



cutting through complexity™

Business Excellence through an Integrated Multi Model Approach

SPIN LONDON

17th November 2011





Agenda

Topics for discussion

1. What is Business Excellence ?
2. What are the challenges faced by industry ?
3. How do individual models help meet the need for process improvements ?
4. What are the trends seen in implementation?
5. How does an integrated business excellence approach help ?

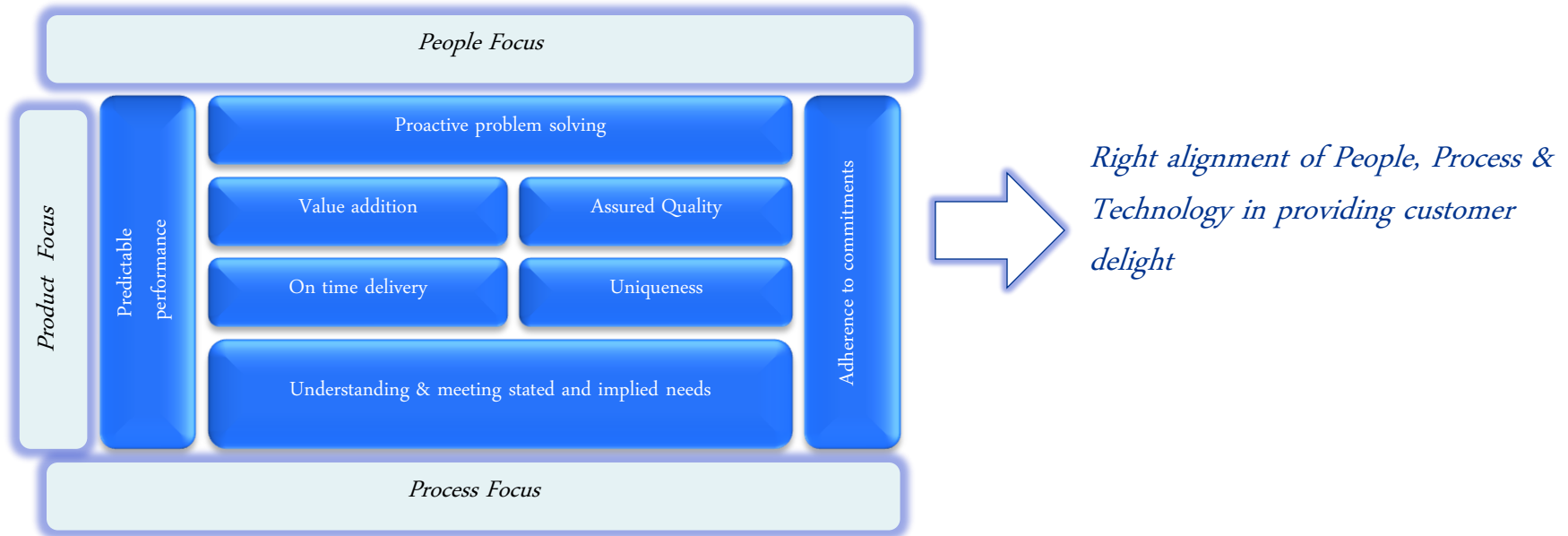




Business Excellence

Business Excellence comes from Right Alignment

Excellence is not achieved in isolation.....



A continuous journey towards perfection, a culture building exercise. In the long-run, provide disciplined approach in a chaotic world, resulting into stress-free environment.

