Integrating Resources to Drive Business Performance

Dr. Kanchit Malaivongs

Fellow, Royal Institute of Thailand

8 February 2005

Overview

- **Project Management and CMMI**

- **Human Resource Management**

- **Integration of Resources**

- **Eliminate misalignment**

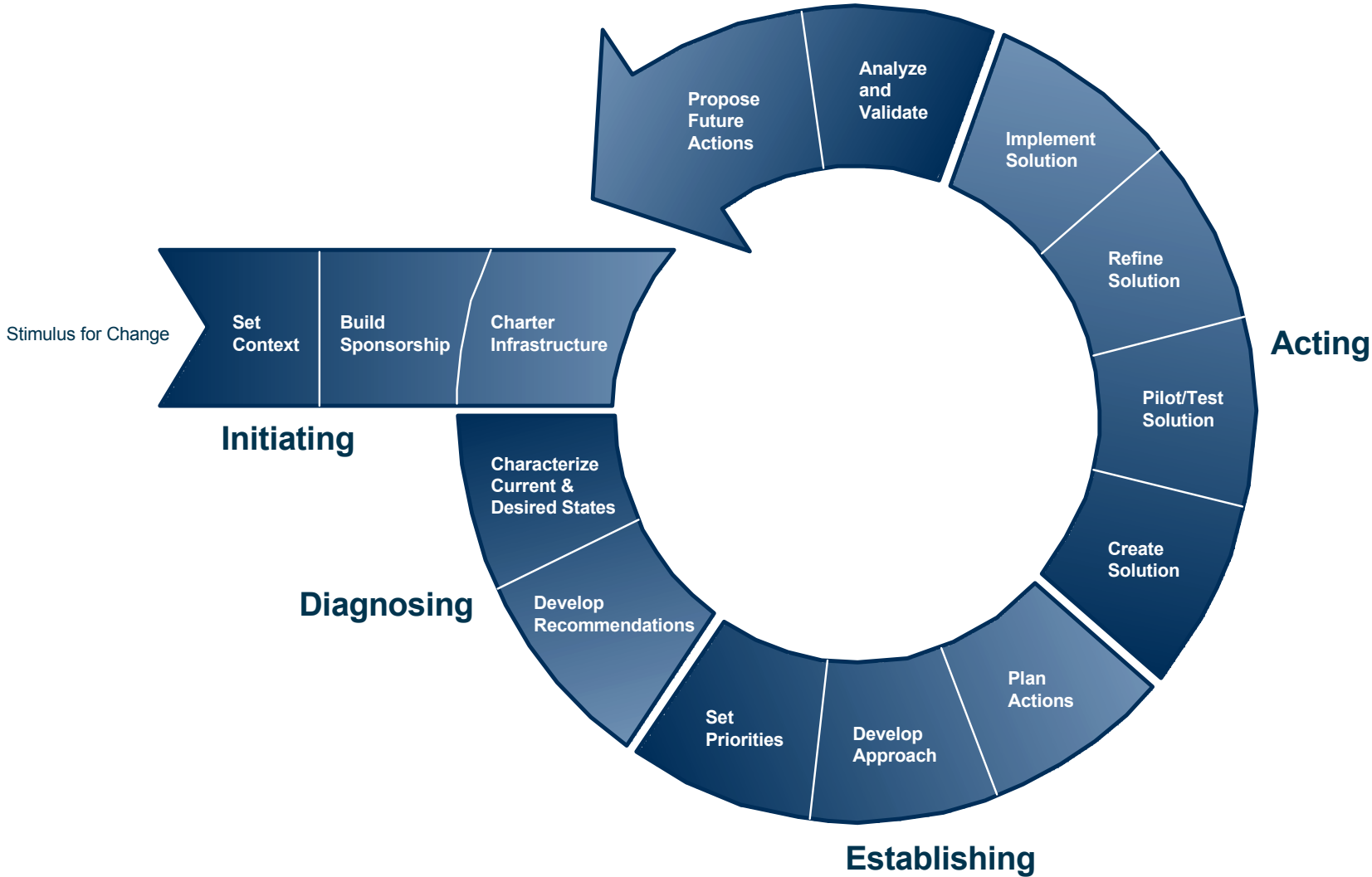- **Successful Integration**

- **Critical Success Factors**

CMMI

- **Capability Maturity Model Integration proposed by the Software Engineering Institute**

- **A new model for process improvement**

- **A substitution for SW-CMM**

- **A mechanism to appraise and measure the process capability in systems and software engineering**

Simple Improvement Processes

- **Determine where you are.**

- **Determine where you want to be.**

- **Make a plan to be at what you want.**

- **Execute the plan and monitor the execution.**

- **Learn lessons and repeat the process.**

- **Another improvement process is <u>P</u>lan <u>D</u>o <u>C</u>heck <u>A</u>ct.**

- **IDEAL^{SM}**

This slide belongs to SEI.

