



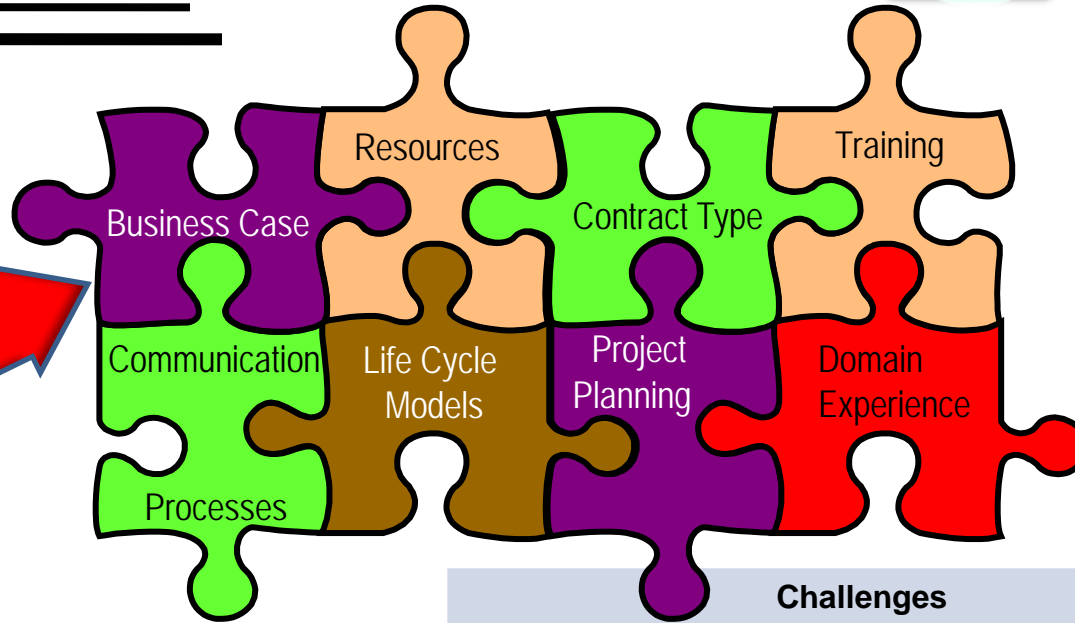
# **Achieving Successful CMMI-DEV Practice Implementation Across Diverse Distributed Environments In Small Organizations**





## ***Agenda***

- ❖ Process Improvement Key Factors & Challenges for Distributed Small Businesses
- ❖ Scenario for Implementing Process Improvement Practices Across Distributed Small Businesses
- ❖ Bridging Distributed Environments Using CMMI-DEV for Distributed Small Businesses
- ❖ CMMI-DEV Practice Implementation for Distributed Small Businesses
- ❖ Steps for CMMI-DEV Practice Implementation for Distributed Small Businesses
- ❖ Strategy Map for Using Audits and Appraisals
- ❖ Lessons Learned – Success Factors



Challenges	
Dynamic Requirements	Impact of customer co-location on requirements management & tasking
Aggressive Schedules	Immediate effect of changing customer priorities & direction
Limited Resources	Typical work performed on a fixed LOE or time & material basis.
Diverse Applications	Lack of institutionalized project management procedures, templates and project past performance data.
Customer Types	Customers have different cultures & performance expectations.

diverse applications

limited resources

customer types

aggressive schedules



dynamic requirements



*Distributed small businesses often function in focused markets as:*

- *Suppliers of specialized on-site technical services, key personnel or products*
- *Domain specialists*
- *Staff augmentation*

*These focused markets may not provide needed revenue or market share growth to readily prosper in today's economy.*



**Costs of improving** management practices are considered key investments in these vulnerable cash flow environments.

Both near and long term **cash flow analysis** typically includes factors such as:

- *Customer base stability & revenue cycles*
- *Projected revenue growth*
- *Costs of acquiring appropriate resources to improve management practices, such as training, process engineers and collaborative software and hardware.*



*Understanding and improving project management practices is a key factor in revenue growth.*

*Planning improvement of project management typically includes assessment of critical factors such as:*

- *Required resources (available staff, feasible schedule, platforms, facilities, collaborative tools)*
- *Past performance data (costs, schedules, lessons learned)*
- *Training in the domain*
- *Risk identification and impact assessment*
- *Risk mitigation*



**Process models** such as CMMI and ISO 9000 provide practical knowledge bases for improving management practices.

Obtaining **CMMI benchmarks** and ISO 9000 certifications are often stepping stones to expand government and commercial customers.