Business Excellence is achieved through diverse aspects

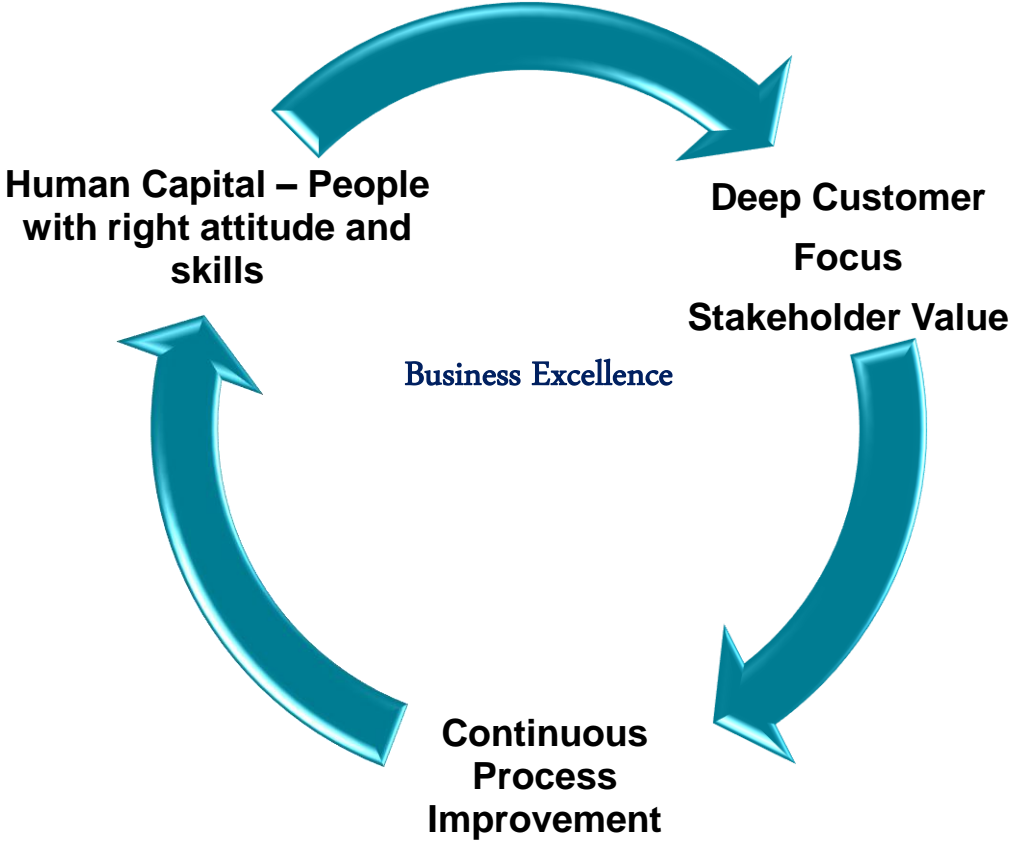
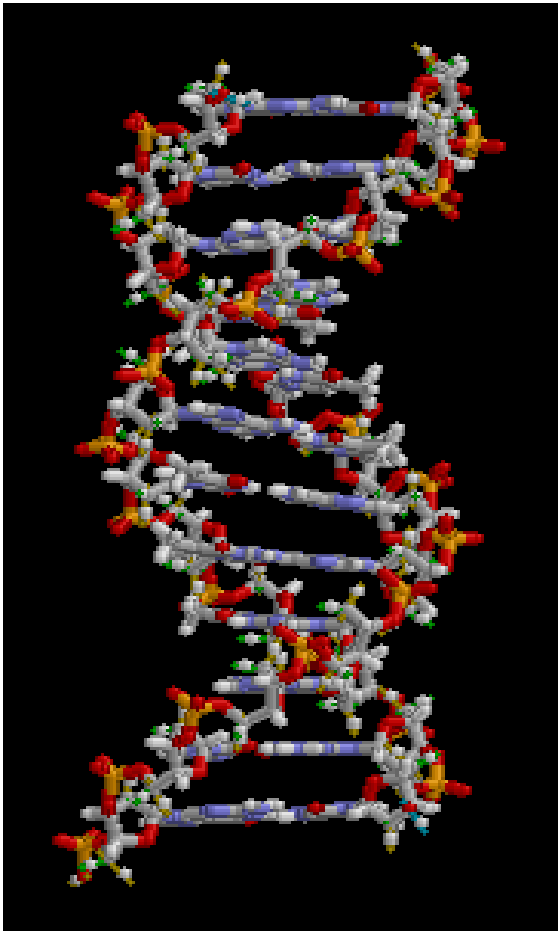


- European Foundation for Quality Management (EFQM)



*"The secret of joy in work is contained in one word - excellence.
To know how
to do something well is to enjoy it."
- Pearl Buck*

DNA for Business Excellence --- Focus and Alignment

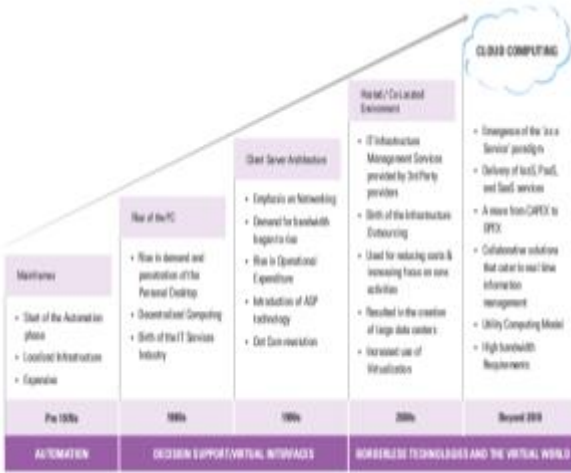




The Industry Context

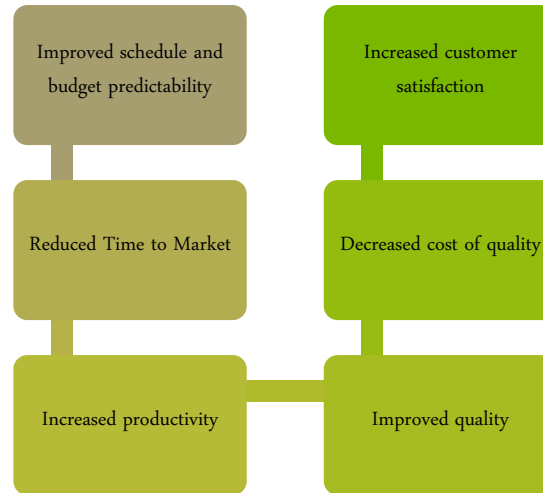
Dynamics of the IT Industry and the role of process improvements

