A Holistic Approach to Process Improvement Using the People CMM and the CMMI-DEV: Technology Process, People, & Culture, The Holistic Quadripartite

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Tutorial Premise

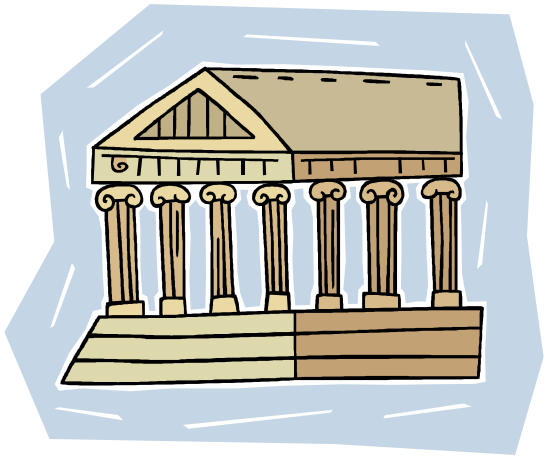
In today's technologically focused and global world, organizations are increasingly reliant on technology, process, and people to develop their products and deliver their services. The importance of technology, process, and people, the "process triangle", to any successful process improvement initiative has long been recognized.

We would like to expand this relationship to include another piece of the organization puzzle that plays just as important of a role as those in the process triangle, the organizational culture. It is important to consider all four (technology, process, people, and culture) as an integrated, complementary, and synergistic system when implementing a process improvement program. In fact, together the "holistic quadripartite" provides the components of a holistic approach to process improvement.

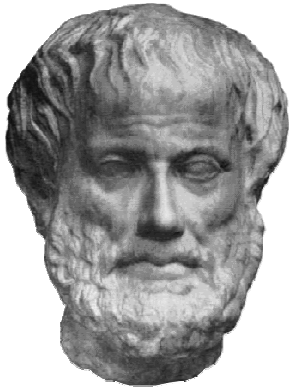
Agenda

1. Holistic Approach to Process Improvement
2. Understanding the New Element: Organizational Culture
3. Overview of the People CMM
4. Overview of the CMMI-DEV
5. Example

Holism: Definition and Meaning



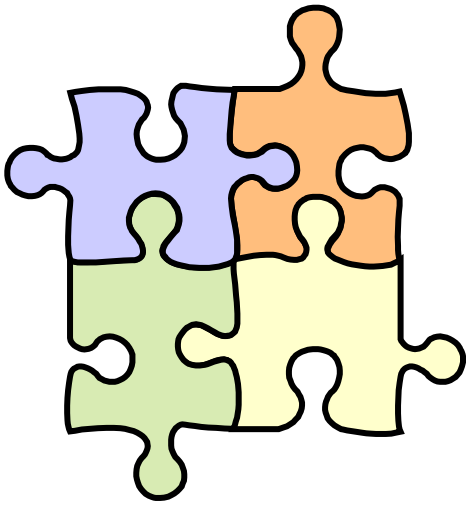
Holism (from *ὅλος holos*, a Greek word meaning *all*, *entire*, *total*) is the idea that all the properties of a given system (biological, chemical, social, economic, mental, linguistic, etc.) cannot be determined or explained by the sum of its component parts alone. Instead, the system as a whole determines in an important way how the parts behave.



"The whole is more than the sum of its parts"

Aristotle - *Metaphysica*

Holistic Approach



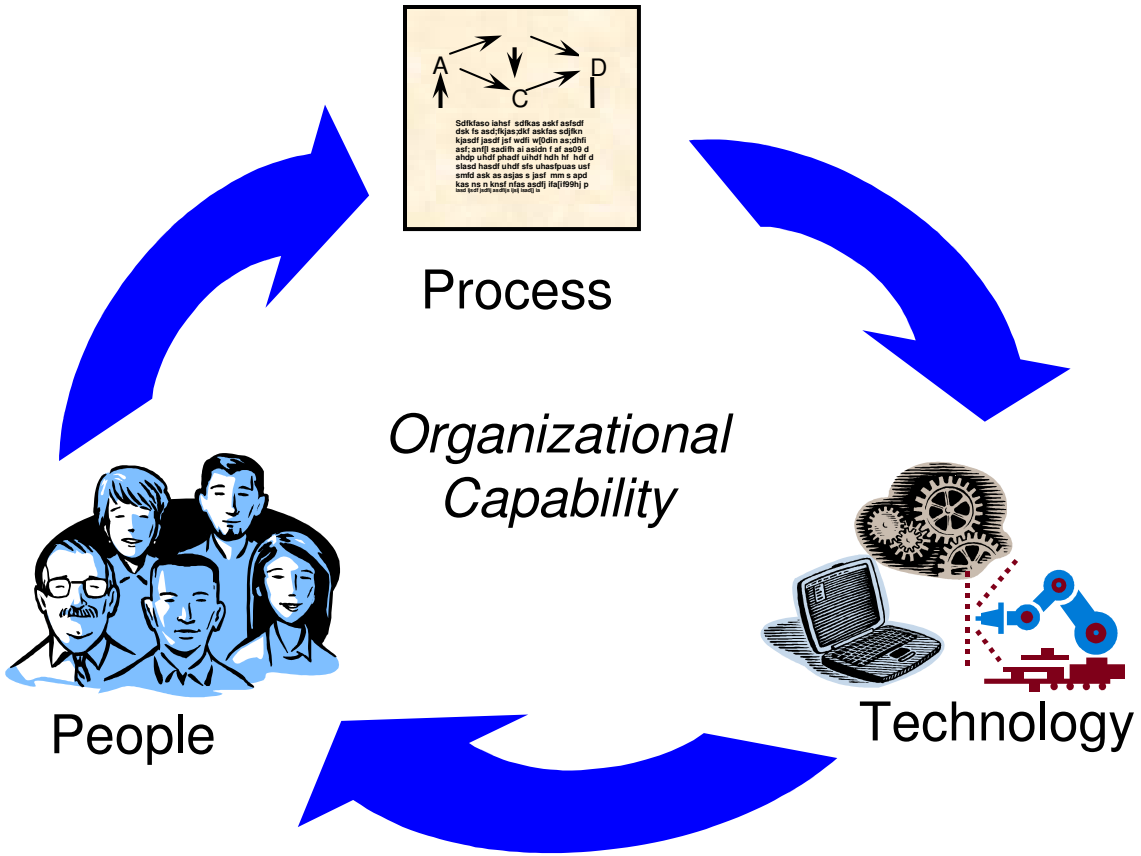
A holistic approach to process improvement consider the organization as a whole.

A holistic perspective presumes everything is connected and it is important to understand how and why the parts combine to make a whole.

The organization is a complex system that can not be understood by only examining the parts (process, technology, people, economic, social, ideological, etc), it is also how the parts interact and combine to make the whole.

Focus of Process Improvement Efforts

To increase organizational capability on multiple levels, organizations typically focus on three areas of improvement

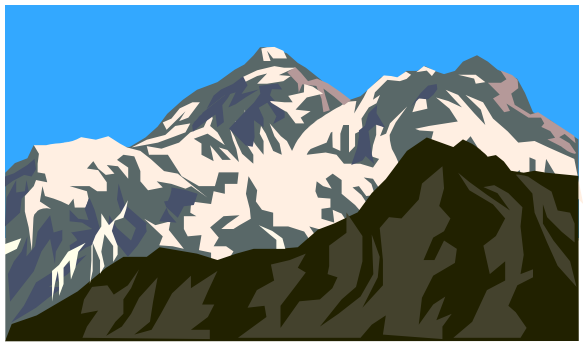


Additional Element: Organizational Culture

The organizational culture is the environment:

- in which process improvement is initiated and executed
- in which process, people, and technology interact (in harmony and in discord)

The organizational culture places process improvement activities into context.



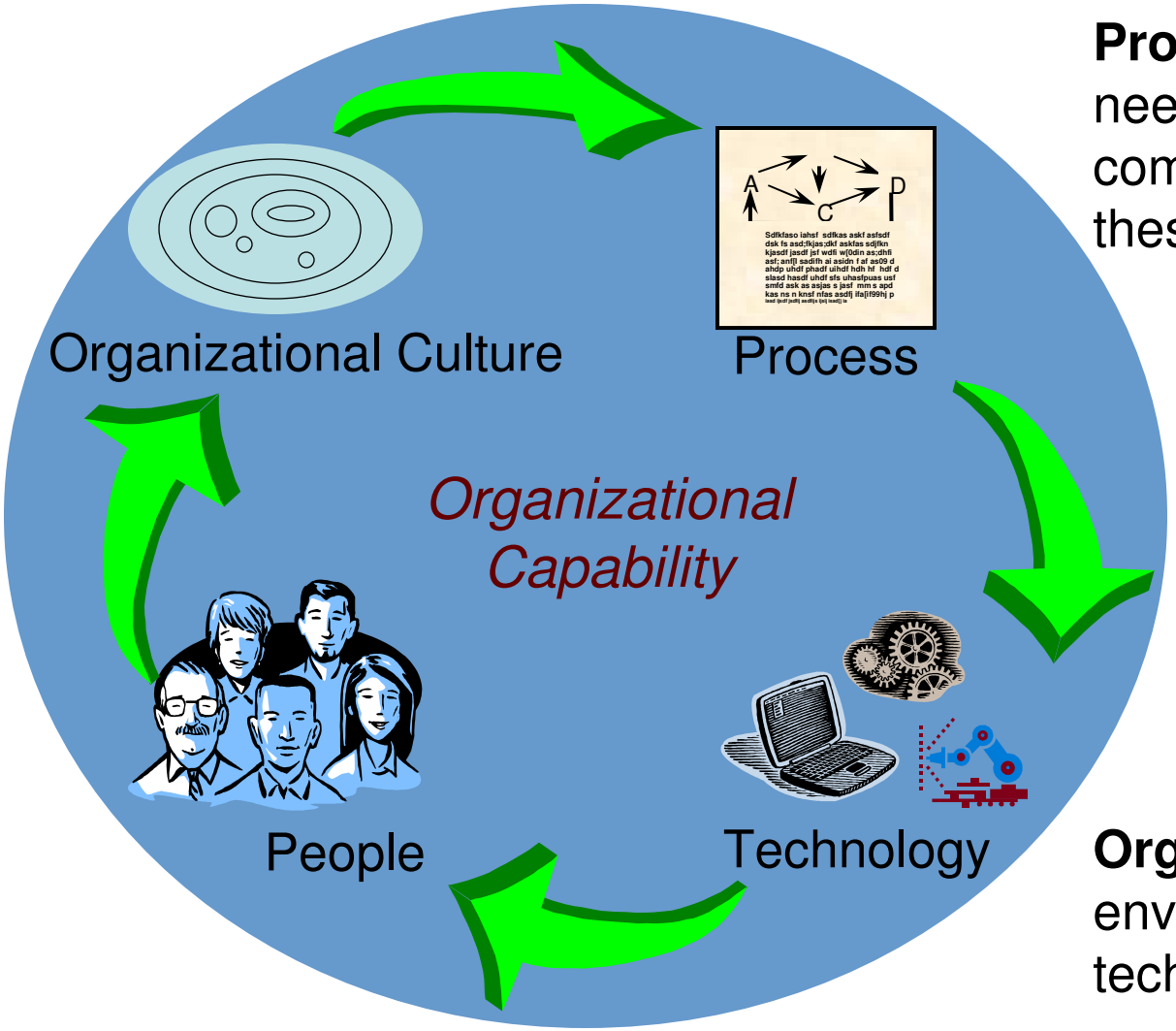
The Importance of Context

Context is the interrelated conditions in which something exists or occurs such as the environmental setting.
(Webster online dictionary)

Process improvement activities should be examined and understood in context to understand how they relate to the cultural system of the organization in which they will be implemented.

Context when viewed as an analytical tool, provides a method for determining possible meaning to activities, artifacts, and behaviors.

Holistic Quadripartite



Process: address the business needs and the workforce and competencies required to meet these

Technology: address the tools and techniques used to communicate and to make the work efficient

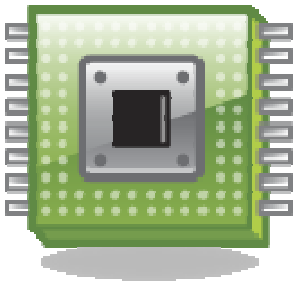
People: bring knowledge, skills, and process abilities "competencies"

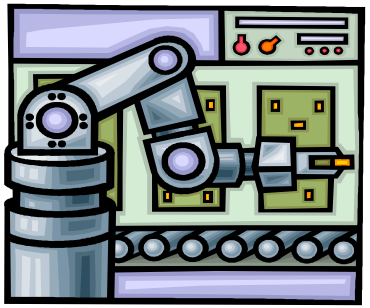
Organizational Culture: is the environment in which process, technology, and people interact

Importance of the Holistic Quadripartite in Process Improvement - 1

A major goal of process improvement is to increase an organization's business performance which enables the enhanced delivery of products and services and the ability to better meet a product's and service's cost, schedule, and quality.