Selecting and **implementing any process models** is both **costly** and can be **risky** as there are no guarantees of success in distributed customer sites.



**Planning** a process improvement **strategy** typically includes identifying problematic projects with typical issues such as:

- Inaccurate planning data for costs and schedule
- Limited resources and ambitious schedules
- Lack of experience and staff training
- Excessive staff turnover rate
- Stability of current customer base
- Projection of market growth
- Over commitment of key staff



**Implementing** a process improvement **strategy**, distributed businesses should customize a path of small, adjustable steps.

An **example** of a path of small steps is a hybrid approach of improving project management practices in CMMI-DEV first.

The CMMI project management practices can provide a framework for future adoption of ISO 9000.





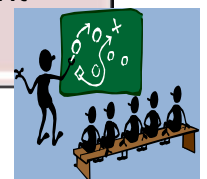
## CMMI-DEV Provides Commonality

- Customer focused
- Requires continuous improvement
- Built on processes
- Focuses on resource management
- Based on measurement and analysis



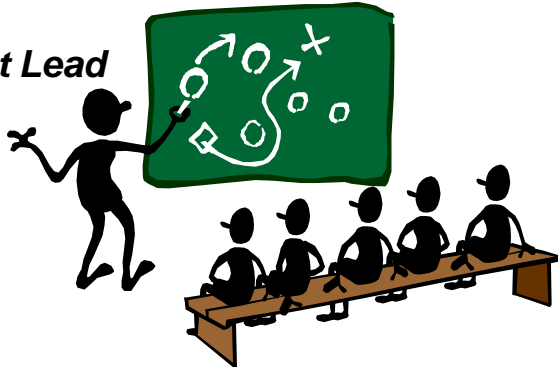
## Bridging Techniques to Achieve Institutionalization

- Provide shared remote access
- Conduct site visits to **understand** different environments & cultures
- **Take the initiative to talk daily**
- Schedule weekly telecons with individuals at each site
- Integrate technical and engineering activities with life-cycle development tools that adapt to the dynamics of customer environments





