Aligning CMMI® Implementation & Organizational Strategy for Better Competitive Advantages

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Highlights

- What Is Competitive Advantage?
- Fundamental Factors That Drive The Business
- Key Business Objectives and Priorities
- Key Business Priorities Empowered By CMMI
- Practical Process Implementation Criteria
- Tri-directional Enablement Of Business
- Challenges Of Implementing CMMI
- Sample Cases on Evolution From Low Maturity PAs to High Maturity PAs
- Effective Blending High Maturity with ML 2 & 3
- Alignment of Business Objectives
- Sustenance Of High Maturity Level
- Improved Strategy For CMMI Value Proposition
What Is Competitive Advantage?

“An organization's ability to learn and translate that learning into action rapidly, is the ultimate competitive advantage.”

"If you don't have a competitive advantage, don't compete."

- By Jack Welch

John Francis "Jack" Welch, Jr. is an American businessman and author. He was Chairman and CEO of General Electric between 1981 and 2001
Fundamental Factors That Drive the Business:

When a firm sustains profits that exceed the average for its industry, the firm is said to possess a competitive advantage over its rivals.

Proposed Model of Competitive Advantage

- Resources
- Distinctive Competencies
- Capabilities
- Cost Advantage or Differentiation Advantage
- Value Creation
Key Business Objectives and Priorities:

- To have a strong competitive edge in a rapidly evolving marketplace, you will want to take advantage of opportunities to lead / advance change and avoid simply reacting to change.
- Improve the ability to predict costs and revenues, and find ways to raise productivity and lower expenses. To help anticipate problems and develop ways to address them early.

**Key Business Objectives of IT Industries**

- Enhance customer satisfaction
- Create value for the stockholders
- Produce quality products or services
- Be an employer of choice
- Increase market share.
- Implement cost savings and best practices

**Key Business Priorities**

- **Productivity**
  - Maximizing Efficiency and Eliminating Waste
- **Technology**
  - Measurable Business Value Through Technology Evaluation & Alternates
- **Quality / Control**
  - Improving Client Experience
- **People**
  - Creating Dynamic and Performance-Oriented Culture

Empowered and Managed Through CMMI Best Practices
Key Business Priorities Empowered by CMMI

Systematic implementation of CMMI practices enable the business to achieve business priorities.
Tri-directional Enablement Of Business Thru CMMI Implementation:

1. **“Priorities”** Inline With The Business Strategy
   - **Productivity** Maximizing Efficiency and Eliminating Waste
   - **Technology** Measureable Business Value Through Technology Evaluation and Alternates
   - **Quality / Control** Improving Client Experience
   - **People** Creating Dynamic and Performance-Oriented Culture

   By processing the CMMI ML-2 and 3 PAs in the organization these business priorities are defined, organized, managed and controlled.

   And CMMI ML 4 and 5 enables the organization to achieve and continually improve the business priorities.

2. **“Data”** Inline With The Priorities
   - CMMI ML 2 and 3 enables the organization to collect appropriate data to provide the insight to the business priorities related to the organization’s strategy.

   CMMI ML 4 and 5 enables the organization to use the collected information to analyze and continuously improve the process to achieve and sustain the business priorities.

3. **“Rhythm”** Inline With The Data & Priorities
   - By executing and implementing the CMMI practices in a predefined “Rhythm” instantiations of business priorities can be monitored for its compliance.

   High Maturity helps the organization to tune the Rhythm based on the attainment of priorities.
Repetitive Challenges in CMMI Implementation:

- CMMI is often considered as an overhead item and when budget adjustment is done this overhead item is one of first targets for reduction.
  - KM level practices are treated separately from day to day operational / transactional activities for managing the project and delivering the project deliverables.
  - The delivery organization’s day-to-day operational activities are aligned to CMMI Level 2 and Level 3 practices.
  - After the successful completion of formal appraisal some or most of the KM level practice implementation or its control is lost, as they are not appropriately blended with day to day delivery operational activities.
  - CMMI’s value proposition beyond getting new business is not understood.