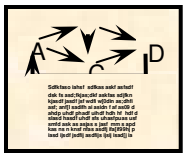
In today's global economy, organizations are largely dependent on high-technology to build their products and services. This environment can be characterized as one that is rapidly changing, highly competitive, and in some cases volatile.



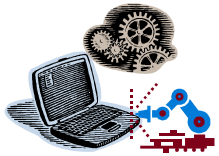


Importance of the Holistic Quadripartite in Process Improvement - 2

To implement process improvement activities that are enduring organizations need:

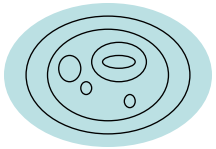


the ability to manage and control the complex development, delivery, and maintaince **process**



monitor changes in technology and deploy effective tools and **technology** to communicate and make the work efficient

a **workforce** that has the appropriate knowledge, skills, and process abilities (competencies) that are adaptable to rapid changes in a technological environment

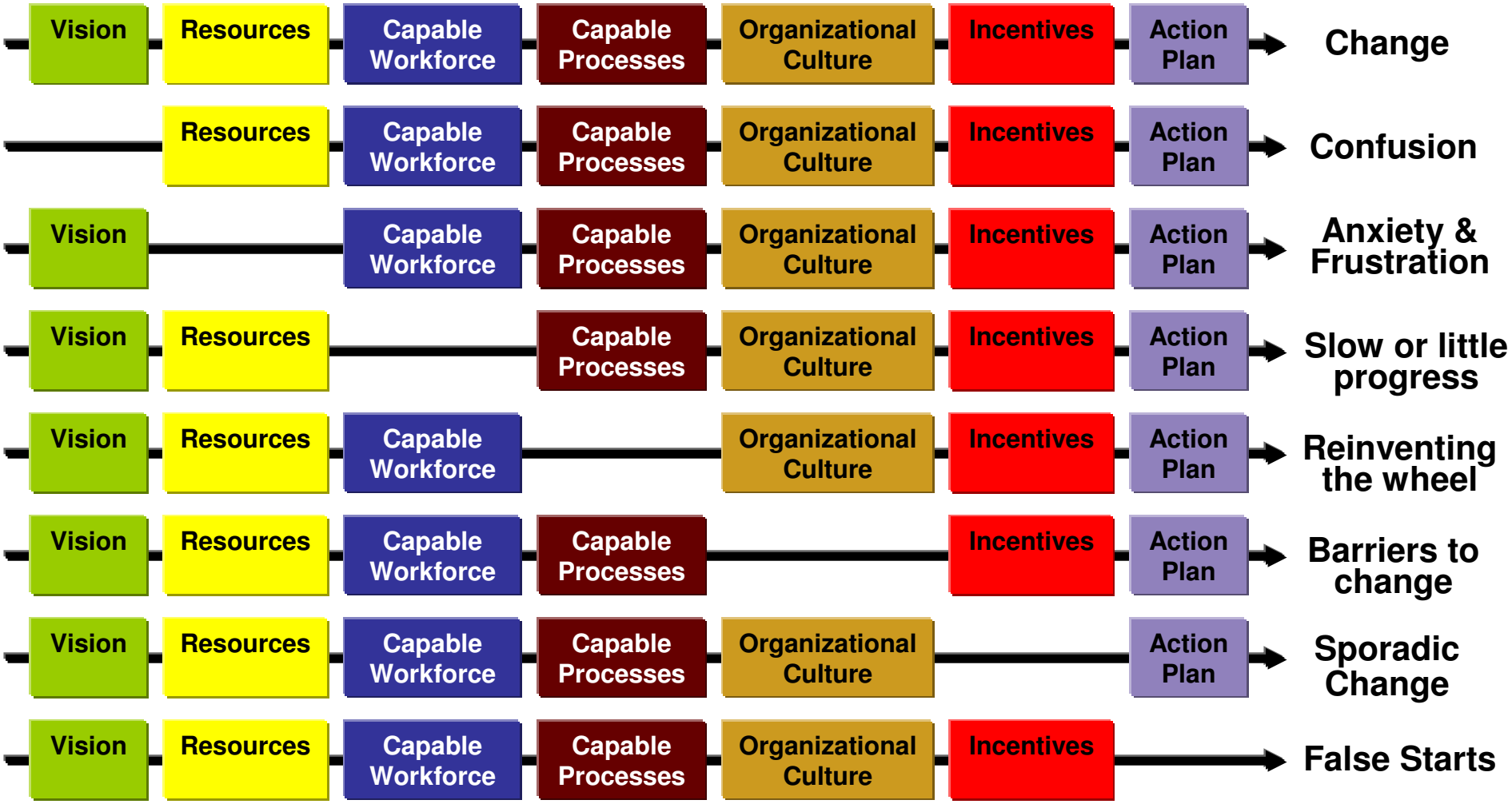


an **organizational culture** (economic, political, structural, language, communication mechanism, and subsistence patterns) that supports a rapidly changing and potential volatile market

Elements of Change

Vision	=	Established, communicated, and supported by Executive Management
Resources	=	Time, money, and work environment (tools, space, etc.)
Capable Workforce	=	Knowledge, skills, and process abilities (competencies)
Capable Processes	=	To manage and control the complex development, delivery, and maintenance process
Organizational Culture	=	That is supportive of improvement efforts and is in alignment with business goals and objectives
Incentives	=	Rewards and recognitions to reinforce participation and behaviors
Action Plan	=	A plan that is implemented, monitored, and check

Improvement Efforts: Missing Elements of Change



Adapted from: Delorise Ambrose, 1987. Personal communication.

Understanding the New Element: Organizational Culture

Concept of Culture

Culture represents the way of life of a group of people, it is socially transmitted knowledge and behavioral patterns shared by a group of people, and is a complex system composed of learned behavior, ideas, norms, symbols, and values that human beings acquire to become members of a society.

Culture is fluid

Culture is learned, shared, and is essential to human life and is found universally throughout the world.

Another Definition of Culture

Culture is the organization's collective pattern of behaviors, values, and "unwritten rules" that develop over time.

from SEI's Managing Technological Change

The **behaviors** are the observable part of what we see on a day-to-day basis. (shared basic assumptions)

Values are the organization's expectations and beliefs including:

- **Integrity, openness, honesty, loyalty**

The **"unwritten rules"** are the **"norms" of** behavior.

Culture impacts your policies, procedures, operations, and day to day actions of employees.

Culture is "that's the way we do things around here…"

Defining Cultural Terms

Cultural relativism is to understand cultures in terms of their values and beliefs and not judging them by the standards of another culture.

When people judge other cultures by the standards of their own it is call **ethnocentrism** "ethnocentric".

Enculturation is the way we learn the language, symbols, behaviors, norms, and values of our primary birth culture.

Acculturation represented the changes that occur when one or more cultures interact and aspects of one or both of the cultures changes. The cultural changes incorporated or borrowed are often from the larger and dominant culture.

Cultural Knowledge enables members of the same culture to behave in ways that are meaningful and understandable to each other. It is composed of norms, values, collective understandings, classifications of reality, and world views.

A **Norm** is a generally agreed-upon standard for how people should behave, usually unwritten and learned unconsciously.

Culture at an Individual Level

Everyone is part of a ***complex cultural system*** and individuals are shaped by that system.

The ***enculturation*** process begins at birth.

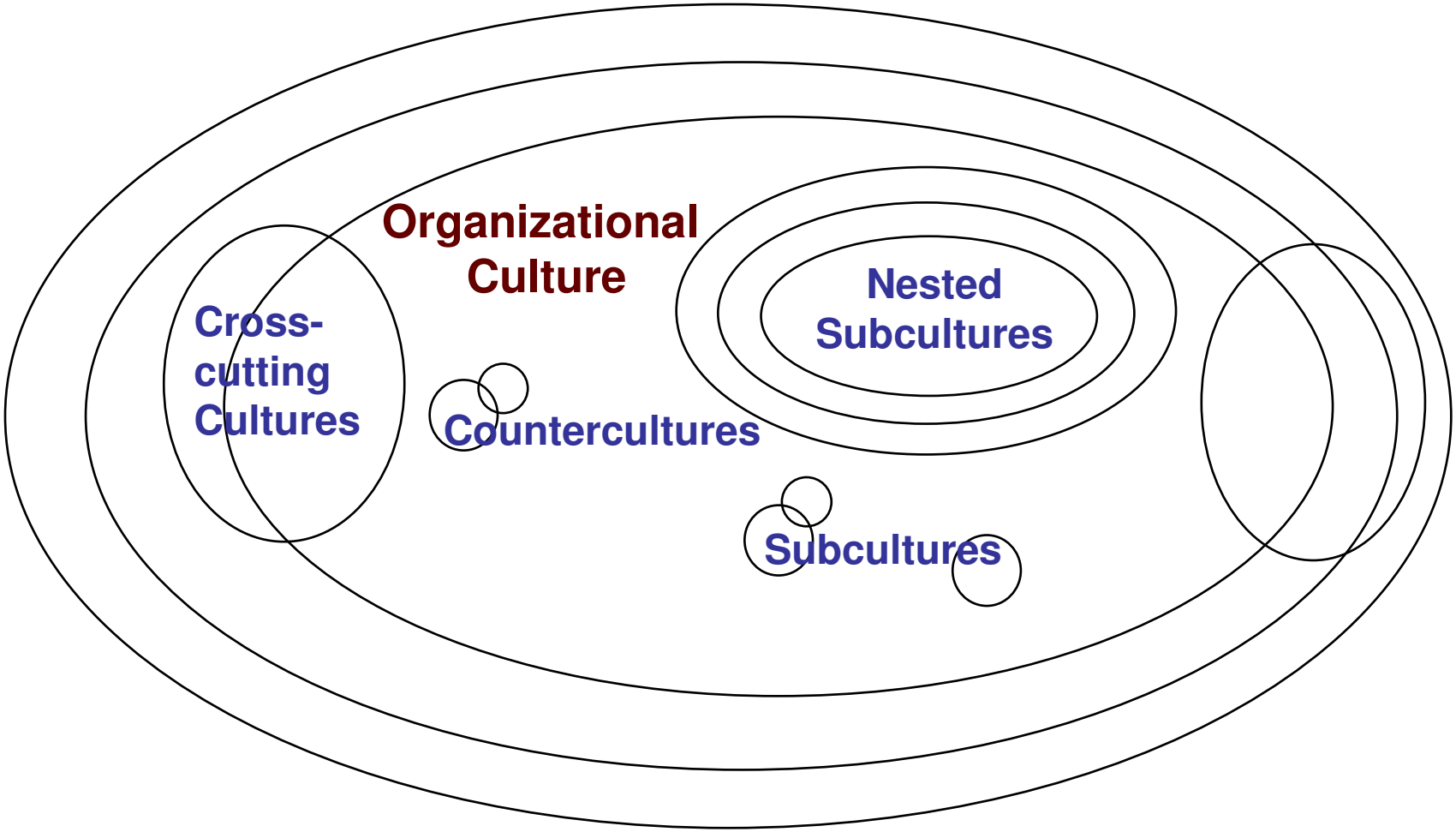
Members of the same culture share knowledge that enables them to behave in ways that are meaningful and acceptable to others (***cultural knowledge***).

Primary Culture

Regional Culture

National Culture

Organizational Culture: Complex Web of Interacting Cultures



After (Jordon 2003:87)

Organizational Culture: Composition

Subcultures

- Organizational Units
- Management
- Empowered Workgroups

Nested Subcultures

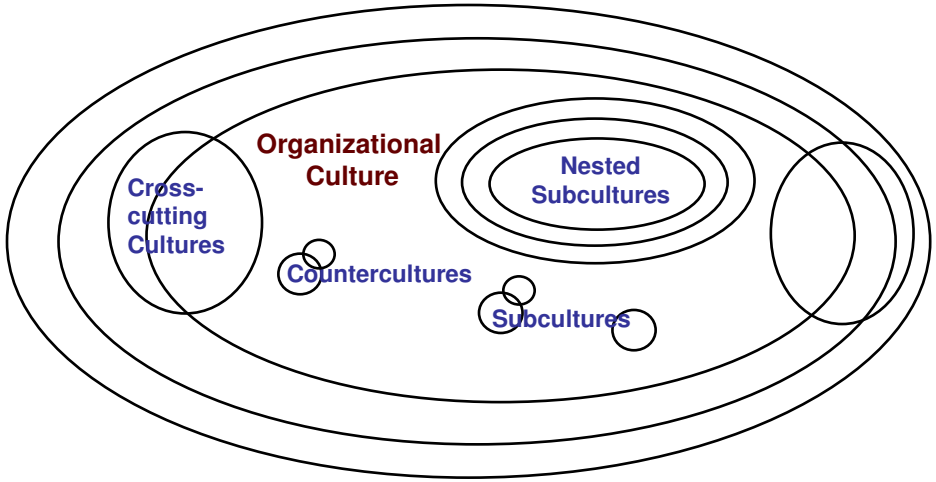
- Consulting Division
  - Process Improvement
  - Accounting

Crosscutting Cultures

- Gender
- Ethnic
- Administrative Staff
- Occupational Cultures (Engineers, Accountants, etc.)

