Management Challenges and Lessons Learned Implementing CMMI in a Services Environment

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Objectives

- Describe BAE Systems Information Technology’s (BAE-IT’s) journey implementing CMMI Level 3 in a services environment for Defense and National customers

- Offer insight into the management challenges BAE-IT encountered during the implementation

- Share BAE-IT’s Lessons Learned
Introduction to BAE-IT

- Who is BAE-IT?
  - Mission
  - Breadth of services
    » IT services
    » Mission Support services
  - Organizational structure

- BAE-IT’s CMMI Journey
  - Experience implementing CMMI Level 3 in a services environment
  - Nature of challenges
  - Resolution processes
Challenges Aggregated into 8 Primary Foci

- Senior Management
- Communications
- Budget
- Resources
- Schedule
- Security
- Customer
- Project Management
Senior Management

- **Challenge**
  - To involve Senior Management, gain stakeholder buy-in, and obtain commitment to the goal – using a process improvement methodology typically associated with SE/SW

- **Mitigation Strategies**
  - Management structure
    - Office of Performance Excellence
  - Authority
  - Management buy-in
  - Emphasize value-add
Communications

- **Challenge**
  - To ensure effective and timely stakeholder communication across geographically diverse locations with limited electronic access

- **Mitigation Strategies**
  - Plan
  - Schedule
  - Types/Media/Venues
  - Across the enterprise
  - Senior management updates
  - Project management updates
  - ATL involvement
  - Issues
Budget

- **Challenge**
  - To gain corporate commitment to a budget, with the flexibility to adjust priorities, in a services environment that is primarily LOE-based

- **Mitigation Strategies**
  - Corporate resources
  - Project full-time equivalent staff (FTEs)
  - Training
  - Consultant support
  - Cost control
  - Tools
Resources

- **Challenge**
  - To hire and retain CMMI model-knowledgeable, implementation-experienced, resources as a support function in a services-driven business

- **Mitigation Strategies**
  - Model-knowledgeable
  - Implementation experienced
  - Understand business model
  - Consultants in a non-traditional role
  - Utilization/stress
  - Adjusting/correcting resources
  - Adjusting/correcting tasks/task emphasis
Schedule

- **Challenge**
  - To work to an externally imposed schedule deadline and implement to business priorities

- **Mitigation Strategies**
  - Detailed project schedule with WBS Dictionary
  - Model knowledge
  - Documentation
  - Stakeholder buy-in
  - Customer constraints addressed
  - Institutionalization
Security

- **Challenge**
  - To provide appropriate access to secure data of projects performing services across multiple secure sites, often co-located with the customer

- **Mitigation Strategies**
  - Project/site information and access
  - PAL access
  - PPQA audit activity
  - Artifacts
  - PIID access
  - Appraisal participation
Customer

- **Challenge**
  - To gain customer acceptance for implementing CMMI in a services environment

- **Mitigation Strategies**
  - Emphasize value-add of CMMI for services
  - Level of involvement
  - Communications
  - Training
Project Management

- **Challenge**
  - To structure the organizational resources best to provide direction, validate model interpretation, and ensure project success on services contracts

- **Mitigation Strategies**
  - Utilizing Project Management structure/format for CMMI initiative
  - Treating projects as customers
  - Model interpretation
  - Hard schedule deadline
Lessons Learned -- I

1. Senior management buy-in and ongoing support were highly visible and crucial to ensuring corporate commitment

2. Appropriate Responsibilities, Accountabilities, and Authorities (RAAs) must be assigned to lead the CMMI initiative

3. CMMI model-knowledgeable and implementation-experienced staff were key

4. Adequate funding/FTEs at HQ and project levels were required for success

5. A detailed Project Plan lent credibility to CMMI initiative and helped earn stakeholder buy-in
Lessons Learned -- II

6. Stakeholder communication gained necessary support

7. ATM access to sensitive project sites/data was required for complete and full appraisal of process maturity

8. Non-traditional use of consultants as full-time, on-site project team members provided key focus & direction

9. Early focus on alignment of PAs against business priorities & resources ensured a CMMI implementation consistent with business focus

10. Adopting a project management structure for the CMMI initiative elevated the probability of success
Lessons Learned -- III

11. Tool selection/investment must be commensurate with business needs

12. An early working relationship with the ATL afforded insight into, and feedback on, our implementation approach and Model interpretation

13. Incorporating a QPM focus in ongoing efforts, keyed to services key measurement indicators, provided an important baseline for maturing the organization

14. The mapping of the CMMI Model to a services environment illustrated the flexibility and tailorability of the model and its clear application to our business
Conclusions & Going Forward

- The CMMI Model is flexible and provides documented benefits in a services environment.
- BAE-IT’s business is growing and continued focus on interpreting the CMMI Model for our services business will be necessary.
- We must structure our future approach to address our key business issues and strategic goals as a services provider.
- BAE-IT will implement ITIL (Information Technology Infrastructure Library) consistent with the CMMI Model.
- SCAMPI certification of maturity against the CMMI Model will continue to be a discriminator in our services industry.
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