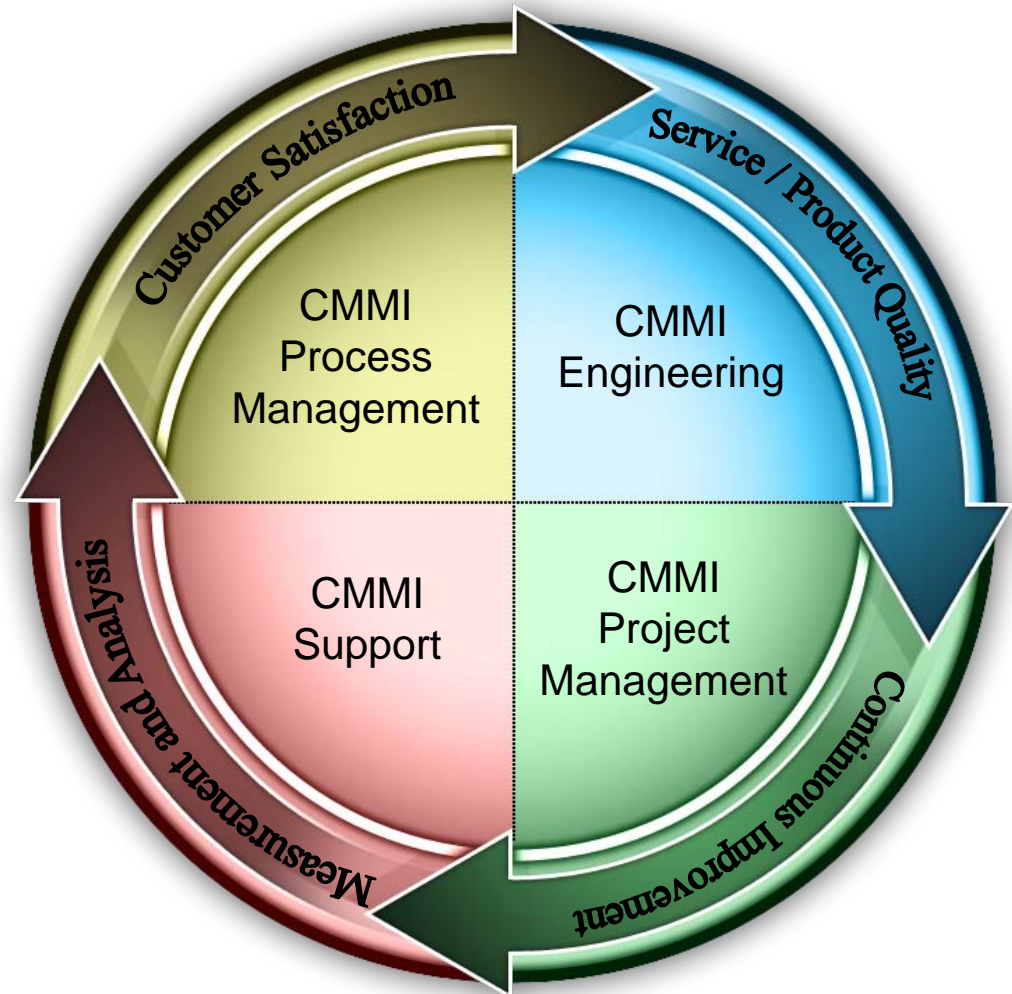
CMMI  
Project Lead



*Distributed Support Staff*

**Frameworks** of the CMMI models provide:

- **Increases** in implementation efficiency due to redundancy in model functions, such as Project Management & Support Process Areas and generic practices.
- **Minimal opportunities for conflicts** with staff and resources with **adequate** model understanding







## Understand the Integrated Business Objectives

**Key growth investments:**  
CMMI-DEV, ISO 9001-2000  
Process training  
Collaborative H/W & S/W  
Process engineer support

## Collect Lessons Learned

- What did we do well?
- Where were we lucky?
- What do we need to improve?