Countercultures

- Cultural Deviance



The organization is part of a larger cultural system

Regional culture

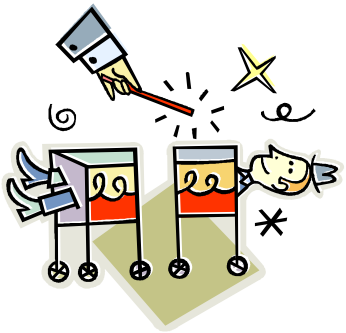
National culture

Industry culture

Organizations and Culture

Similar to societies, Organizational Cultures are complex systems with:

- **Subsistence patterns** (type of technology and division of labor)
- **Religion and Magic** (values, goals, ceremonies, and myths)
- **Social Structure** (groupings outside formal structure)
- **Political system** (structure, power, hierarchy, etc.)
- **Economic system** (rewards and recognitions)
- **Language** (forms of communication)
- **Symbolism** (logos, building, furniture, and other artifacts)

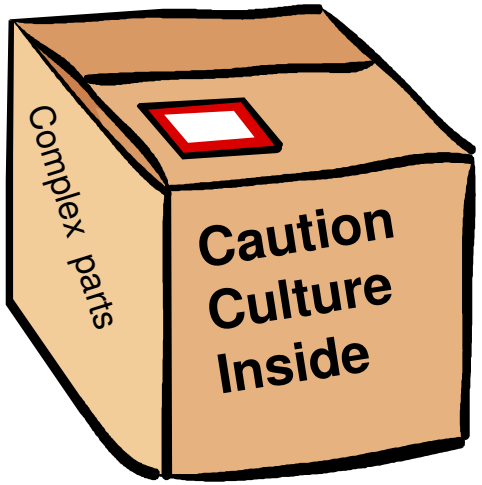


Jordon 2003:88

Organizational Culture: Attributes

An organizational culture

- is not perfectly integrated
- is not clearly bounded
- is not an isolated entity
- is a product of history
- can change and cause change
- is strengthened by values
- is a powerful determinant of behavior
- is largely composed of transmitted symbols

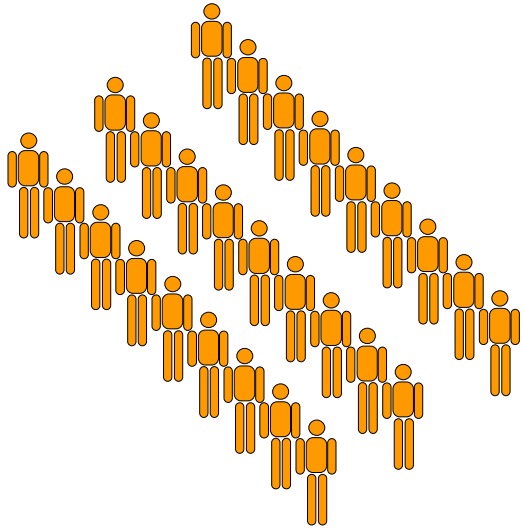


Omohundro's (2008)

Adding to the Organizational Mix

The workforce of an organization represents a mix of complex cultural systems

- ethnic
- gender
- educational background
- religion
- regional culture
- national culture



Adding to the complex mix:

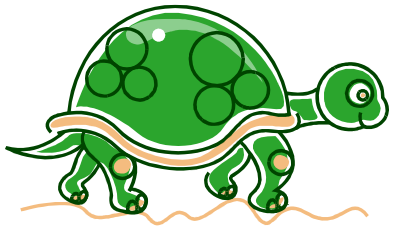
- organizational culture of their previous position

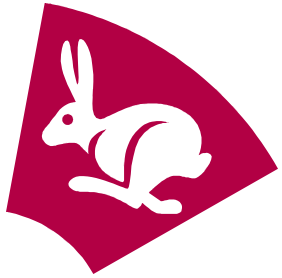
Organizations and Adaptation

Organizational Culture is fluid and is typically adaptive to changes in its environment.

It is the speed of the adaptability that organizations should be concerned with.

- **Does the organization's business occur in a rapidly changing market?**
- **Is the organization's culture an impediment to changes in the market, technology, or process?**





Organizational Culture: Positives and Negative - 1

Positive	Negative
Organization establishes, documents and clearly communicates the business objectives, values and attributes it wants reflected in the organization	Individuals create their own interpretation of the organizations business objectives and the values and behaviors it wants reflected. This may cause misalignment
Organizational policies and practices should be in alignment with and reflect and support the organizational stated values and business objectives.	Misalignment will send conflicting messages to all levels in the organization regarding the values and the behavior valued by the organization
Define terms used in policies, procedures, processes, and practices	Individuals may not define terms in alignment with organization
Management should reflect the values espoused by the organization "walk the walk, talk the talk"	Sends conflicting message which in turn can lead to a breakdown of the values the organization would like reflected in its employees. Behavior is learned.
Organization creates, facilitates, and maintains open lines of communication	Open lines of communication reduce confusion and misinterpretations

Organizational Culture: Positives and Negative - 2

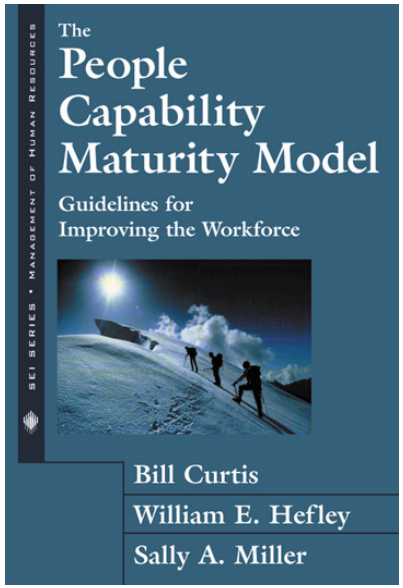
Positive	Negative
Performance Management system should included measurable objectives that reinforces the values and behaviors of the organization	Performance management can lean toward favoritism and rewarding behavior that does not reflect organization values causing confusion.
Compensation system should reinforce behavior that are in alignment with the organizations values and business objectives	Rewarding or compensating for behavior that does not reflect the organizations values sends conflicting message.
Organization, unit, and project orientation should be provided for employees transitioning into and around the organization; facilitates the enculturation process and reduces confusion, ethnocentrism, and aligns behaviors	"First impressions are often lasting" People bring their cultural baggage from their previous position. May decrease the enculturation process and may lead to a misalignment of behaviors

The People Capability Maturity Model: Overview

People CMM: Introduction

The People CMM is a roadmap for implementing workforce practices that continuously improve the capability of an organization's workforce.

- **Develop workforce required to execute business strategy**
- **Characterize maturity of workforce practices**
- **Set priorities for improving workforce capability**
- **Integrate improvements in process and workforce**
- **Align workforce development with strategic business objectives**
- **Become an employer of choice**



Curtis, Hefley, & Miller (2001)

Integrated System of Workforce Practices

The People CMM consists of an integrated system of practices that are introduced in stages. Each progressive level introduces increasingly complex practices that build and expand upon those implemented at a lower level.

The integrated system of practices are designed to help an organization to attract, develop, organize, motivate, and retain the workforce required to build their products and delivery the services. This integrated system also ensures alignment with the organization's culture, business objectives, performance, and changing needs.

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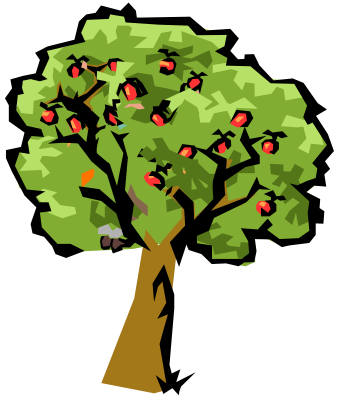


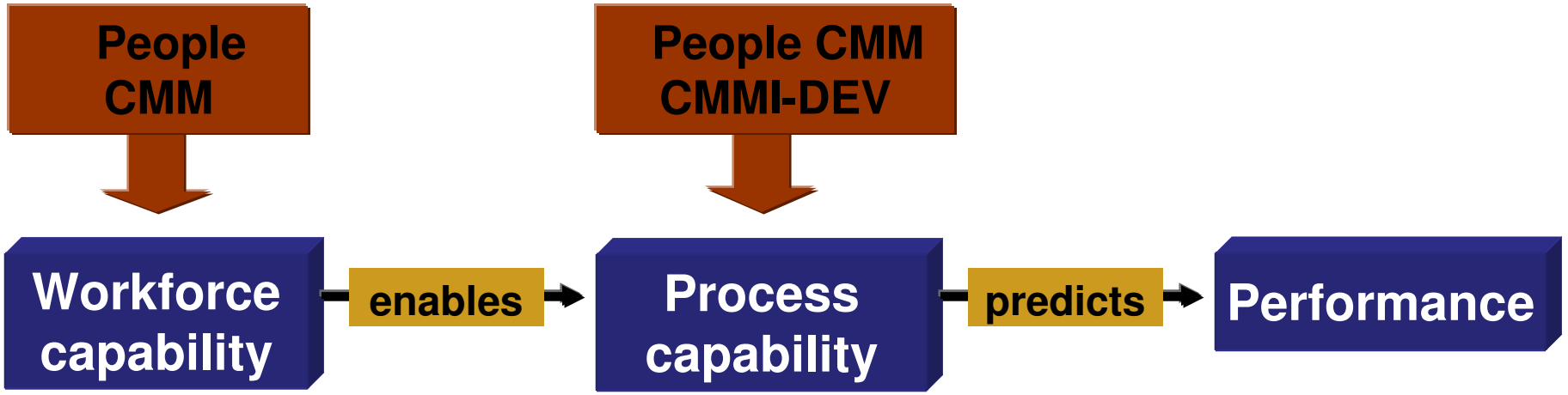
A **System** is a regularly interacting or interdependent group of items forming a unified whole. (Merriam-Webster online dictionary)

Integration represents the act or process of bringing together parts to combine and function as a whole.

People Capability Maturity Model: Primary Objective

The primary objective of the People CMM is to improve the **capability** of an organization's workforce.

Capability is defined as the **level** of **knowledge**, **skills**, and **process abilities** available within each competency of the organization to build its products or deliver its services.



People CMM: Important Terms & Definitions

Knowledge represents the comprehension acquired by experience and or study; it is the information and understanding that someone must have to perform a task successfully. Knowledge provides the basis for performing a skill.

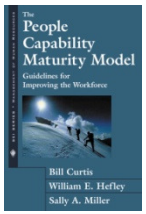
Skills represents the proficiencies that an individual must be able to demonstrate in order to accomplish committed work. Skills may involve behaviors that directly accomplish the task or that provide support of, or coordination with, others involved in accomplishing committed work.

Process abilities is the capacity to perform individual skills in the sequencing or method used in the organization. It also represents an individual's capacity to apply knowledge and perform skills in the context of the organization's defined, competency-based processes.

Guiding Principles of the People CMM - 1

The ten People CMM v.2 principles that summarize the People CMM philosophy.

1. **In mature organizations, workforce capability is directly related to business performance.**
2. **Workforce capability is a competitive issue and a source of strategic advantage.**
3. **Workforce capability must be defined in relation to the organization's strategic business objectives.**
4. **Knowledge-intense work shifts the focus from job elements to workforce competencies.**
5. **Capability can be measured and improved at multiple levels, including individuals, workgroups, workforce competencies, and the organization.**



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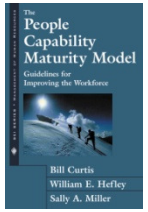
Guiding Principles of the People CMM - 2

6. An organization should invest in improving the capability of those workforce competencies that are critical to its core competency as a business.
7. Operational management is responsible for the capability of the workforce.
8. The improvement of workforce capability can be pursued as a process composed from proven practices and procedures.
9. The organization is responsible for providing improvement opportunities, while individuals are responsible for taking advantage of them.
10. Since technologies and organizational forms evolve rapidly, organizations must continually evolve their workforce practices and develop new workforce competencies.