Business Drivers:
- Will traditional way of implementing ML 2 and ML3 help me in sustaining High Maturity Level?
- What other ways of implementing ML 2 and ML 3?
Blending High Maturity With Low Maturity

Business Drivers

- Organization need to develop and improve the processes by blending appropriately the high maturity and low maturity concepts inline with organizational business needs and add business value.
- If an organization is consistently meeting it's business objectives the CMMI brings value in enabling innovation and improving standardization / consistencies.
- High Maturity organization needs to have day to day operational activities which are aligned with CMMI HML practices.
- This will not only help to sustain performance of CMMI high maturity level practices but also enhance the CMMI value proposition beyond appraisal/certification and bidding/proposal requirements etc.

CMMI ML-4 & 5 PAs
- OPP
- CAR
- QPM
- OPM

CMMI ML-2 & 3 PAs
- IPM
- RSKM
- MA
- PMC
- REQM
- CM
- PP
- SAM
- OPD
- DAR
- PPQA
- OPF
- VAL
- RD
- TS
Sample Cases – 1: Evolution From Low Maturity PAs to High Maturity PAs

There is a tight relationship between PP, PMC in ML2 which evolves to IPM & RSKM and then evolves to QPM and CAR at ML 4 & 5

- Project Monitoring and Control (PMC)
- Project Planning (PP)
- Quantitative Project Management (QPM)
- Integrated Project Management (IPM)
- Risk Management (RSKM)
- Measurement and Analysis (MA)
- Causal Analysis and Resolution (CAR)

CAR removes the common causes of process variance after the assignable causes are removed at ML4, thus enabling an optimal process performance.

QPM taking input from ML3 PAs, enables the project performance to get statistically managed and remove the assignable causes, thus reducing the process variations; evolves into the ML5 PA; i.e., CAR.

IPM and RSKM PAs are very closely linked, helping a project in identifying the organization level process assets and their reuse and defining the risk parameters & means of prioritizing them. These form a base to evolve into QPM with the support of ML2 PAs PP, PMC & M&A.

PP and PMC PAs compliment each other in defining and exercising control over project management. Initiating the risk identification and monitoring in addition to planning and monitoring the stake holder involvement, these PAs lead to evolution of ML3 PAs such as RSKM and IPM.
Sample Cases – 2: Evolution From Low Maturity PAs to High Maturity PAs

There is a tight relationship between four of these process areas. OPP builds on the capabilities in OPF and OPD. OPM builds on the capabilities OPP.

OPM builds on the capabilities in OPP, OPF and OPD thus enabling proactive management of organization’s performance to meet the business objectives.

OPP: This "advanced" process area builds on both OPD and OPF at organization level by establishing expectations and objectives, establishing performance baselines and models for the quantitative management of process performance.

OPD and OPF PAs establish and implement the foundational capabilities, repositories for processes and measurements, the process tailoring criteria, facilitate process improvements at organizational level which gets evolved to OPP at organization level.
Examples of Effective Blending High Maturity with ML 2 and 3: Critical Requirements of PP and PMC with respect to OPP, QPM and CAR

1. Estimates should be established in a "Probabilistic" manner after understanding the process variance from historical data

2. WBS should be developed in a way that can facilitate critical Sub-process identification

3. Process Performance made manageable through the defined Process Performance Baselines and Process Performance Models

4. Risks should be predicted for their occurrence using learned level 4 capabilities with statistics

5. Milestones and Tasks are monitored using the Sub-process Performance and Process Performance Baselines

6. Problems and issues are quantified and related Potential Failure Modes can be identified statistically

7. Root causes and corrective / preventive actions are identified statistically
More Explanation on Effective Blending High Maturity with ML 2 and 3


- WBS to be developed for all milestones, through which the sub-processes can be identified and it can be statistically managed

- Historical data and PPM can be used to transform the attributes of the work products into estimates of the labor hours and cost.