Cloud Computing – The hot new trend in the IT services landscape



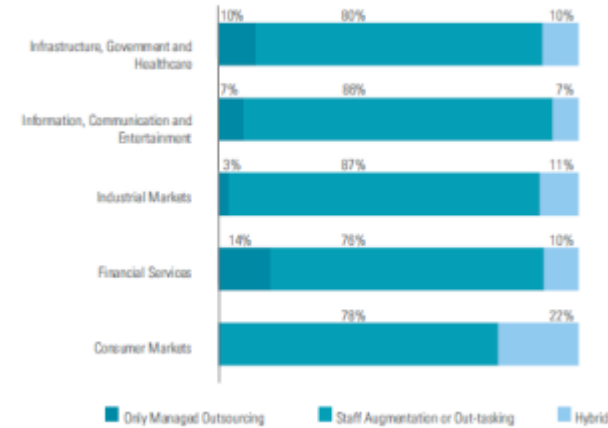
Source: PwC's The Cloud: Changing the Business Landscape, 2011

Process Improvement has a proven ROI within the IT industry



Outsourcing a prominent feature in the ever growing IT Industry

TYPE OF OUTSOURCING AGAINST INDUSTRY SECTORS



Source: KPMG's IT matters as long as business gets value, 2011

Challenges faced by the CEO/ CIO/ CTO

- Optimize my IT business performance
- IT Portfolio aligned to my organizational business processes and architecture
- Strategic alignment, efficiency, and effective operations**
- Minimize inefficient cost structures and ineffective spend management**
- Lack of visibility and transparency of IT Spend and performance**
- Ineffective governance because of weak structures and weak collaboration of work groups, vendors and business**
- Driving the green IT agenda
- Improving the agility of the delivery of the IT organization

Agile perspective of software development

| | Traditional View | Agile Perspective |
|---|---|--|
| Design Process | Deliberate and formal, linear sequence of steps, separate formulation and implementation, rule-driven | Emergent, iterative and exploratory, knowing and action inseparable, beyond formal rules |
| Goal | Optimization | Adaptation, flexibility, responsiveness |
| Problem-solving Process | Selection of the best means to accomplish a given end through well-planned, formalized activities | Learning through experimentation and introspection, constantly refining the problem and its solution |
| View of the Environment | Stable, predictable | Turbulent, difficult to predict |
| Type of Learning | Single-loop/adaptive | Double-loop/generative |
| Key Characteristics | Control and direction Avoid conflict Formalizes innovation Manager is controller Design precedes implementation | Collaboration and communication, integrates different worldviews Embraces conflict and dialectics Encourages exploration and creativity, opportunistic Manager is facilitator Design and implementation are inseparable and evolve iteratively |
| Rationality | Technical/functional | Substantial |
| Theoretical and/or Philosophical Roots | Logical positivism, scientific method | Action learning, John Dewey's pragmatism, phenomenology |

Dybala, Tom; Torgeir Dingoyar, *What Do We Know about Agile Software Development*, Published by the IEEE Computer Society, 0740-7459/04, 2009

When to leverage IT Process Improvements?



Event Driven

- Process standardization upon organizational changes
Eg : Mergers and acquisition, shared services
- Reviewing Outsourced Relationships

Regular Business Plans Driven :

- Addressing business needs of cost optimization and maximizing IT investments
- Enhance/ achieve process maturity as per industry standards/ frameworks (ISO, CMMI, ITIL, Six Sigma, PMBoK)

Focused 'quick win' improvement areas

- Risk management;
- Estimation;
- Defect prevention;
- Metrics program;
- Test management (test process & practice);
- Change and Configuration Management;
- Incident and problem management;
- Service level management;
- Capacity and Availability management;
- Improved Customer satisfaction