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People CMM Version 2

Levels	Focus	Process Areas
Level 5	Capability & performance are continually improved and aligned	Continuous Workforce Innovation Organizational Performance Alignment Continuous Capability Improvement
Level 4	Capability is managed quantitatively and the organization exploits opportunities for improvement in its competency framework	Mentoring Organizational Capability Management Quantitative Performance Management Empowered Workgroups Competency-Based Assets Competency Integration
Level 3	Organization develops a framework of workforce competencies required to accomplish its business objectives	Participatory Culture Workgroup Development Competency-Based Practices Career Development Competency Development Workforce Planning Competency Analysis
Level 2	Stabilize environment, implement basic workforce practices and getting managers to take responsibility for managing and developing their people	Compensation Training and Development Performance Management Work Environment Communication and Coordination Staffing
Level 1		

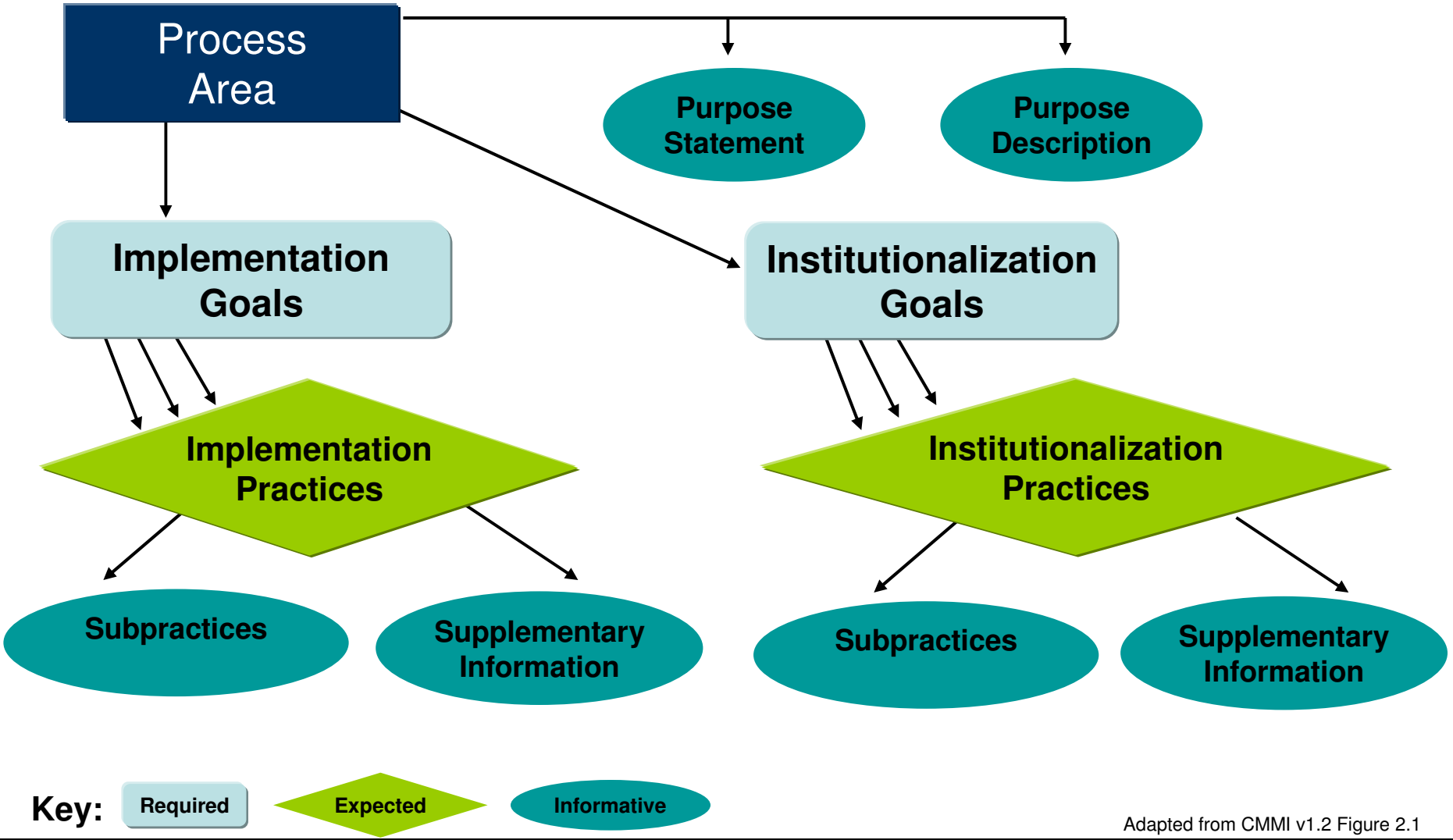
People CMM Objectives

Levels	CMM Objectives
5 Optimizing	Continuously improve capability and performance within the framework
4 Predictable	Manage and exploit the capability of the framework
3 Defined	Establish a common organizational framework based on competencies
2 Managed	Create a management foundation within units

People CMM Transformations

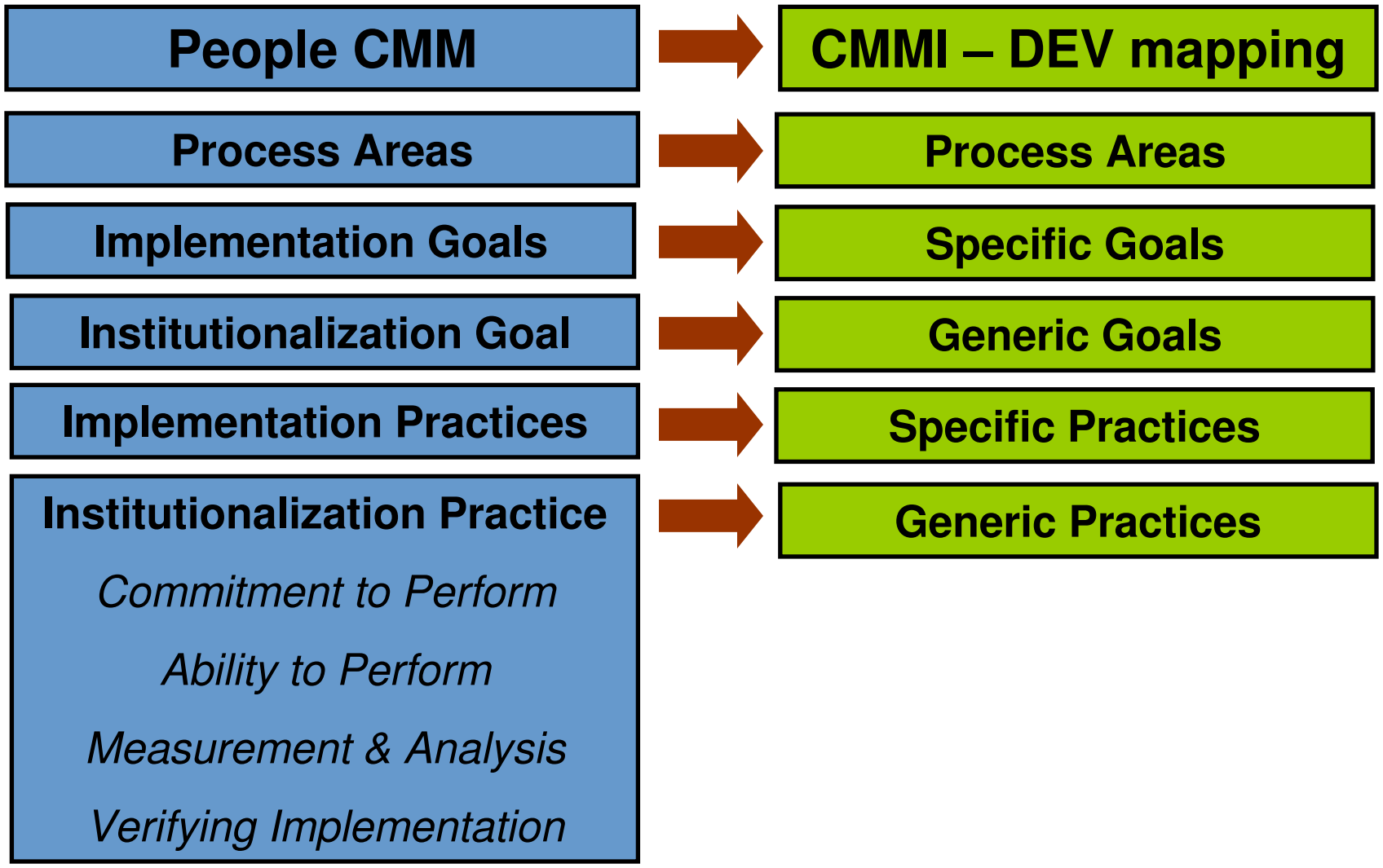
Level	Focus for Transformation
5 - Optimizing	All levels Objectives and opportunity Continuous Improvement
4 - Predictable	Competency community level Quantitative capability Exploit competency framework
3 - Defined	Organizational level Workforce Competency architecture
2 - Managed	Unit level Management Basic practices

People CMM Model Components



Adapted from CMMI v1.2 Figure 2.1

People CMM and CMMI-DEV Component Mapping



Process Area Integration Across Levels

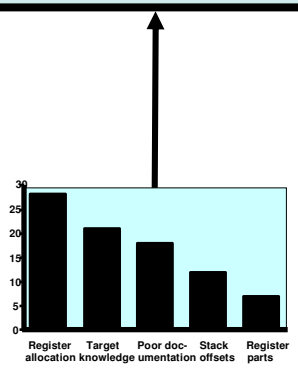
Levels	People CMM Threads			
	Developing Capability & Competency	Building Workgroups & Culture	Motivating & Managing Performance	Shaping the Workforce
5 Optimizing	Continuous Capability Improvement		Organizational Performance Alignment	Continuous Workforce Innovation
4 Predictable	Mentoring Competency Based Assets	Competency Integration Empowered Workgroups	Quantitative Performance Management	Organizational Capability Management
3 Defined	Competency Development Competency Analysis	Workgroup Development Participatory Culture	Competency Based Practices Career Development	Workforce Planning
2 Managed	Training and Development	Communication & Coordination	Compensation Performance Management Work Environment	Staffing

Shaping the Workforce

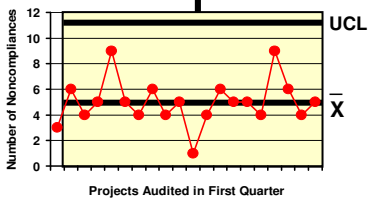
Level 2	Level 3	Level 4	Level 5
Managed by unit needs	Managed by competency needs	Managed by the numbers	Managed by innovative practices