## Evaluate Business Opportunity “risk of winning”

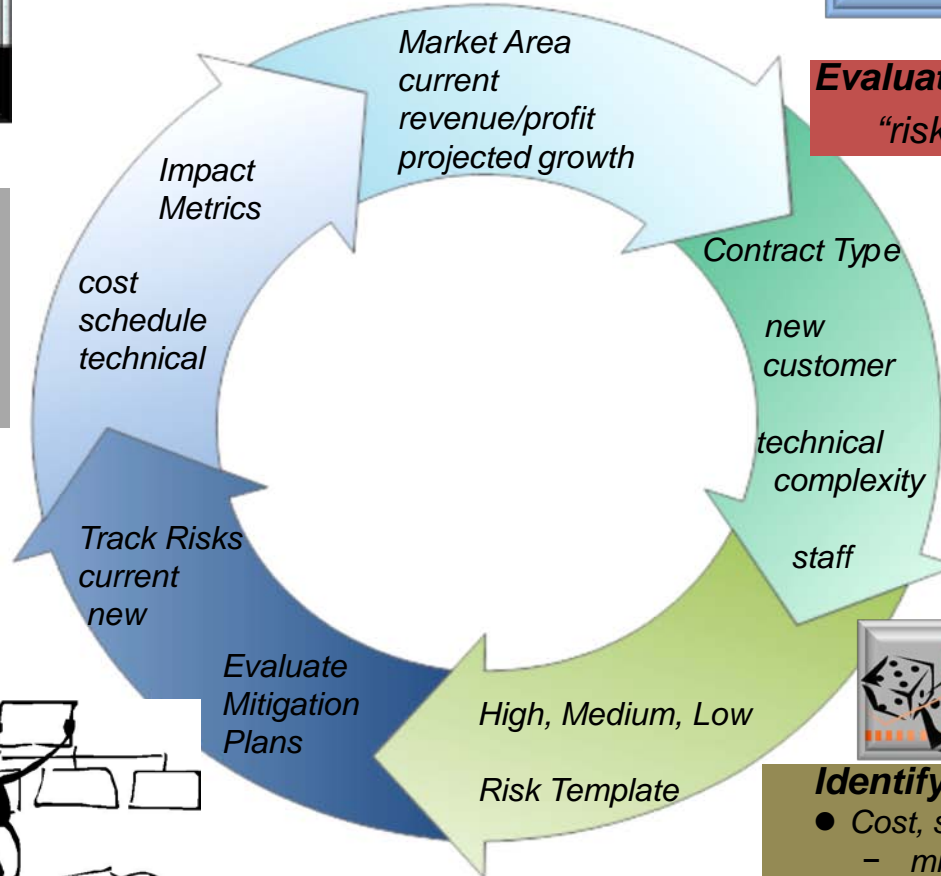


## Develop Project Plan



## Identify Project Specific Risks

- Cost, schedule, technical impacts
  - mitigation planning data
  - customer involvement
  - monthly statusing

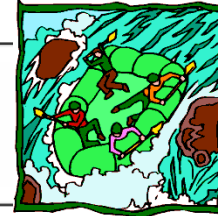




Strategy to achieve full goal satisfaction in all Process Areas for Maturity Level 3.



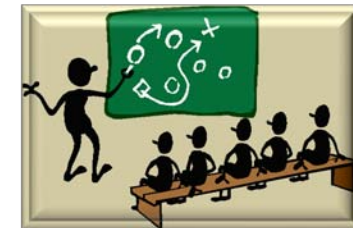
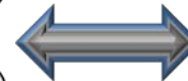
- Quality PM or staff auditing of processes



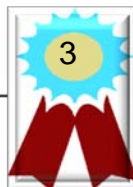
- Internal mini-team analysis of body of evidence

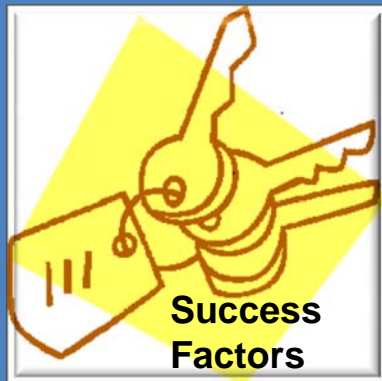


- Formal analysis of body of evidence
- Assess readiness until proven



- SCAMPI C
- SCAMPI B
- SCAMPI A





- Understand that all process improvement opportunities are investments and have costs and risks as-well-as eventual returns on investment.
- Receive sustained management commitment in providing a dedicated project lead, suited support personnel, and resources.
- Avoid “surprises” by incorporating regular progress reviews into weekly senior management telecons.
- Include distributed site staff members in planning and reviewing practice implementation to understand the continuity and costs and identify the key risks, such as customer culture & expectations.
- Use the guidance of an SEI-trained lead appraiser from the beginning for strategy planning, model and appraisal training, and appraisals.
- Work from a thorough Process Improvement Plan which includes risks, costs, and schedule.



- Implement practices with the use of consistent and approved tailored templates.
- Coordinate team process implementation and information sharing across geographically distributed sites using a collaborative file sharing capability e.g., SharePoint.
- Maintain progress and schedule by conducting weekly telecons with each support team member individually.
- Schedule and perform regular independent reviews of artifacts by the project lead and members of the support team.
- Conduct pre-readiness reviews before all appraisals.





**You Have Just Seen:  
Challenges and steps in  
implementing CMMI-DEV  
practices across a  
distributed small business  
from the “30,000 feet” level.**



***Questions or Comments ?***







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