The IDEAL^{SM} Model

Learning

Propose Future Actions

Analyze and Validate

Implement Solution

Refine Solution

Acting

Pilot/Test Solution

Create Solution

Stimulus for Change

Set Context

Build Sponsorship

Charter Infrastructure

Initiating

Characterize Current & Desired States

Develop Recommendations

Diagnosing

Set Priorities

Develop Approach

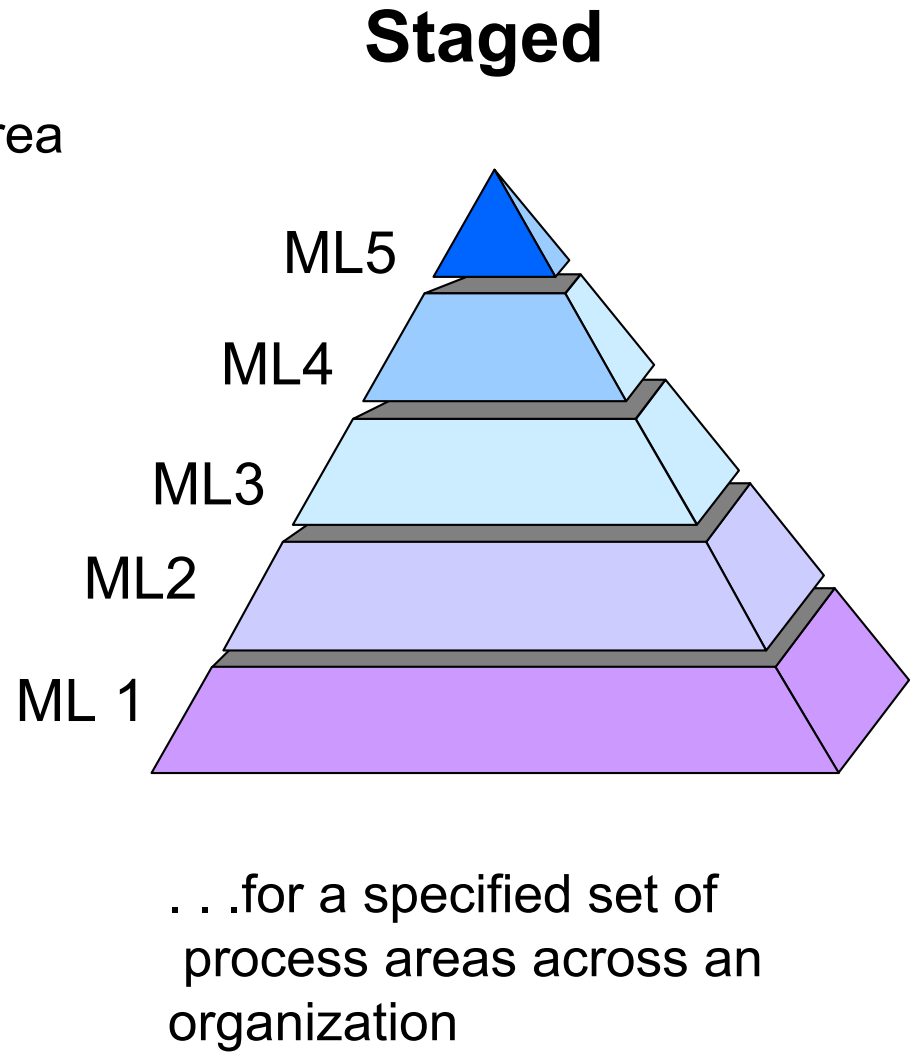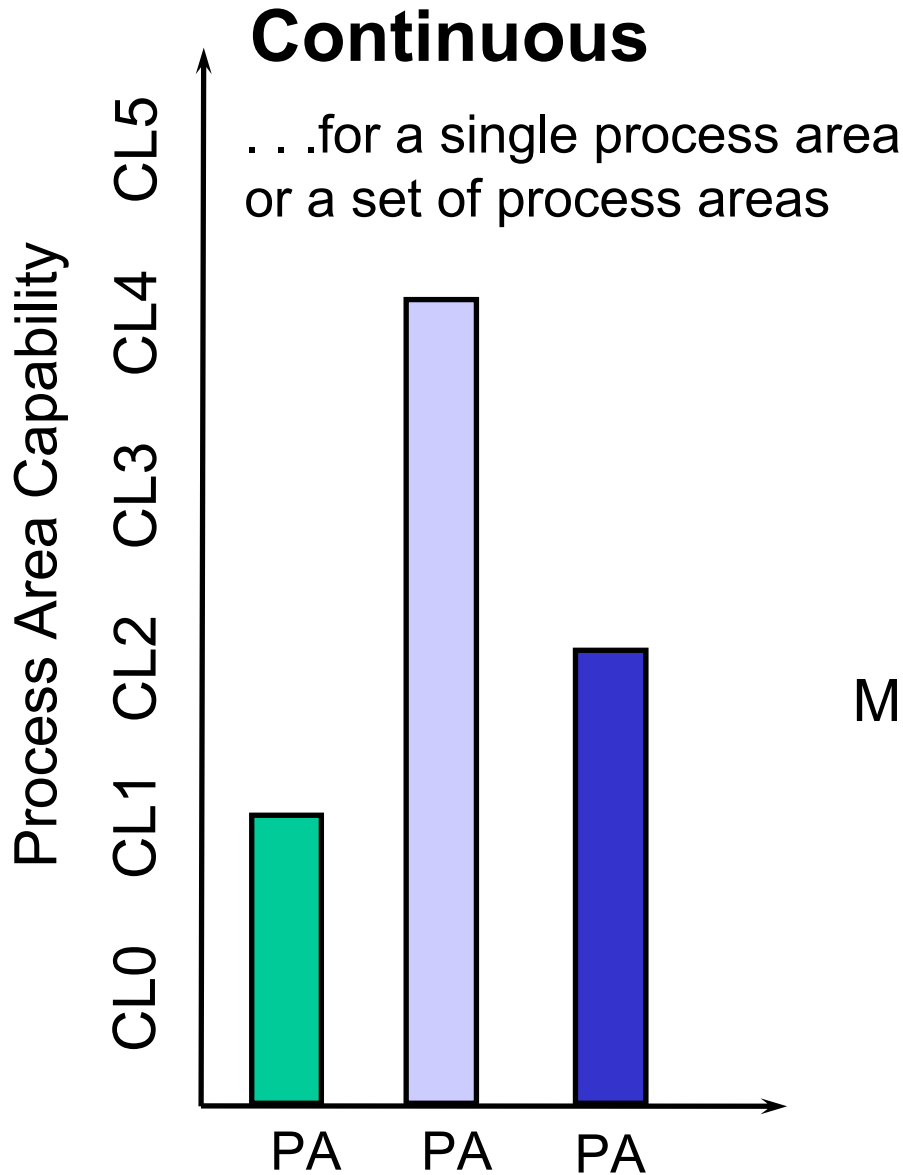Plan Actions

Establishing

^{SM} **IDEAL is a service mark of Carnegie Mellon University.**

CMMI Representations

- **CMMI can be used to improve the processes following two tracks or representations**

- **Staged representations – following the proven steps by improving the given sets of processes.**