Manager

Competency community

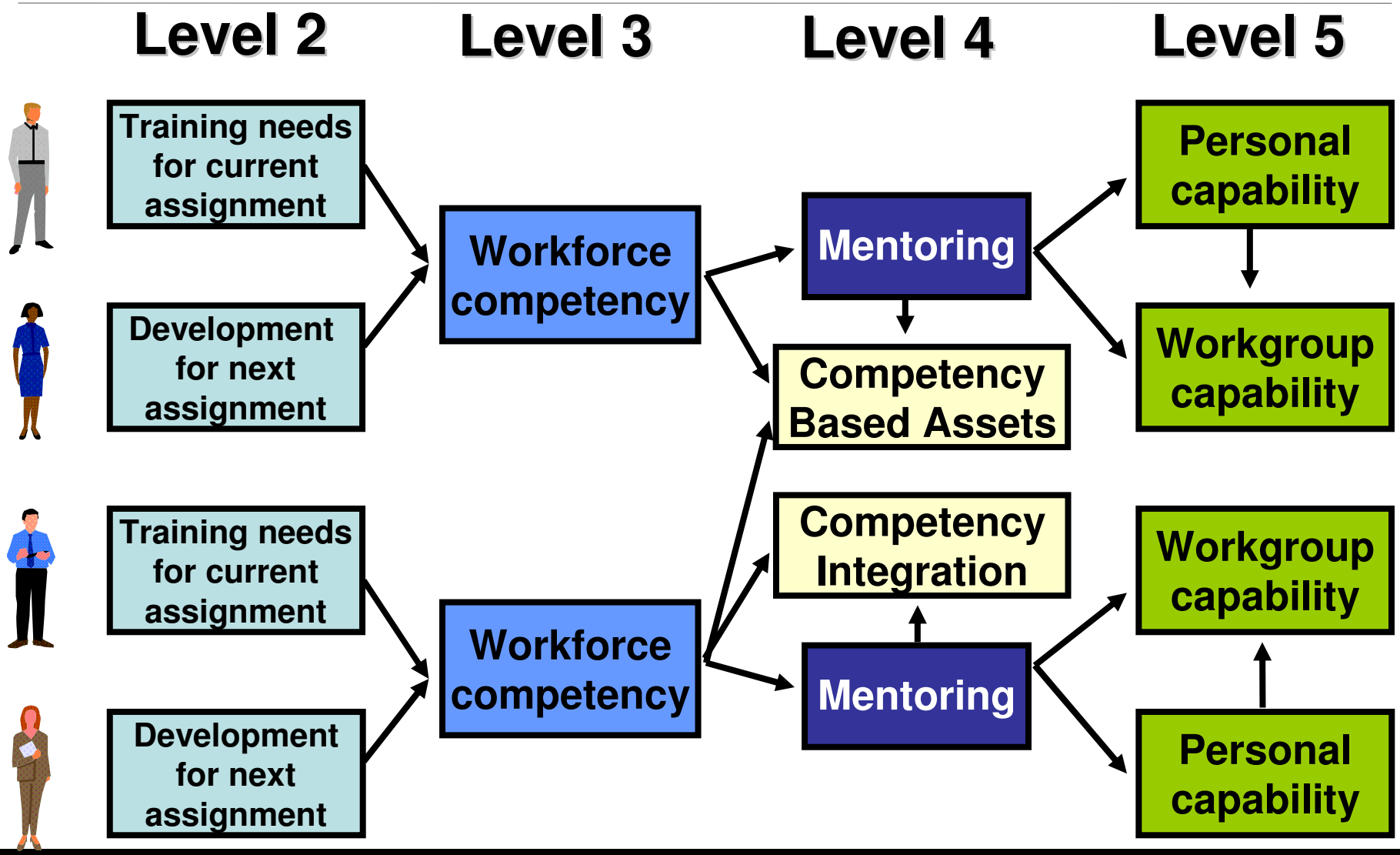


Workforce capability

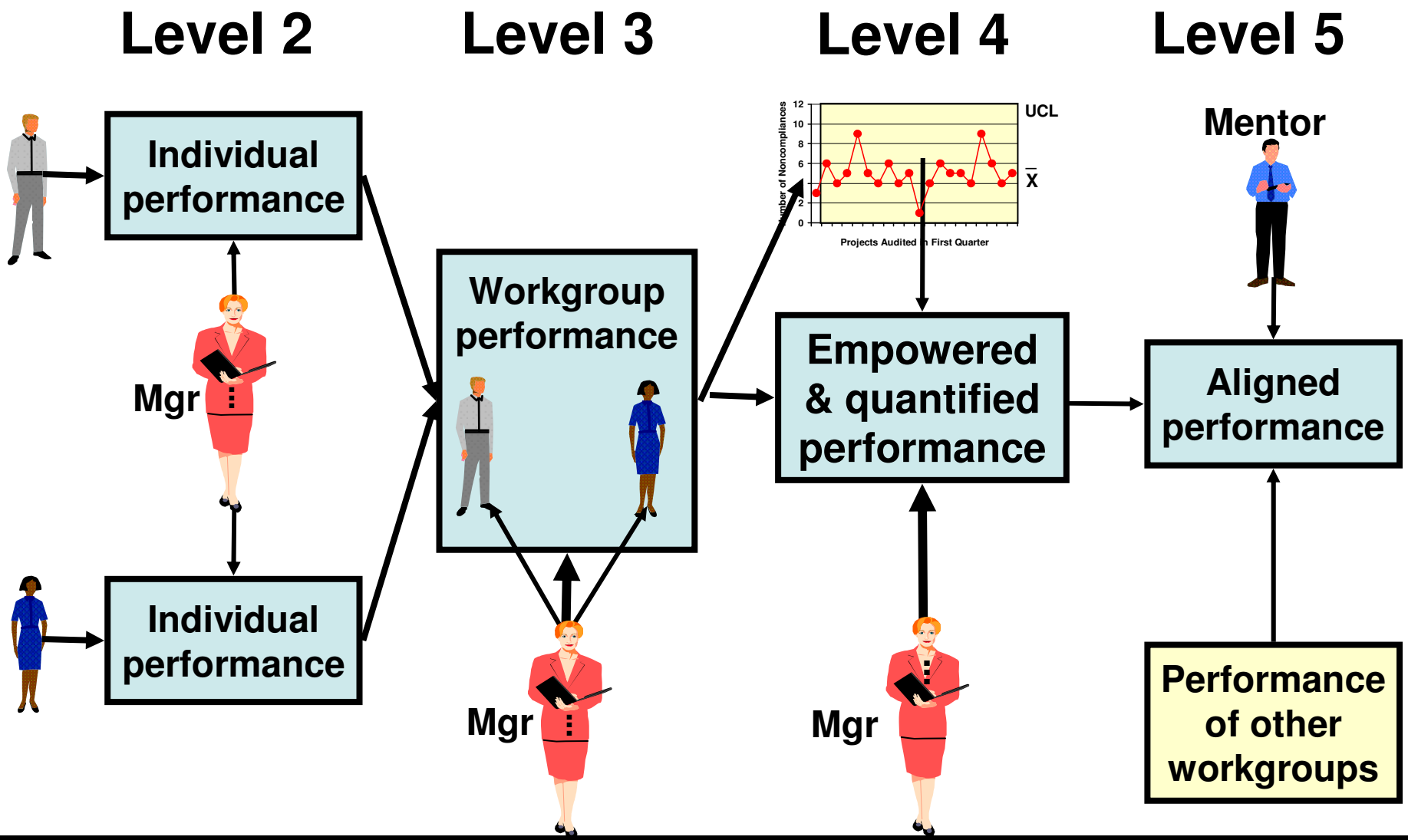


Improvement opportunity

Developing Capability and Competency



Managing Performance

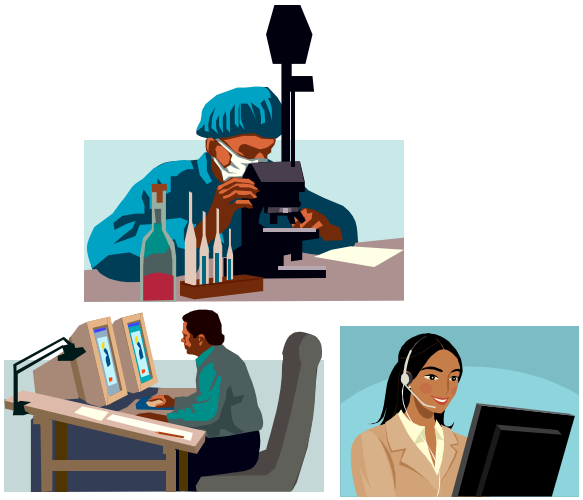


People CMM
Workforce Issues

The Shifting Focus of Change

"When assets were physical things like coal mines, shareholders truly owned them. But when the vital assets are people, there can be no true ownership. The best that corporations can do is to create an environment that makes the best people want to stay."

Business Week, August 21, 2000



Present

Past

Technology and Organizations

Today, organizations are largely dependent on high-technology to build their products and services.

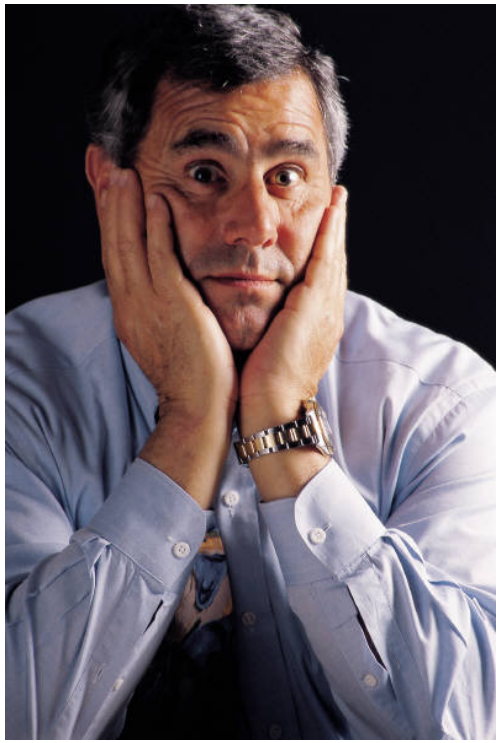
To build their increasing complex products and services organizations:

- require a workforce with specific knowledge, skills and process abilities "competencies" that are adaptable to the rapidly changing technological environment and,
- the ability to manage and control a complex development and maintenance process

Current Workforce Issues: Why do People Leave? - 1

Relationship with Manager

- affects morale
- manager represents the organization



Performance Management

- no clear performance objectives
- performance problems are not managed
- inconsistent rewarding of performance

Staffing

- hired for a job without the knowledge and skills needed to do the job
- job hired for is different from the job assigned

Current Workforce Issues: Why do People Leave? - 2

Communication

- limited or no communication, top down, bottom up, and laterally
- too much communication, important information gets lost in the chatter
- multiple communication styles: generational and cultural

Organizational Culture

- gap between ideal and real culture
- management view vs. workforce view

IDEAL Culture
The way things are supposed to be done

VS

REAL Culture
The way things are actually done

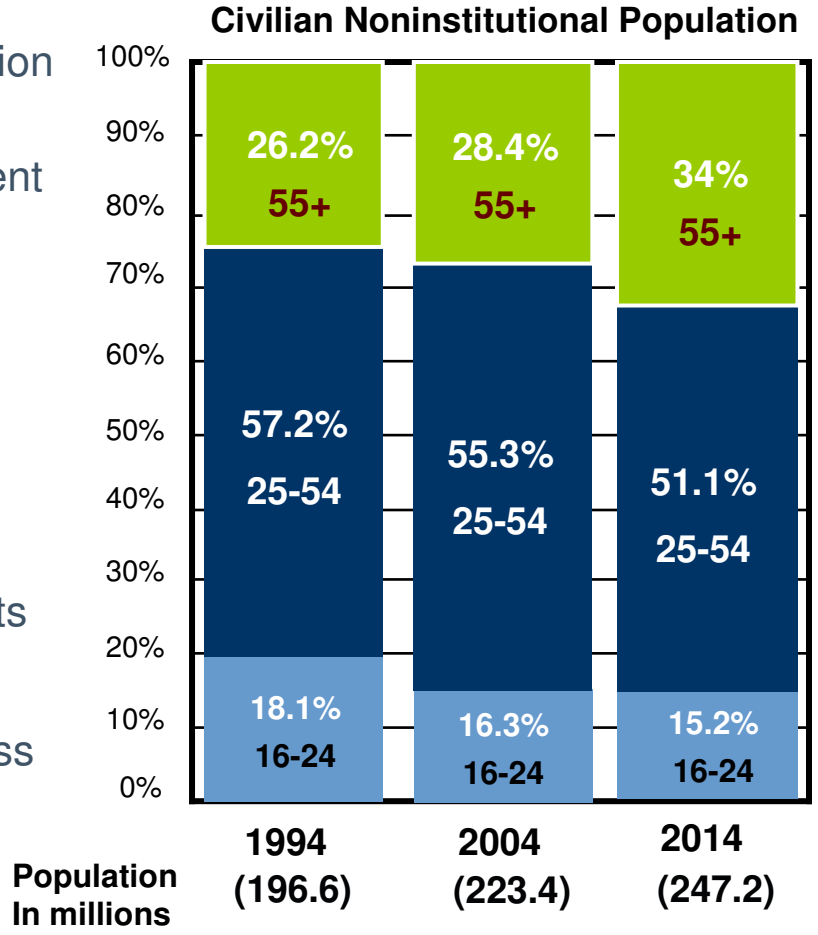
Current Workforce Issues: Organizational Level

Shifting demographics in the United States

- between 2010 and 2030 approximately 78 million baby boomers will be eligible for retirement
- potential decrease in the number of replacement (demand vs. supply)
- loss of corporate knowledge
- loss of organizational know-how
- Loss of potential mentors

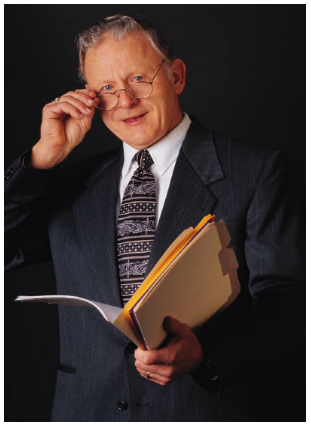
Knowledge and skills gap

- monitoring shifts in technical skills requirements
- skills gap for recent graduates
- develop knowledge and skill profiles and assess current capability
- invest in training and development



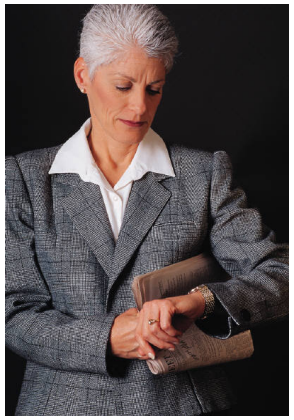
Note: 25 – 54 years of age represents the prime-aged labor force

Managing Multiple Generations: Cultural Differences



Traditionalist 1928-1945

- Hard worker
- Respects authority
- Work is an obligation
- Communicates formally & in person
- Organizational loyalty
- Work & family don't mix



Baby-Boomer 1946 - 1964

- Workaholic
- Questions authority
- Works efficiently
- Competitive
- No news is good news
- Work to live, no balance between work/family

Generation X 1965 - 1980

- Technically savvy
- Prefer informality
- Learn quickly
- Communicates directly & immediately
- Want structure & direction
- Seek work/life balance

Generation Y 1980 - 2000

- Prefer informality
- Learn quickly
- Embrace diversity
- Need supervision
- Communicate by email & text messaging
- Seek "demand" work/life balance

Focus on Europe
European Union Workforce Issues

Workforce Issues

- shifting demographics
- skilled, trained, and adaptable workforce
- monitoring technology-related shifts in skills
- life-long learning
- work-life balance
- cultural transformation

Labor Market

- responsive to economic changes
- Lisbon strategy
  - European Employment Strategy (EES) - long term economic growth, full employment, social cohesion, and sustainable development in a knowledge based society

Source: http://eur-lex.europa.eu/LexUriServ/site/en/com/2003/com2003_0006en01.pdf

Future of HR in Europe: Boston Group 2007

Focus on India
Workforce Issues

Retention

- keeping salary levels in line with the market
- having transparent appraisal systems and company policies
- providing good food and leisure facilities