**Models applicable in IT
Landscape**

Process Improvement Frameworks

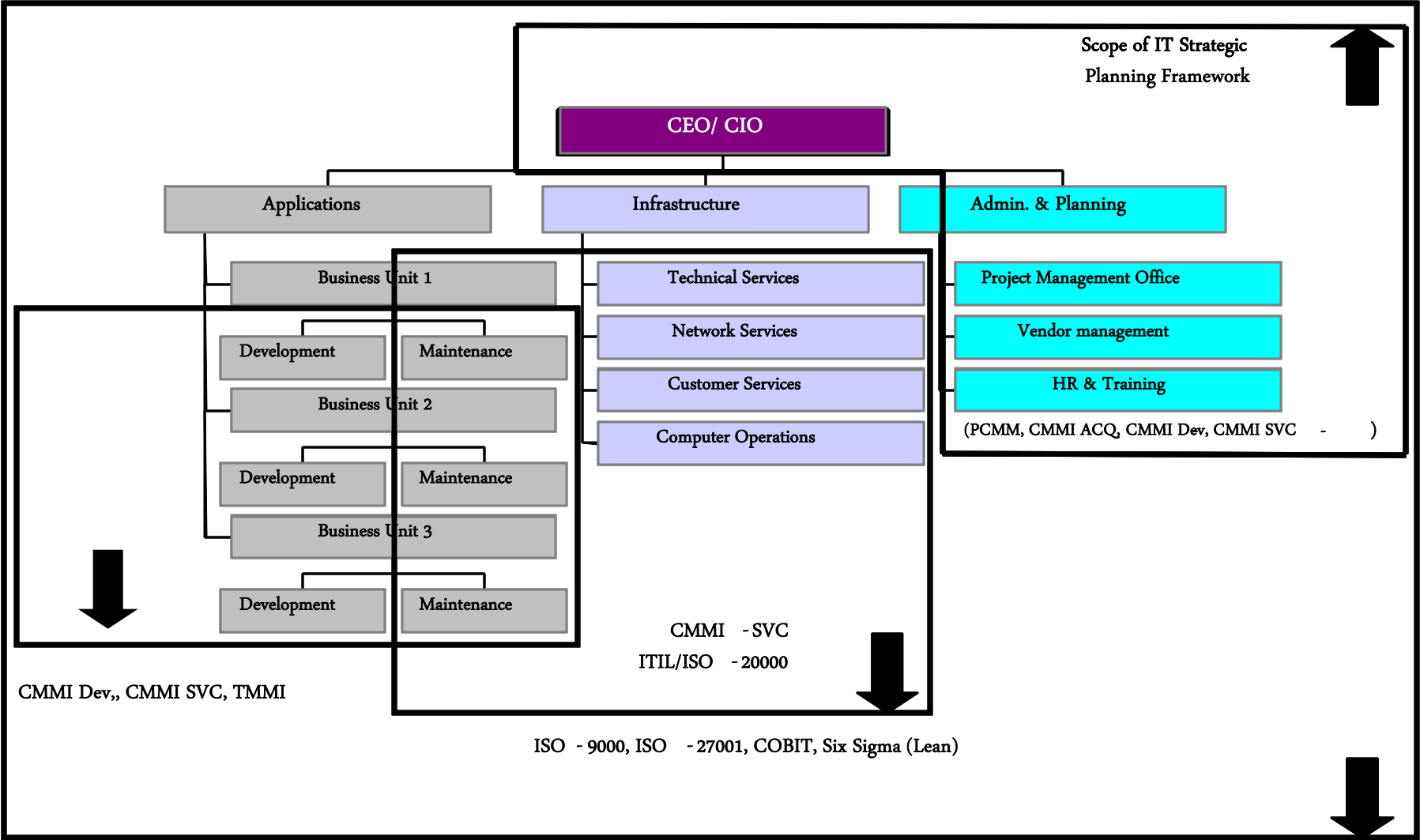
Model Focus

Model Approach

| | Quality Management/ Improvement | IT Governance | Service Management | Engineering/ Development | Project Management | People Management |
|----------------------|------------------------------------|--------------------------|-----------------------------|-------------------------------|--------------------|---------------------------|
| How | | | ITIL | Agile RUP TSP SWEBOK | PRINCE-2 | |
| What | TQM EFQM ISO | SOX COBIT CERT RMM | eSCM CMMI SVC ISO 20K | | PMBOK | PCMM |
| Techniques/ Tools | Six Sigma Lean IDEAL | | | | ATAM SCRUM | Competency Assessment* |

* Competency Assessment - KPMG's approach
 ATAM – Architecture Trade ff Analysis Method

Process Improvement Models and Standards Landscape in IT Services



Telecommunications

- e-Tom
- TL 9000

Pharmaceuticals

- ISO 13485:2003 - medical industry's equivalent of ISO 9001:2000.
- CFR

Financial Services

- SOX
- COBIT

Automotive

- ISO15504 and Automotive SPICE
- TS 16949 defines requirements in addition to those in ISO 9001:2008 specifically for the automotive industry
- QS 9000

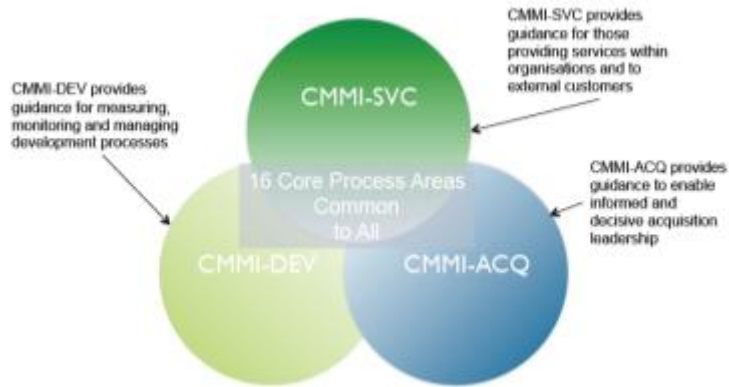
IT/ IT Services

- TickIT guidelines are an interpretation of ISO 9000 for software development
- ISO/IEC 90003:2004 provides guidelines for the application of ISO 9001:2000 to computer software
- IEEE, CMMI, ITIL , P-CMM

