)	Green diagonal lines	Blue vertical lines	Blue vertical lines	Orange grid	Black
Implementation Infrastructure (II)	Green diagonal lines	Blue vertical lines	Blue vertical lines	Black	Black



Here is our (unofficial) summary comparison of the two models.

Full image at <http://processgroup.com/wp-content/uploads/2014/07/CMMIV13-VS-20.jpg>

Level	Focus	Process Areas	Quality Productivity
5 Optimizing	Continuous Process Improvement	Causal Analysis and Resolution (CAR) Organizational Performance Management (OPM)	↑ Risk Rework
4 Quantitatively Managed	Quantitative Management	Organizational Process Performance (OPP) Quantitative Project Management (QPM)	
3 Defined	Process Standardization	Integrated Project Management (IPM) Risk Management (RSKM) Decision Analysis and Resolution (DAR) Requirements Development (RD) Technical Solution (TS) Product Integration (PI) Verification (VER) Validation (VAL) Organizational Process Focus (OPF) Organizational Process Definition (OPD) Organizational Training (OT)	
2 Managed	Basic Project Management	Configuration Management (CM) Measurement and Analysis (MA) Project Monitoring and Control (PMC) Project Planning (PP) Process and Product Quality Assurance (PPQA) Requirements Management (REQM) Supplier Agreement Management (SAM)	
1 Initial			

CMMI Development V1.3

Level	✓ ← PA also exists at higher level	Practice Areas	Performance Capability
5 Optimizing		CAR, MPM (level 5 practices)	↑ Risk Rework
4 Quantitatively Managed		CAR, PCM, SAM, MPM, PLAN, GOV (level 4 practices)	
3 Defined	✓	Causal Analysis and Resolution (CAR) Decision Analysis and Resolution (DAR) Risk and Opportunity Management (RSK) Organizational Training (OT) Process Management (PCM) Process Asset Definition (PAD) Peer Reviews (PR) Verification and Validation (VV) Technical Solution (TS) Product Integration (PI)	
2 Managed	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	Supplier Agreement Management (SAM) Managing Performance and Measurement (MPM) Process Quality Assurance (PQA) Configuration Management (CM) Monitor and Control (MC) Planning (PLAN) Estimation (EST) Requirements Development & Management (RDM) Governance (GOV) Implementation Infrastructure (II)	
1 Initial / 0 Incomplete			

CMMI Development V2.0 – Simple View

### Links for more details

The Process Group's summary of CMMI V2.0 changes:

<http://processgroup.com/improving-capability-and-performance-with-cmmi-v2-0-what-has-changed/>

### Full model text

- The full model text is available for purchase in PDF or Viewer form at [cmmiinstitute.com/model-viewer/](http://cmmiinstitute.com/model-viewer/). The annual Viewer license includes updates as they are published. The one-time PDF purchase does not.
- [CMMI V2.0 Quick Reference Guide](#)
- [CMMI V2.0 Adoption and Transition Guidance](#)
- [CMMI V2.0 to V1.3 Practice Mapping](#)

Chinese versions are also available