- **Continuous representations – select to improve a set of one own's interesting processes.**
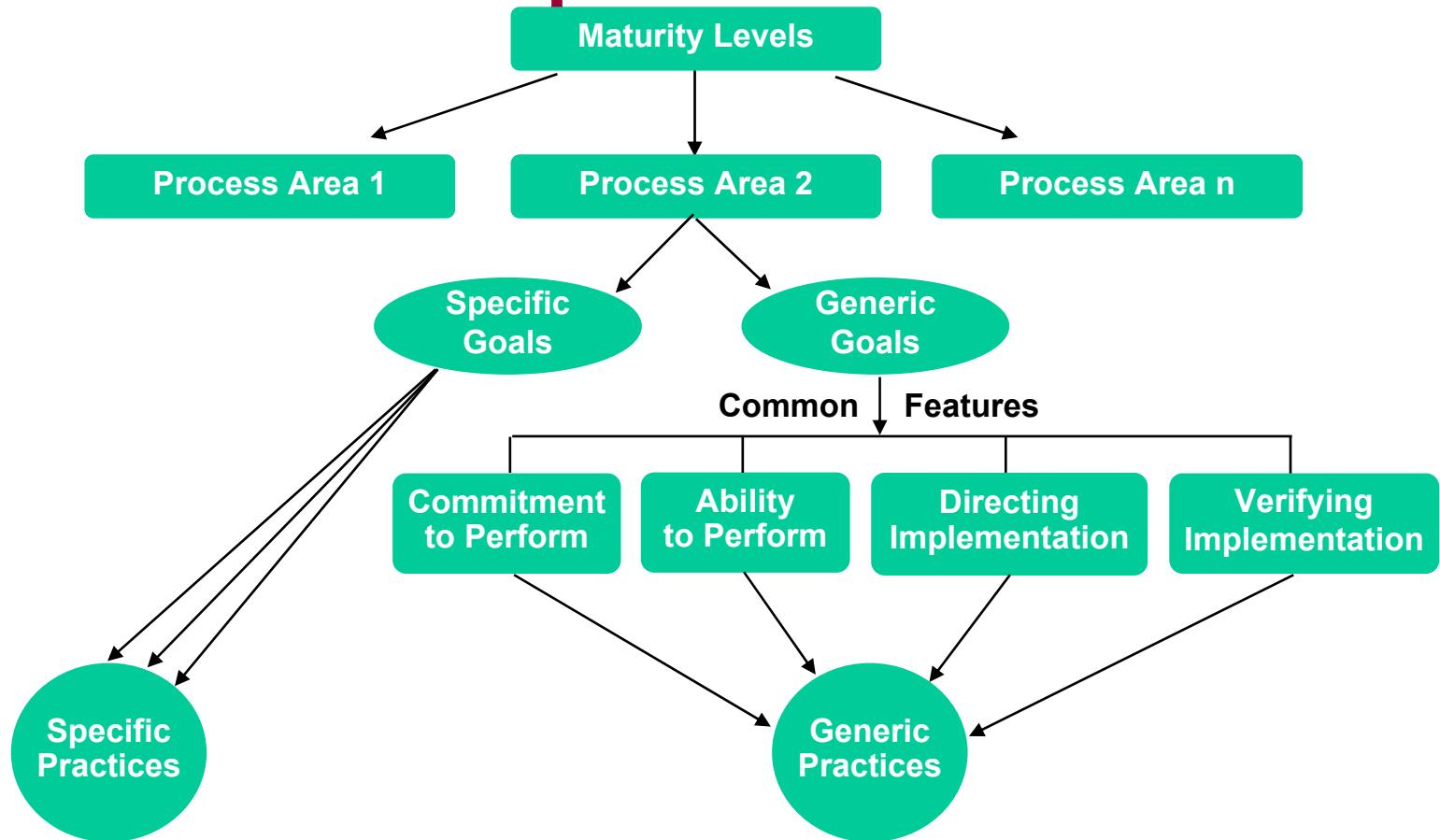
This slide belongs to SEI.