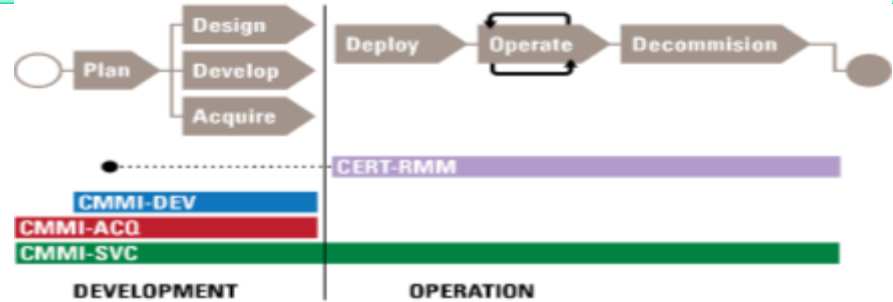
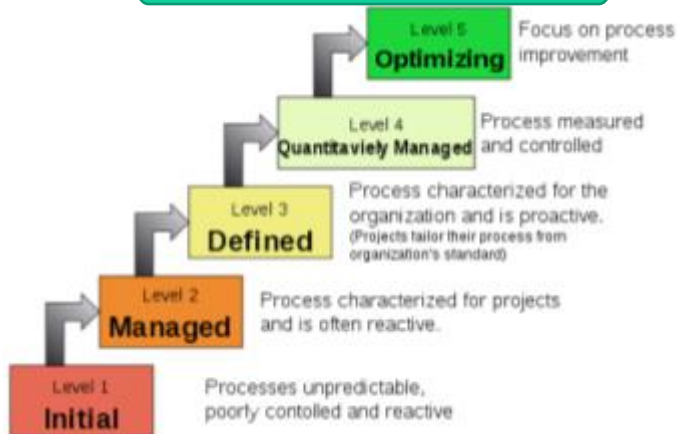
Capability Maturity Model Integration (CMMI)—DEV

Capability Maturity Model Integration (CMMI) is a process improvement approach whose goal is to help organizations improve their performance. CMMI can be used to guide process improvement across a project, a division, or an entire organization

CMMI Architecture and Constellations



Characteristics of the Maturity levels



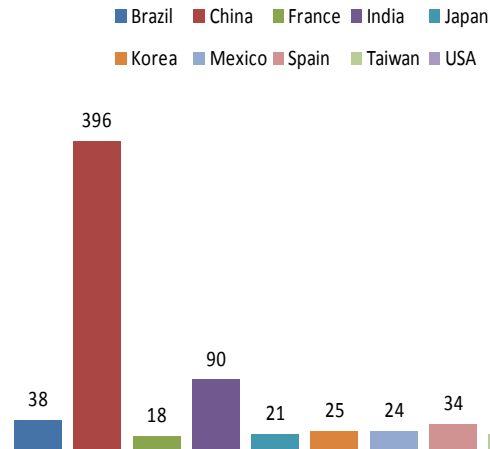
CMMI - Core process areas

| Abbreviation | Name | Area | Maturity Level |
|--------------|---------------------------------------|--------------------|----------------|
| REQM | Requirements Management | Project Management | 2 |
| PPQA | Process and Product Quality Assurance | Support | 2 |
| PP | Project Planning | Project Management | 2 |
| PMC | Project Monitoring and Control | Project Management | 2 |
| MA | Measurement and Analysis | Support | 2 |
| CM | Configuration Management | Support | 2 |
| RSKM | Risk Management | Project Management | 3 |
| OT | Organizational Training | Process Management | 3 |
| OPF | Organizational Process Focus | Process Management | 3 |
| OPD | Organizational Process Definition | Process Management | 3 |
| IPM | Integrated Project Management | Project Management | 3 |
| DAR | Decision Analysis and Resolution | Support | 3 |
| QPM | Quantitative Project Management | Project Management | 4 |
| OPP | Organizational Process Performance | Process Management | 4 |
| OPM | Organizational Performance Management | Process Management | 5 |
| CAR | Causal Analysis and Resolution | Support | 5 |

CMMI- Dev Industry Trends

CMMI Dev Appraisals – International

- Largest appraisals in China (396) followed by USA (214) and India (90)
- Other Asian countries like Japan (21), Korea (25) and Taiwan (20) also feature in top 10.
- African country Brazil (38) and European countries Spain (34) and France (18) also have promising number of CMMI Dev Appraisals.