- Project plan should demonstrate that the process performance is manageable through the defined PPBs and PPMs
More Explanation on Effective Blending High Maturity with ML 2 and 3

- Risks should be predicted using the process performance models for their probability of occurrence

- Data management plan can include the collection and storage of all the data related to process performance objectives, baselines and sub processes at ML 2

- Process, staffing and infrastructure requirements are planned in a probabilistic way

- Milestones and tasks are monitored against the sub process performance and process performance baselines in PMC

- Problems, issues are collected and quantified. Ensure those problems, issues, are collected based on the reviews and the performance of process performance objectives
More Explanation on Effective Blending High Maturity with ML 2 and 3

- Analyze the problems, issues using various statistical techniques and ensure whether the Potential Failure Modes are identified and the process variance is understood.

- Identify the potential solutions for the identified causes using various statistical techniques (what-if analysis). Ensure whether the necessary actions are taken to prevent it occurring in future.

- Monitor the solution implementation by using performance analysis to know that the implementation of corrective / preventive actions have improved process performance.

- Analyze the implementation through predicting impact, benefit, and ROI and then share the learning.
Alignment of Business Objectives and CMMI Appraisal Objectives

Business Objectives
- High Level Business Objectives
- Quality and Process Objectives

Appraisal Objectives
- Gain Insight into the Organization’s Objectives
- Benchmark for Process Maturity
- Confirm the Compliance to CMMI® Model
- Identify Improvement Opportunities

Benchmarking and conforming process maturity helps the organization to establish and validate the Quality and Process objectives.

Identifying the improvement opportunities helps the organization achieving their Organizational and Project Goals.
Alignment of Business Objectives In-line With High Maturity Level

- High Level Business Objectives
  - Alignment Of Business Goals Thru...
- Quality and Process Performance Objectives (QPPOs)
- Organizational Goals (Targets)
- Process Performance Baselines (PPBs)
- Process Performance Models (PPMs)
- Organizational Standard Processes
  - Quantitatively managed Thru...
- Sub-Process
- Tailored Project Goals
- Project Goals (Targets)

Derivation of QPPOs To....
**Sustenance of High Maturity Level**

- Sustaining High maturity is about continually utilizing a collection of best practices across the organization intended to create the highest quality outputs for the business and clients.

- Sustenance can be possible by implementing a set of carefully planned actions over a period of time that result in “shift of the mean” and “reduce variability”.

- Sustenance value can be perceived through structured deployment, benchmark and continual improvement in reducing delay, deviation, and defects.

- Sustenance can be measured through institutionalization & effectiveness.
**Proposed Improved Strategy For CMMI Value Proposition:**

- Drive Process Excellence / Improvement inline with Business Value Add

- Establish continual improvement culture leveraging CMMI as both bottom-up & top-down process improvement strategy

- Use QMS -OSSP as work flow automation model for execution and not as only a reference model

- Demonstrate improvement as a criteria for CMMI appraisal

- Create CMMI value proposition beyond proposal / bidding
Abbreviations Used

• PMC  Project Monitoring and Control
• PP    Project Planning
• REQM  Requirements Management
• SAM   Supplier Agreement Management
• CM    Configuration Management
• MA    Measurement and Analysis
• PPQA  Process and Product Quality Assurance
• IPM   Integrated Project Management
• RSKM  Risk Management
• OPD   Organizational Process Definition
• OPF   Organizational Process Focus
• OT    Organizational Training
• PI    Product Integration
• RD    Requirements Development
• TS    Technical Solution
• VAL   Validation
• VER   Verification
• DAR   Decision Analysis and Resolution
• OPP   Organizational Process Performance
• QPM   Quantitative Project Management
• CAR   Causal Analysis and Resolution
• OPM   Organizational Performance Management
Any questions or comments ....
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