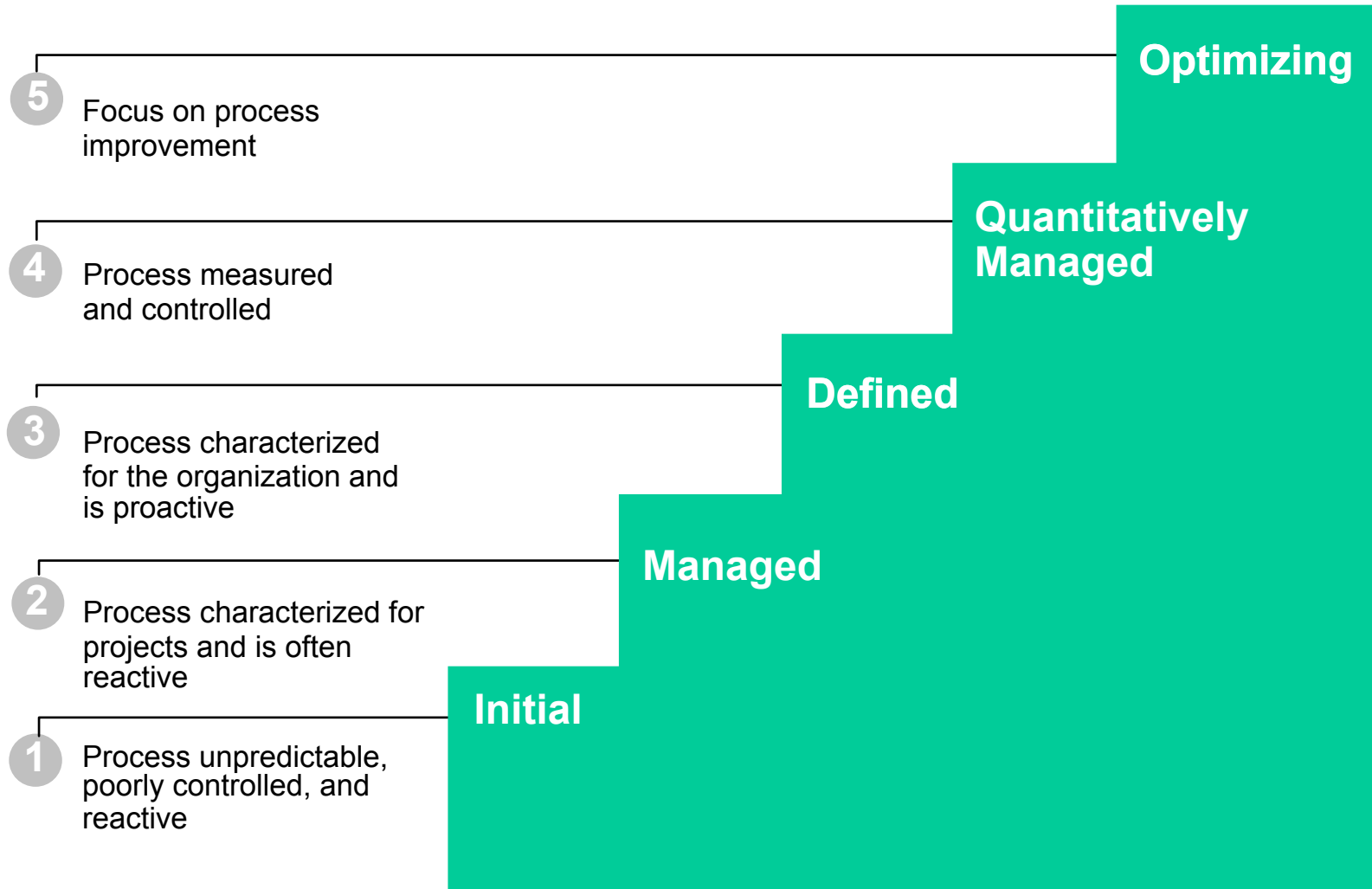| Level	Focus	Process Areas
5 Optimizing	*Continuous Process Improvement*	**Organizational Innovation and Deployment** **Causal Analysis and Resolution**
4 Quantitatively Managed	*Quantitative Management*	**Organizational Process Performance** **Quantitative Project Management**
3 Defined	*Process Standardization*	**Requirements Development** **Technical Solution** **Product Integration** **Verification** **Validation** **Organizational Process Focus** **Organizational Process Definition** **Organizational Training** **Integrated Project Management for IPPD** **Risk Management** **Integrated Teaming** **Integrated Supplier Management** **Decision Analysis and Resolution** **Organizational Environment for Integration**
2 Managed	*Basic Project Management*	**Requirements Management** **Project Planning** **Project Monitoring and Control** **Supplier Agreement Management** **Measurement and Analysis** **Process and Product Quality Assurance** **Configuration Management**
1 Initial		

Quality Productivity

Risk Rework

This slide belongs to SEI.