CMMI Dev Appraisals – Levels

| Level | Staged Representation Maturity Levels |
|---------|--|
| Level 1 | Initial |
| Level 2 | Managed |
| Level 3 | Defined |
| Level 4 | Quantitatively Managed |
| Level 5 | Optimizing |

Extracted from SEI, PARS database

CMMI Dev Specific Process Areas

Technical Solution-TS

Product Integration - PI

Verification - VER

Validation - VAL

Requirements Development -RD

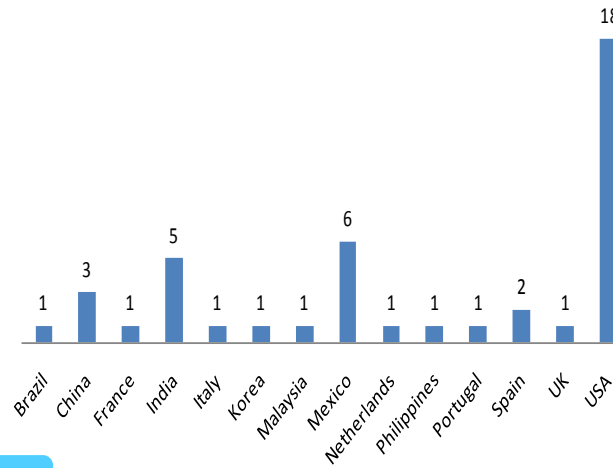
Key Benefits

- Better customer satisfaction
- Increased quality
- More accurate schedules
- Lower development costs
- Substantial return on investment
- Improved employee morale and reduced turnover

CMMI-SVC Industry trends

CMMI SVC Appraisals - International

- USA has the highest number of CMMI SVC (18) appraisals followed by Mexico (6).
- Asian countries India (5) and China (3) come next.
- The number of appraisals in European countries is less as compared to USA and Asian countries.

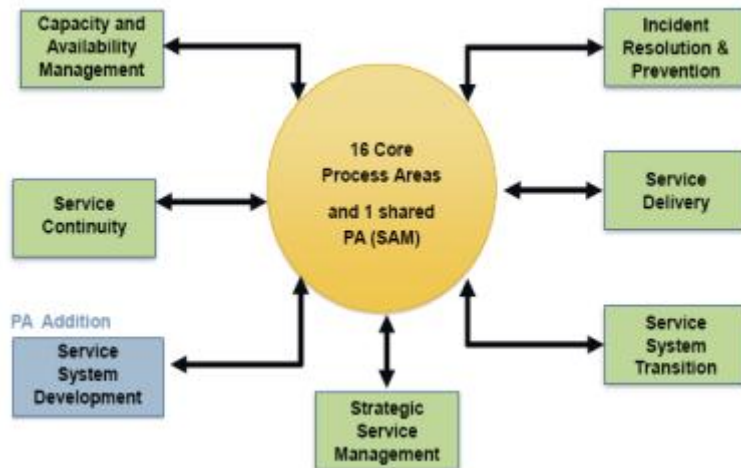


Extracted from SEI, PARS database

Key Benefits

- Improvement in existing processes
- Service management and improvement in the same
- Strengthening planning and execution activities
- Issue management and improvement based on the same
- SLA improvement
- Capacity planning
- Enhancing service capability

CMMI SVC Specific Process Areas



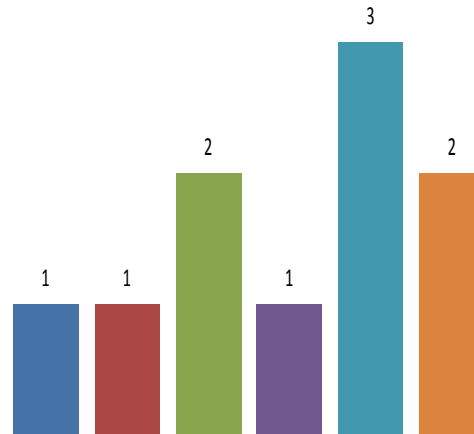
CMMI SVC Levels

- Level 1: Ad-hoc Processes; no visibility for management into individual service performance
- Level 2: Basic Management Processes ; Enhances visibility for management into service performance
- Level 3: Service Management Processes, Stress is on Standardization, Service Continuity etc.
- Level 4: Predict Performance and Use Statistical Techniques for Decision making and Control at Project and Organization Level
- Level 5: Improve Performance through incremental & innovative process & technology improvements

CMMI-ACQ Industry Trends

CMMI ACQ Appraisals - International

■ Belgium ■ Chile ■ France ■ Spain ■ Taiwan ■ USA



- Taiwan leads the appraisals with 3 over France and USA with 2 each.
- No Asian countries in the list apart from Taiwan.
- Though many companies are doing acquisitions in countries all over the world, the CMMI ACQ appraisals is very negligible in number.