Over 10,000 Colleges/Universities

Total of 22 Million College graduates (7.2 million in Science in Engineering)

An additional 2.5 million graduates annually

Source: Gross and Minot 2007, SHRM India
http://www.shrm.org/india/07_understand.asp

Focus On China Workforce Issues

Shortage of qualified staff

- workforce
- managers

Turnover

- employee loyalty
- work-life balance
- competitive wages

Cultural and linguistics differences

- multiple generations
  - traditionalists vs. new generation
- multiple dialects

Over 3,000 Colleges and Universities

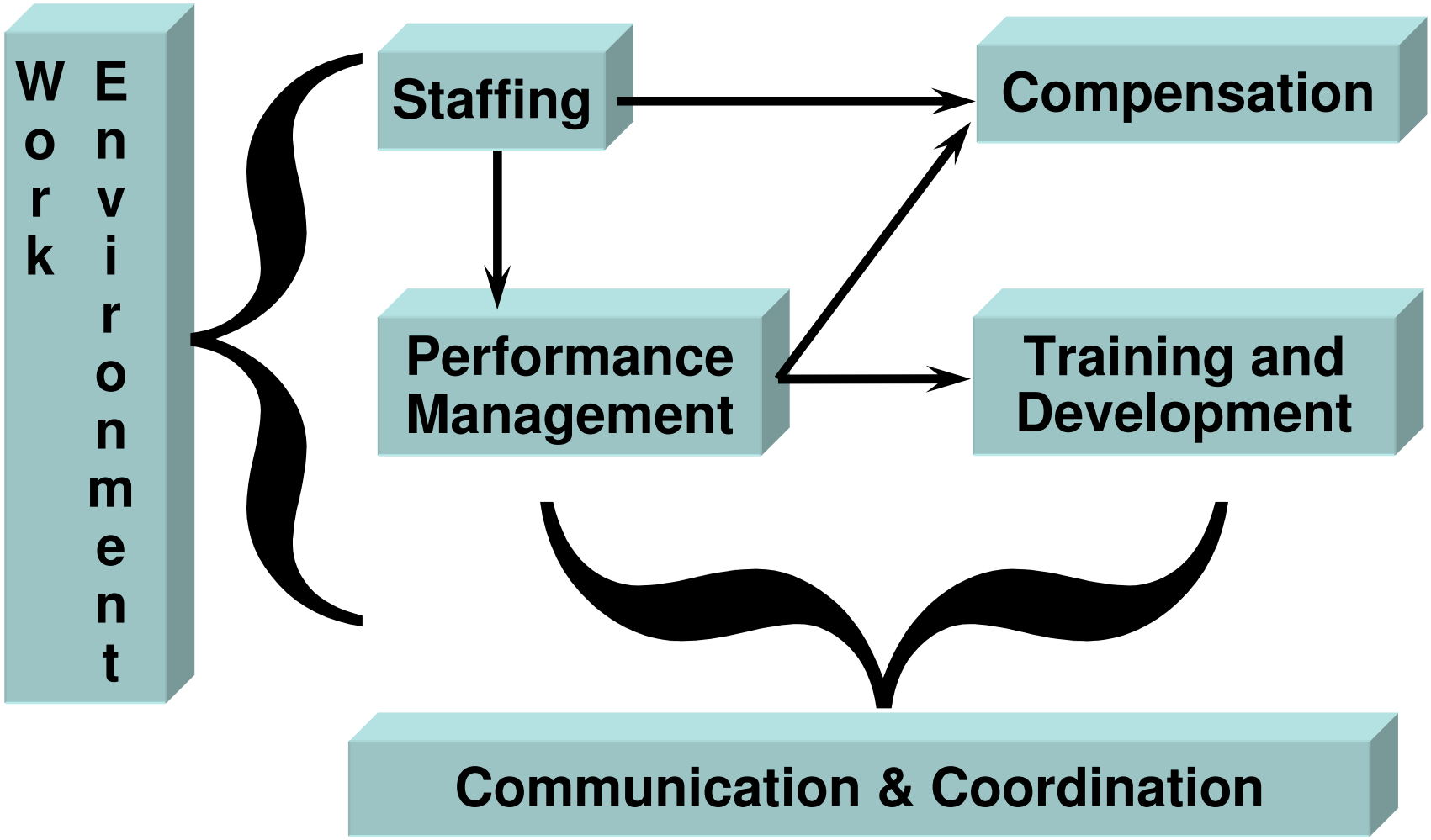
2005 – 20 million enrolled

2010 - 23 million enrolled, projected

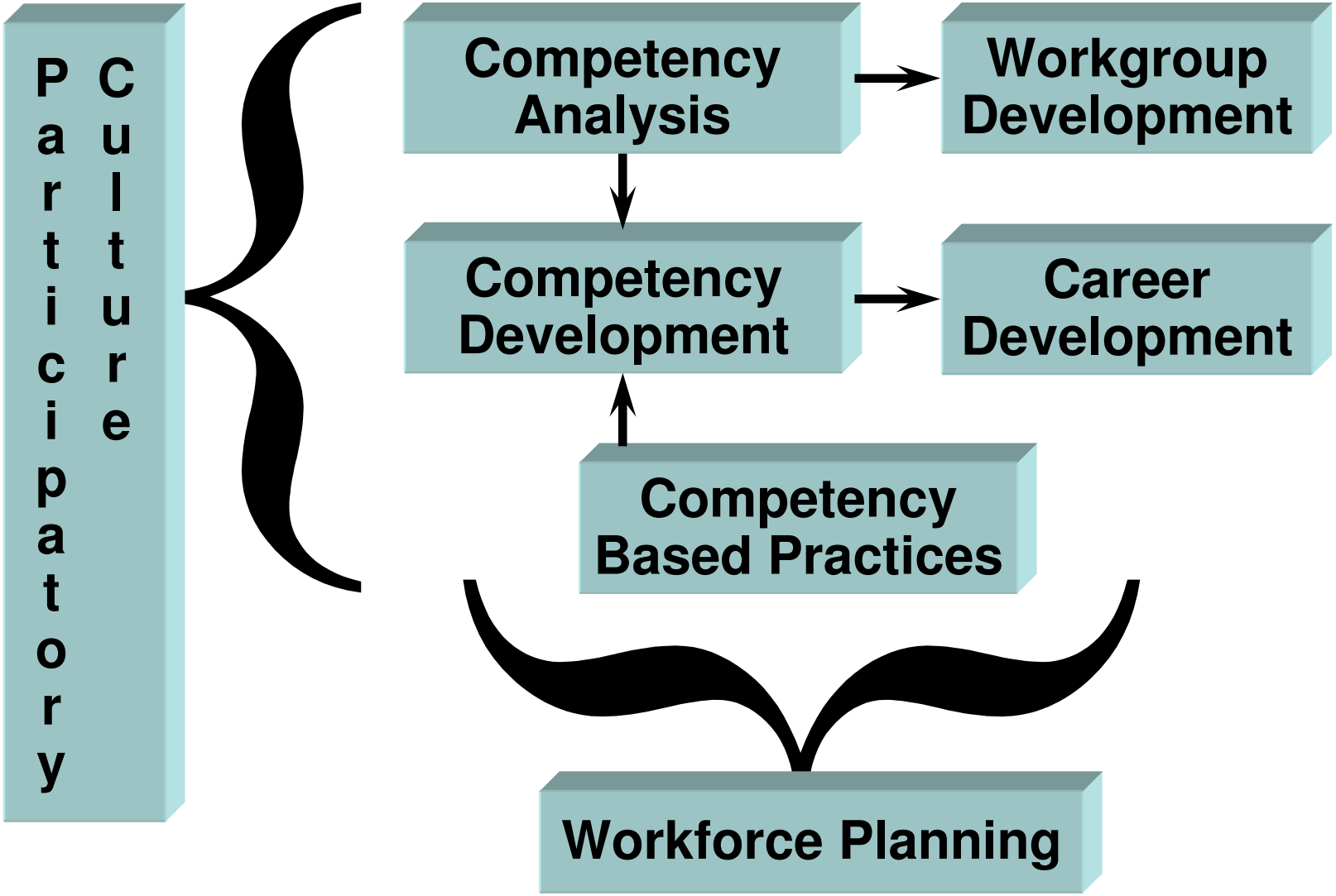
Ross 2004 http://www.iienetwork.org/?p=Ross