Model Components in the Staged Representation

The Maturity Levels

Optimizing

(5) Focus on process improvement

Quantitatively Managed

(4) Process measured and controlled

Defined

(3) Process characterized for the organization and is proactive

Managed

(2) Process characterized for projects and is often reactive

Initial

(1) Process unpredictable, poorly controlled, and reactive

How CMMI is related to HR

- **CMMI model emphasizes key practices which are grouped into the following common features:**

- **Commitment to Perform**

- **Ability to Perform**

- **Directing Implementation**

- **Verifying Implementation**

Implications

- **Project must be carried out by people who have ability to conduct the given tasks:**

  – **Project manager**

  – **SA, Programmer, Tester,…**

  – **Quality Assurance**

  – **Configuration management staff (Librarian)**

Ability to Perform

- **Companies must issue policies indicating the intention that they will assign responsibility to only those who have received adequate trainings**

- **Otherwise, the project members must be given trainings and tools before being assigned**

Responsibility must match the processes

- **Project managers must examine the basic experiences and background trainings of all the project staff.**

- **Make sure that they have knowledge and skills required to conduct the tasks**

Process and Product Quality Assurance

- **SG1 Objectively Evaluate Processes and Work Products**

  - SP 1.1 Objectively Evaluate Processes

  - SP 1.2 Objectively Evaluate Work Products and Services

- **SG2 Provide Objective Insight**

  - SP 2.1 Communicate and Ensure Resolution of Noncompliance Issues

  - SP 2.2 Establish Records

Configuration Management

- **SG1 Establish Baselines**

    – **SP 1.1 Identify Configuration Items**

    – **SP 1.2 Establish a Configuration Management System**

    – **SP 1.3 Create a Release Baselines**

- **SG2 Track and Control Changes**

    – **SP 2.1 Track Change Records**

    – **SP 2.2 Control Configuration Items**

- **SG3 Establish Integrity**

    – **SP 3.1 Establish Configuration Management Records**

    – **SP 3.2 Perform Configuration Audits**

Integration of Resources

- **CMMI also emphasizes Integration**

- **Maturity Level 3 provides several mechanism to handle integration**

  - **Integrated Project Management**

  - **Integrated Supplier Management**

  - **Integrated Teaming**

  - **Product Integration**

What does it mean by Integration?

- **Successful integration of business and technical elements in projects is dependent on substantive and proactive organizational processes and guidelines.**

- **The organization must be capable of providing and sustaining people, products, and processes for efficient execution of its projects.**

Organizational Environment for Integration

- **People trained to exploit the collaborative environment as an integrated team**

- **A workplace with adequate resources**

- **Standard processes and organizational process assets**

- **Rewards**

SG1- Provide IPPD Infrastructures

- **Establish the Organization's Shared Vision**

- **Establish an Integrated Work Environment**

- **Identify IPPD-Unique Skill Requirements**

SG2- Manage People for Integration

- **Establish Leadership Mechanisms**

- **Establish Incentives for Integration**

- **Establish Mechanisms to Balance Team and Home Organization Responsibilities**

Eliminate Mis-alignment

- **Project Manager must oversee the development of Organizational Environment for Integration**

- **This can be done by following the following key practices**

Crucial Key Practices

- **Establish and maintain an organizational policy for planning and performing OEI**

- **Establish and maintain the plan for performing the OEI**

Crucial Key Practices 2

- **Provide adequate resources, for examples:**

    - **Prototyping tools**

    - **Work space**

    - **Office equipment and supplies**

    - **Transportation resources**

    - **Support staff and/or services**

Crucial Key Practices 3

- **Assign responsibility and authority for performing the process, developing the work products, and providing the services of OEI**

- **Train the people performing or supporting the OEI**

Crucial Key Practices 4

- **Place designated work products of the OEI under appropriate levels of CM**

- **Identify and involve the relevant stakeholders**

- **Monitor and control OEI against plan and take appropriate corrective action**

Crucial Key Practices 5

- **Objectively evaluate adherence of the OEI against its process description, standards, and procedures, and address noncompliance**

- **Review the activities, status, and results of the OEI with higher level management and resolve issues**

Critical Success Factors

- **Integration of resources is considered to be successful if the Organization can produce:**

  – **Organization's Shared Vision**

  – **Evaluations of the organization's shared vision**

  – **Guidelines for shared vision building within projects and integrated teams**

Conclusion

- **Preparing resources for Project is important**

- **CMMI provides proven guidelines for Project Management**

- **Integration is a part of Maturity Level 3**

- **OEI is the process to prepare for integration**

Questions

- **The speaker is willing to answer the questions related to this lecture:**