Extracted from SEI, PARS database

Key Benefits

- Reduction in Mismanagement
- Increase in ability to articulate customer needs
- Enhanced requirements definition
- Adequate supplier selection and contracting processes
- Sufficient technology selection procedures
- Controlled requirements changes

CMMI ACQ - Specific Process Areas

Acquisition Requirements Development (ARD)

Solicitation and Supplier Agreement Development (SSAD)

Acquisition Technical Management (ATM)

Acquisition Verification (AVER)

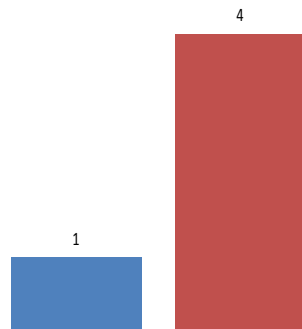
Acquisition Validation (AVAL)

CMMI ACQ Appraisals – Levels

| Level | Staged Representation Maturity Levels |
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| Level 1 | Initial |
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| Level 5 | Optimizing |

CMMI ACQ Appraisals - International

■ Financial Services ■ IT / ITeS



- Out of the 5 registered appraisals, 4 are in IT / ITeS and 1 in Financial Service.
- 3 appraisals in India have happened in the IT / ITeS sector.

Extracted from SEI, PARS database

Key Benefits

- Implementers are able to maintain, best employer, due to innovative practices
- Reduction in Attrition rate
- Continuous enhancement, of employee satisfaction rates
- CEO's find this model as organizational building model
- Able to demonstrate ROI on investment on people
- Prospective employees do mention one of their reason for joining is PCMM practicing organization

PCMM Model Process Areas

| Levels | Developing Competency | Building workgroups & culture | Motivating & managing performance | Shaping the workforce |
|------------------------|---|--|--|--------------------------------------|
| 5 – Optimizing | Continuous Capability Improvement | | Organizational Performance Alignment | Continuous workforce Innovation |
| 4 – Predictable | Competency based assets Mentoring | 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 |

ITIL is the IT Infrastructure Library, a set of publications providing descriptive (i.e., what to do, for what purpose and how to do it) guidance on IT service management. ITIL has become the international de facto standard guidance for IT service management. ITIL was created in the late 1980s by and for the Office of Government Commerce, United Kingdom and later expanded for use in all organizations.

Worldwide ITIL Adoption

- Over **15,000 companies across the globe have adopted ITIL**, including Proctor & Gamble, the Internal Revenue Service and Boeing.
- There are about **80,000 certified ITIL professionals, with about 7,500** more added annually.
- **Europe has been big on ITIL** since its inception while **ITIL adopters** are springing up across the **United States since the adoption of ITIL by Microsoft, Hewlett-Packard, and IBM.**

ITIL Maturity Levels

| Level | ITIL Maturity |
|---------|-----------------------------|
| Level 1 | ITIL Awareness Level |
| Level 2 | ITIL Foundation Level |
| Level 3 | ITIL Practitioner Level |
| Level 4 | ITIL Service Managers Level |

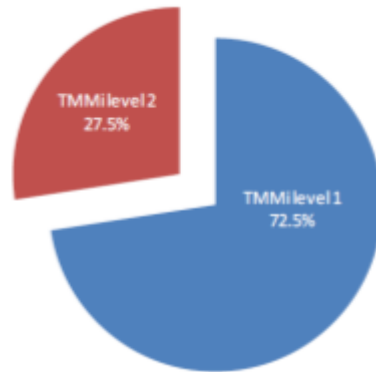
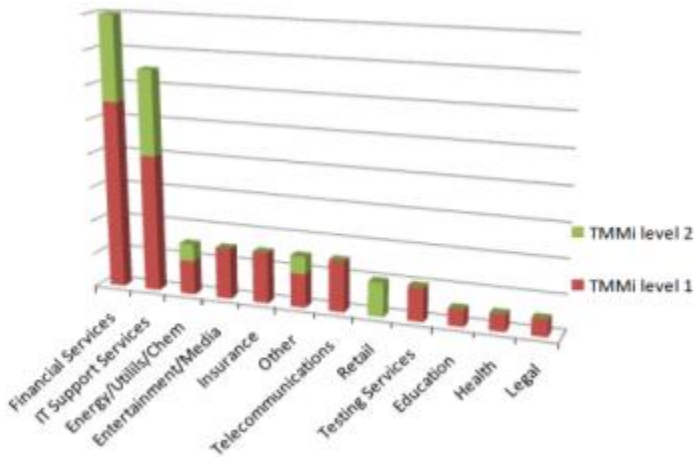
Key Benefits



- ITIL is a best practices framework. ITIL is a synthesis of ideas drawn from international practitioners - not academic theory of how things should be or a vendor's view of how to operate its products.
- It describes a proven practical framework for the planning and delivery of operational IT services, based on actual experience rather than a purely theoretical approach.
- It provides non-proprietary and impartial guidance that is applicable to both public and private sector organizations and is independent of the hardware and software being used.