People CMM:
Maturity Levels 2 - 5

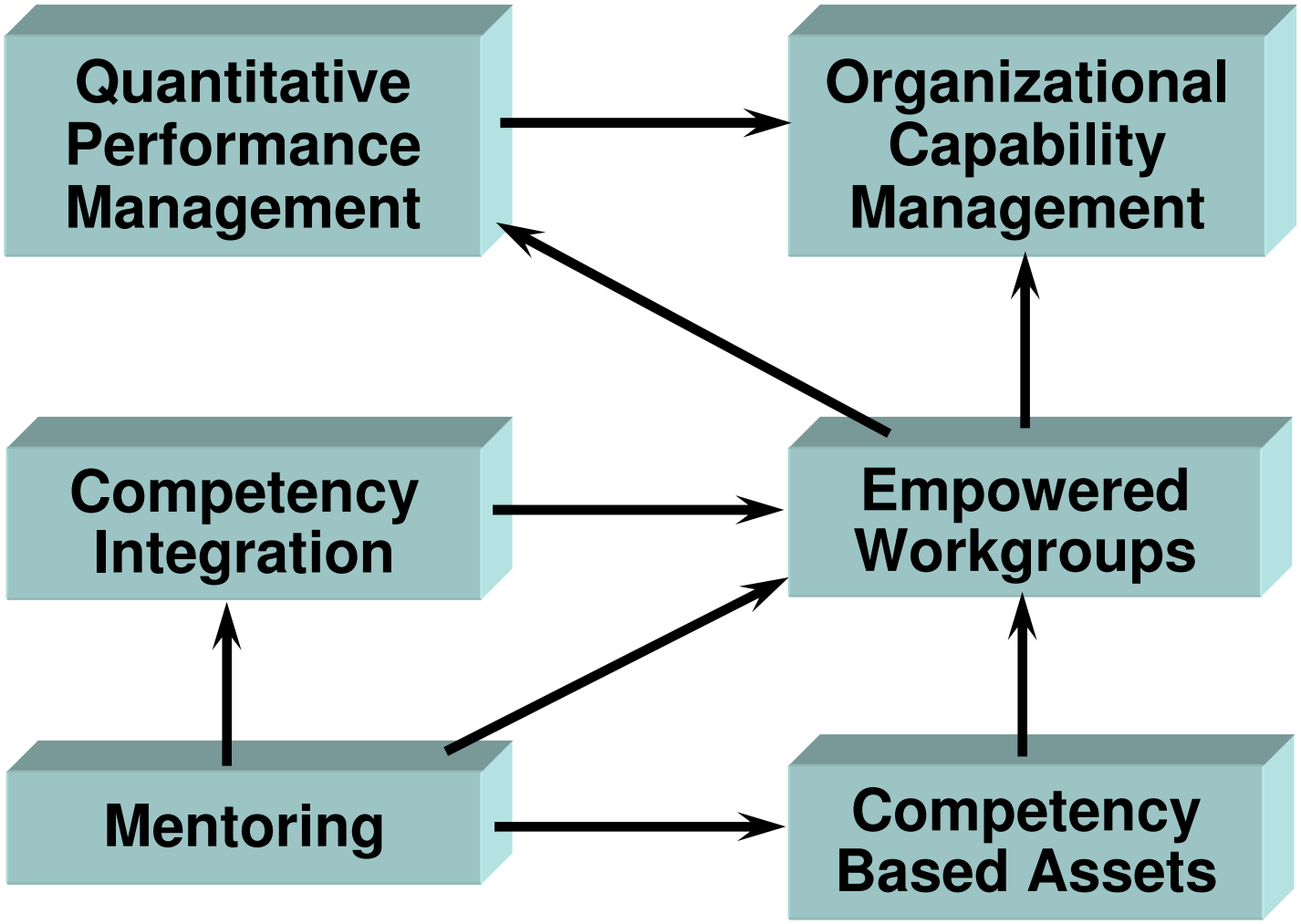
Level 2 Process Area Relationships



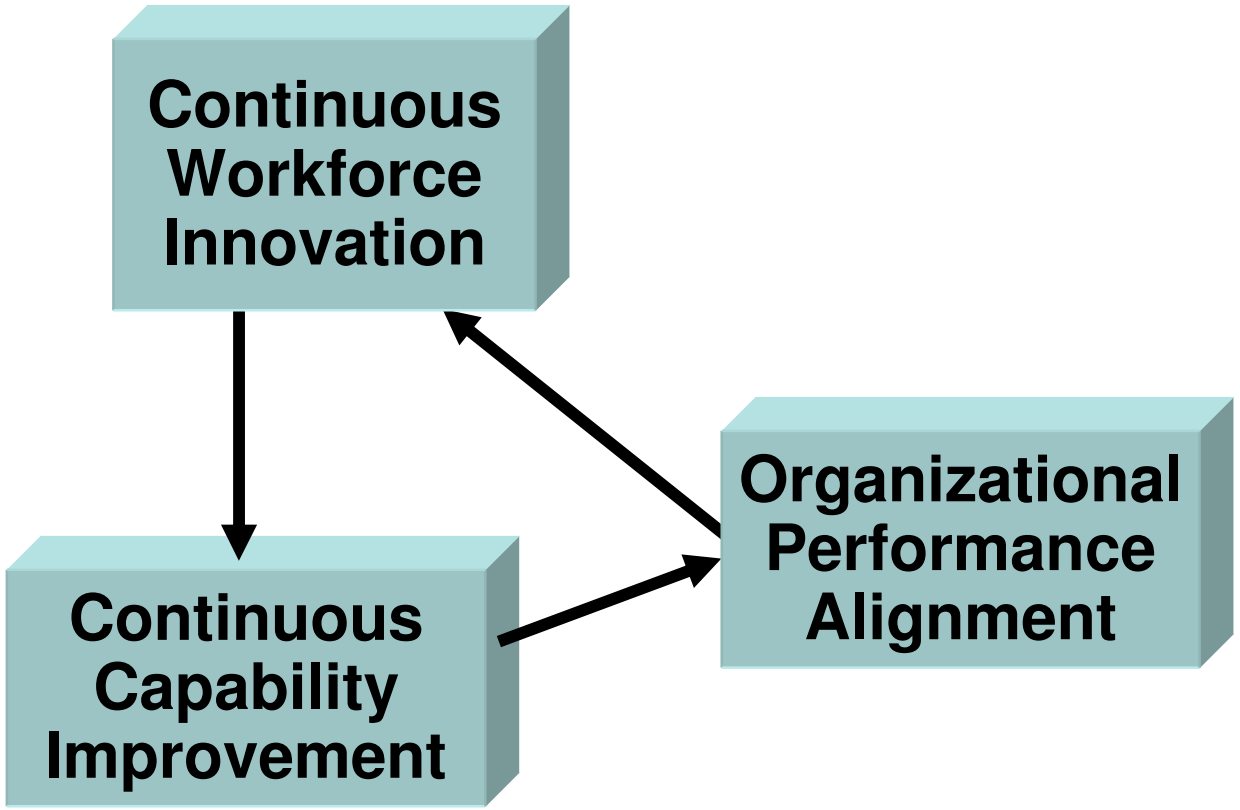
Level 3 Relationships



Level 4 Relationships



Level 5 Relationships



People CMM and Culture

Recognizing the complexity and fluidity of an organizational culture, its subcultures, cross-cultures, nested subcultures, and counter-cultures should be considered when implementing any improvement program.

The People CMM:

Provides organizations an avenue for imparting cultural knowledge, learned behavior, values, and ideas that can lead to the development of a shared organizational culture.

Helps organizations reduce the gaps between the Ideal Culture and Real Culture.

Furthers the alignment of the organizational culture with the business goals and strategy.

CMMI-DEV: Overview

What is CMMI-DEV?

- A model that provides guidance for improving an organization's processes and their ability to manage the development, acquisition, and maintenance of products and services.
- A structured collection of practices that describes the characteristics of effective processes.
- A framework for organizing and prioritizing activities.
- A model that provides support for the coordination of multi-disciplined activities that might be required to successfully build a product
- A model that emphasizes the alignment of the process improvement objectives with organizational business objectives

CMMI-DEV Enables Improvement of Processes

Process descriptions are consistent with the way work actually is done.

They are defined, documented, and continuously improved.

Processes are supported visibly by management and others.

They are well controlled—process fidelity is evaluated and enforced.

There is constructive use of product and process measurement.

Technology is introduced in a disciplined manner.

Benefits of Improving Processes

Processes enable you to understand what is going on.

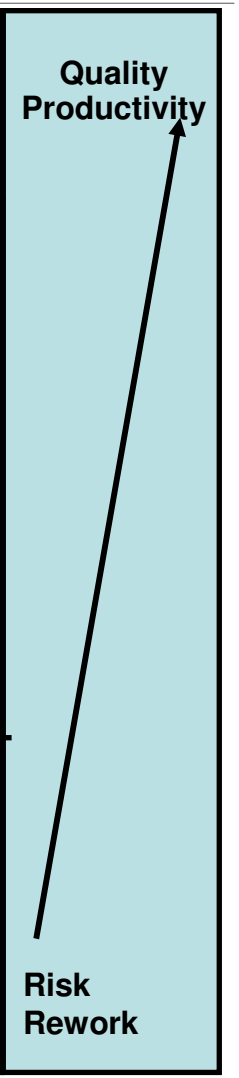
People develop their potential more fully and are more effective within the organization.

By defining, measuring, and controlling the process, improvements are more successful and sustained.

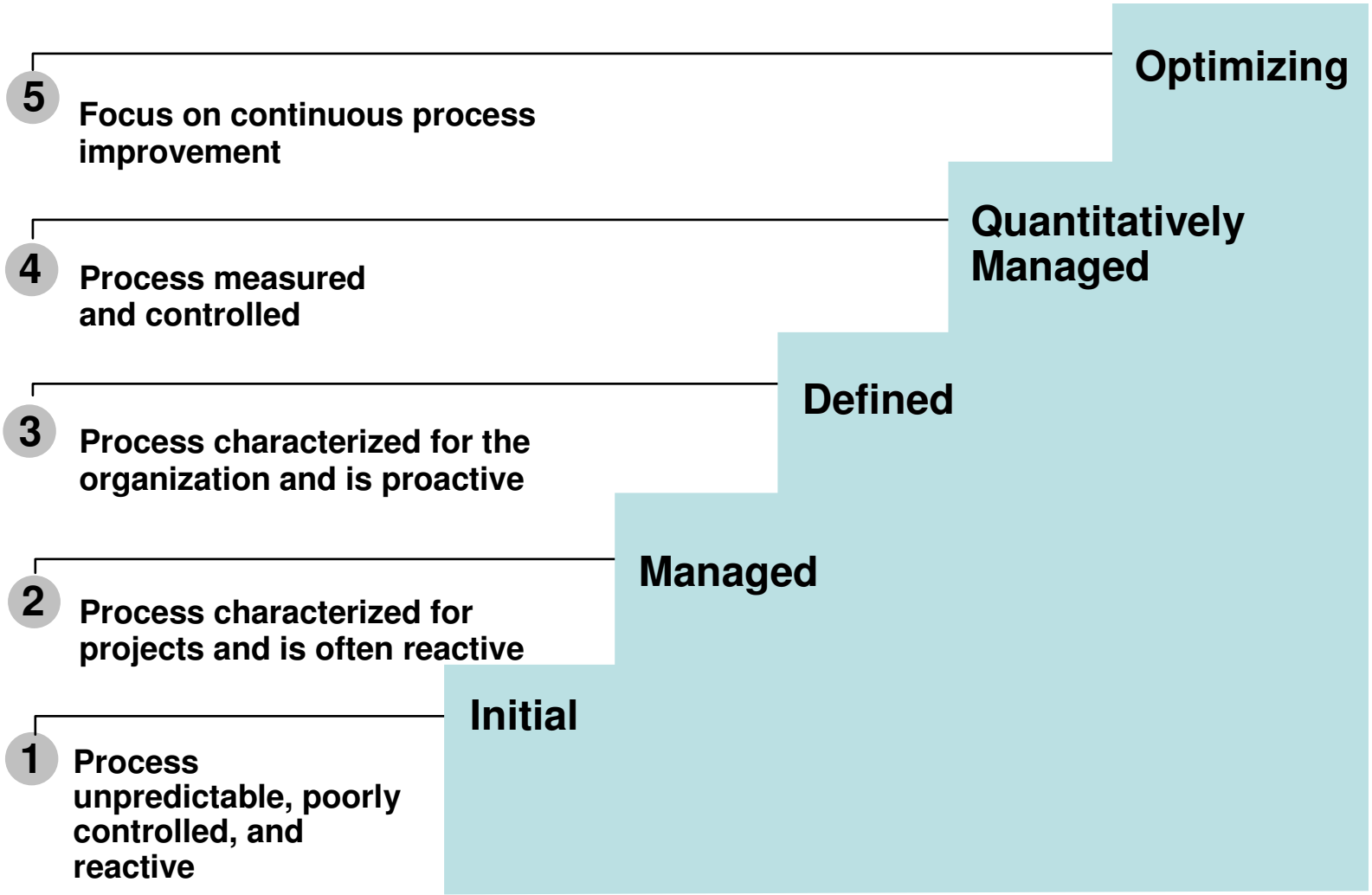
The likelihood that appropriate technology, techniques, and tools are introduced successfully increases.

Staged Representation: Process Areas by Maturity Level

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 +IPPD Organizational Training Integrated Project Management +IPPD Risk Management Decision Analysis and Resolution
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		



Maturity Levels



The Essence of Maturity Level 2 -1

Maturity level 2 attempts to transform the implicit knowledge about how things are done in projects from peoples' heads to explicit knowledge.

When knowledge becomes explicit:

- Projects can repeat previous successes
- Projects and people can learn from previous problems
- Organization provides opportunities for experienced staff to add variety to their tasks
- Other people in the organization can be trained to perform similar tasks

The Essence of Maturity Level 2 -2

Focuses the organization on putting in place basic project management functions that are needed to support all of the organization's engineering and management activities throughout its process improvement journey

ML2 is focused on understanding and refining project management processes

These basic project management functions are:

- Understanding and *Managing Requirements*
- Explicitly *Planning* a Project
- Explicitly *Monitoring* and *Controlling* a Project
- Incorporating *Quality Assurance* principles (includes both processes and associated work products)
- *Managing* source code and other configuration items and document *"configurations"*
- *Managing* the acquisition of products from suppliers

The Essence of Maturity Level 3

ML3 focuses on:

- Planning, implementing, and deploying organizational process improvements
- Establishment and use of organizational assets that are improved over time
- Development of people's skills and knowledge
- Establishment of engineering practices to help design and build products and services
- Planning for robust risk management
- Establishing guidelines to determine issues that merit formal decision making

The Essence of Maturity Level 4

ML4 focuses on:

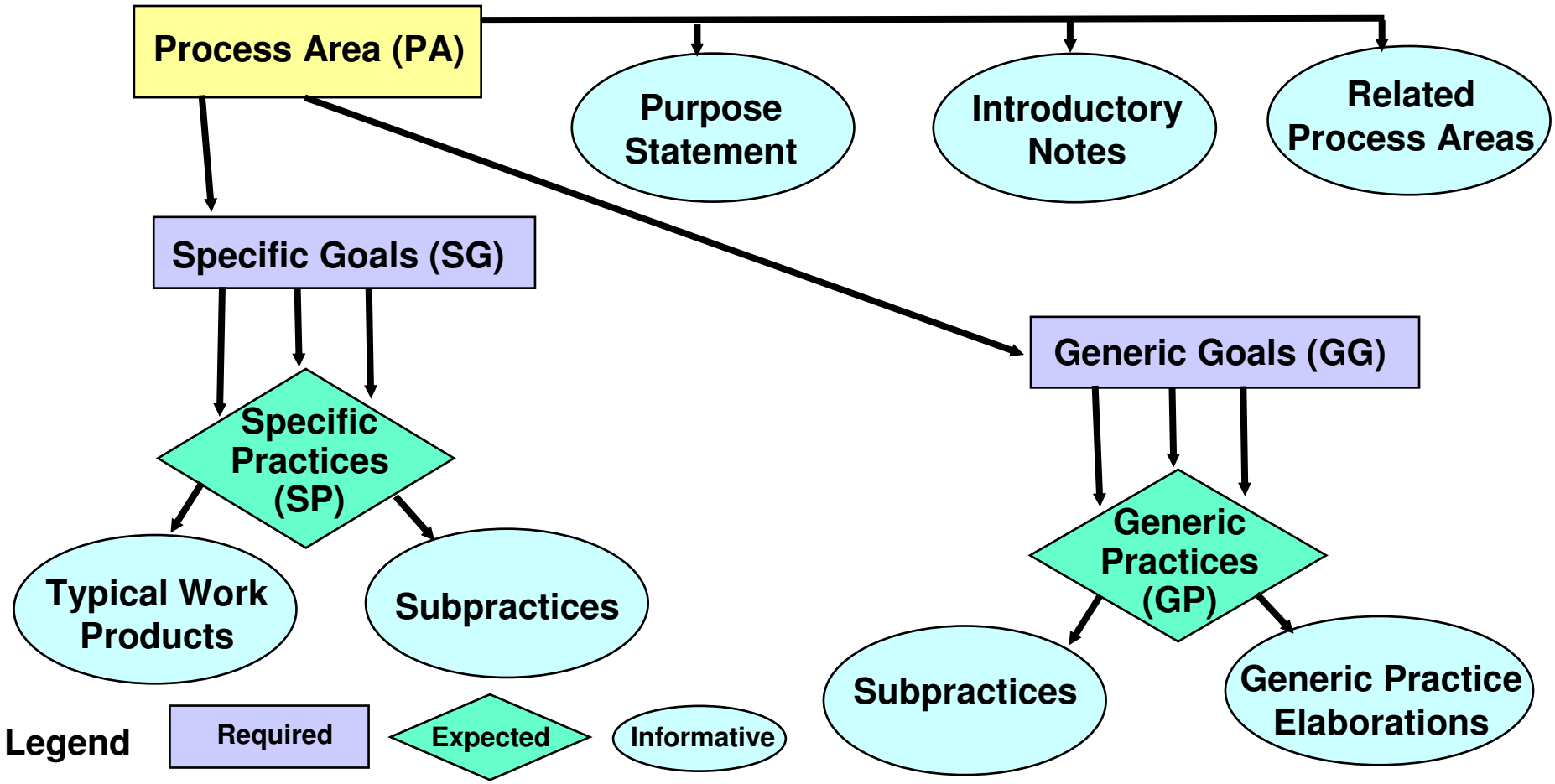
- Establishing and using organizational assets to help projects quantitatively manage the performance of their processes toward achieving the objectives
- Understanding the nature and extent of the variation experienced in process performance
- Enabling projects to predict if they can meet their quality and process performance objectives and identify what corrective actions should be taken

The Essence of Maturity Level 5

ML5 focuses on:

- Enabling the selection and deployment of improvements that can enhance an organization's ability to meet its quality and process-performance objectives
- Identifying causes of defects and other problems and take actions to prevent them from occurring in the future
- Addressing systematic improvements based on a quantitative understanding of the processes

CMMI-DEV Model Components



Institutionalized Processes

Institutionalization means that the process is ingrained in the way the work is performed: “That’s the way we do things around here.”

The organization builds an infrastructure that contains effective, usable, and consistently applied processes.

The organizational culture conveys the process.

Management nurtures the culture.

Culture is conveyed through role models and recognition.

Institutionalized processes endure after the people who originally defined them have gone.

What is Institutionalization?

"The ingrained way of doing business that an organization follows routinely as part of its corporate culture".

[*CMMI model glossary]*

Institutionalization involves implementing practices that

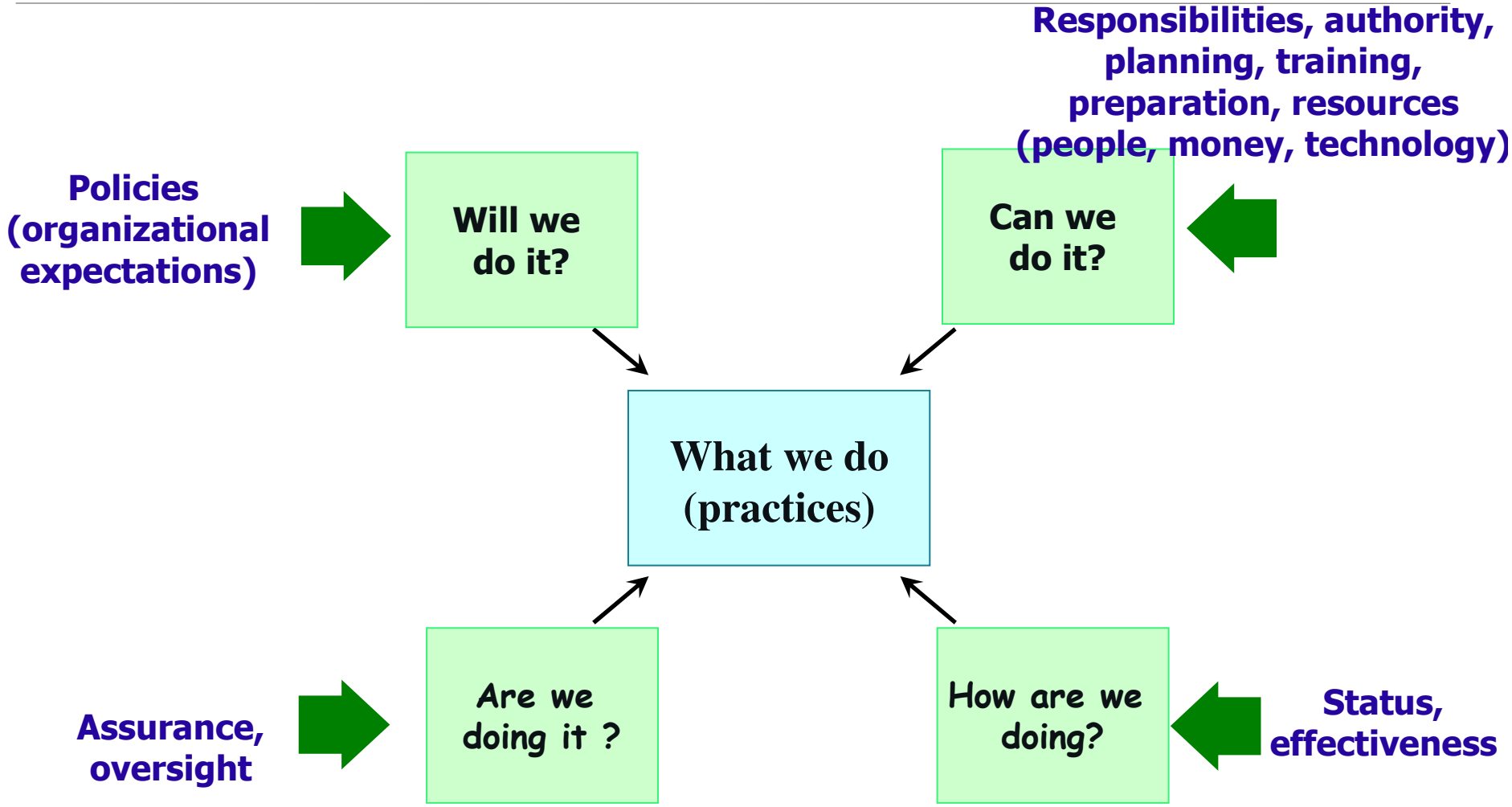
- Ensure the process areas are effective, repeatable, and long lasting
- Provide needed infrastructure support
- Ensure processes are defined, documented, understood
- Enable organizational learning to improve the processes

Generic Goals/Institutionalization Goals

The generic goals (in CMMI-DEV) or the institutionalization goals (in People CMM) are the model components that provide for commitment and consistency throughout an organization's processes and activities.

Achievement of a generic goal in a process area ensure that the processes associated with the process area will be effective, repeatable, and long lasting.

Summary of Institutionalization – Both Models



The “what we do” in People CMM and CMMI-DEV

People CMM	CMMI-DEV
Focusing on improving processes associated with managing, developing, motivating, and retaining the workforce in alignment with the organizations business objectives through the implementation of best practices	Focusing on improving processes associated with product and services development and maintenance through the implementation of best practices

Institutionalization Revisited

Without institutionalization

- Processes will not be executed or managed consistently
- When staff changes, the processes do not survive staff changes
- The organization continuously “reinvents the wheel”
- There will not be the commitment to provide resources or infrastructure to support or improve the processes

Both models provide components to enable institutionalization of processes

Existing organizational culture can enhance or slow down institutionalization

Institutionalization requires culture change

Institutionalization enables culture change

Culture change enables institutionalization

Culture change requires institutionalization

People CMM and CMMI-DEV

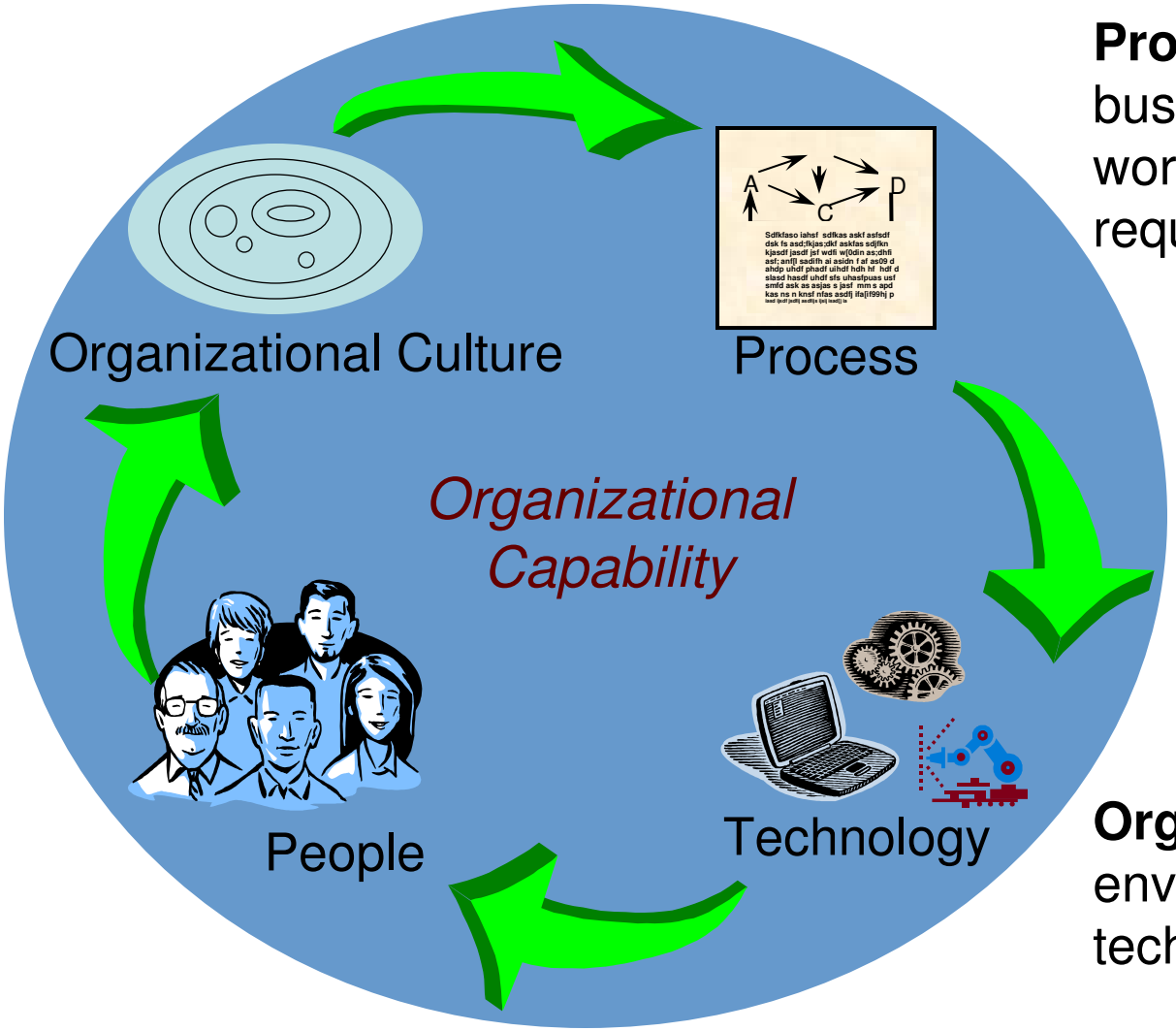
Holistic Approach to Process Improvement

People CMM and CMMI-DEV

People CMM and CMMI-DEV can help organizations to align their workforce, development, and maintenance practices to:

- Increase an organization's business performance (enhanced delivery of products and services, i.e., ability to better meet a product's cost, schedule, and quality)
- Align the development of the workforce with the business objectives of the organization
- Increase the retention of knowledge based workers
- Increase employee and customer satisfaction

Holistic Quadripartite -1



Process: addresses the business needs and the workforce and competencies required to meet these

Technology: addresses the tools and techniques used to communicate and to make the work efficient

People: bring knowledge, skills, and process abilities

Organizational Culture: is the environment in which process, technology, and people interact

Holistic Quadripartite -2

Improving process capability enables people, enhances process consistency, and promotes a culture that values discipline.

Improving technology capability enables processes and people.

Improving people capability enables the development and sustainment of competencies and lays the foundation for a culture of excellence and the building of high-performance teams.

Understanding organizational culture can enhance the effectiveness of improving the capability of an organization's process, technology, and people.

Concluding Remarks -1

Recognizing the complexity and fluidity of organizational cultures should be considered when implementing any improvement program.

The People CMM model:

Enables development and sustainment of process culture: process culture and infrastructure institutionalize practices for long term adoption.

Is a strategic enabler that furthers the alignment of the organizational culture with business goals and strategy.

The CMMI-DEV model:

Integrates development processes into an organization's workforce practices to maximize efficiency, minimize redundant work, and provide organizations with a competitive advantage.

Has a better chance of being successfully implemented in an environment where culture is understood, shared, and "cared for."

Achieving higher "levels" of "maturity" is enabled by skills and knowledge created in an environment that emphasizes development of process competencies.

Concluding Remarks -2

You can not simply impose process improvement form the top without the enablers of the holistic quadripartite.

Culture is the binding element and a basic force that determines future reactions to an organization's improvement path and key changes.

Understanding the culture profoundly affects both implementation and institutionalization of future changes.

Integrating People CMM to process maturity frameworks speeds the emergence of culture needed to enable and sustain institutionalized process improvements.

Contacting the SEI

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