- It is public domain and can be used without payment of any license fees.
- Its guidance is consistent with British Standard BS 15000:2000 Specification for IT Service Management.
- It has a global network of user groups, providing peer support
- It's approach and customer focus are strongly aligned to the ISO 9001:2000 quality standard and will support an organization's quality management system

Worldwide TMMi Adoption



| Level | Process Areas |
|-------------------------------|---|
| Level 2 - Managed | Test Policy and Strategy Test Planning Test Monitoring and Control Test Design and Execution Test Environment |
| Level 3 – Defined | Test Organization Test Training Program Test Lifecycle and Integration Non-Functional Testing Peer Reviews |
| Level 4– Measured | Test Measurement Software Quality Evaluation Advanced Peer Reviews |
| Level 5 – Optimization | Defect Prevention Test Process Optimization Quality Control |

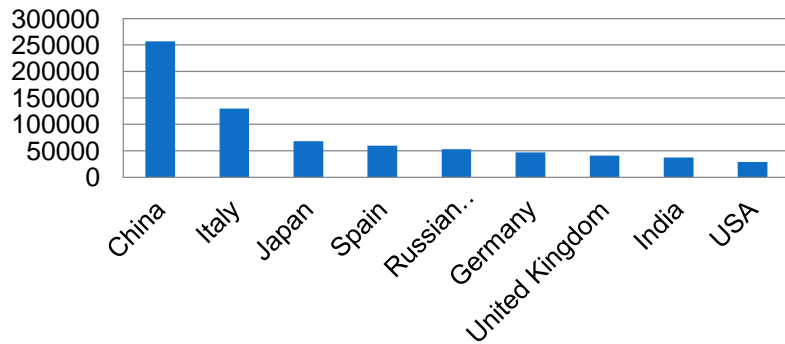
Key Benefits

- ✓ Reduced cost of testing
- ✓ Lesser loss of revenue due to downtime, performance issues
- ✓ Reduction in customer complaints, litigations
- ✓ Increased bandwidth to focus on testing the right feature
- ✓ Ensure product reliability by additional testing, with reduces effort

- ✓ Faster go to Market
- ✓ Reduced Testing costs
- ✓ Agility to delivery quality products quicker
- ✓ Increased customer satisfaction
- ✓ Flexible solutions
- ✓ Faster business benefit realization
- ✓ Additional Value added services

ISO Trends

Top countries for ISO 9001 certificates - 2009



TickIT

The **TickIT** guidelines are an interpretation of ISO 9000 produced by the UK Board of Trade to suit the processes of the information technology industry, especially software development

Software development organizations seeking TickIT Certification are required to show conformity with ISO 9000.

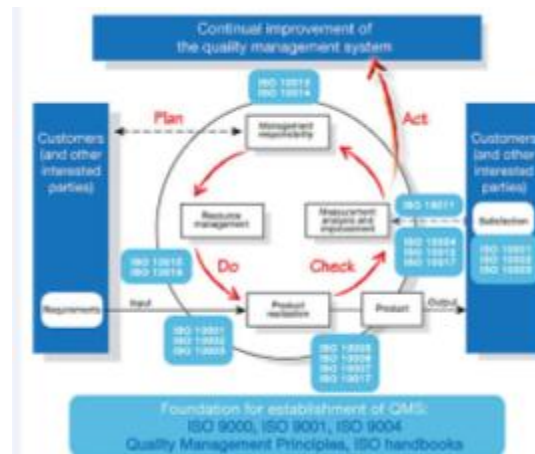
Major objective was to provide industry with a practical framework for the management of software development quality by developing more effective quality management system certification procedures.

These involved:

Publishing guidance material to assist software organizations interpret the requirements of ISO 9001 training, selecting and registering auditors with IT experience and competence, and introducing rules for the accreditation of certification bodies practicing in the software sector

Process model of the ISO 9000

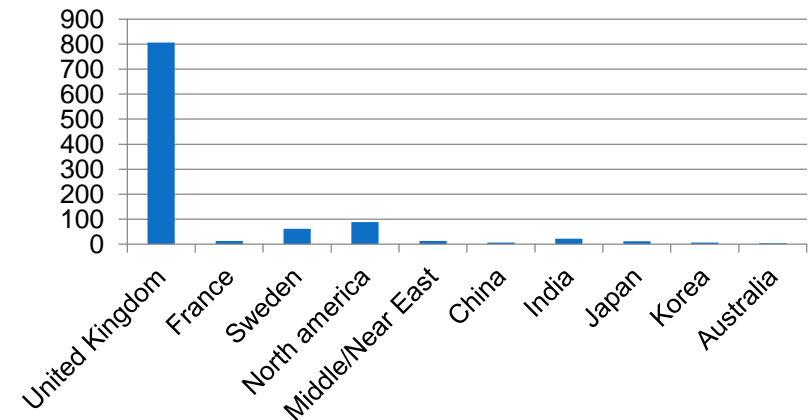
family of Standards



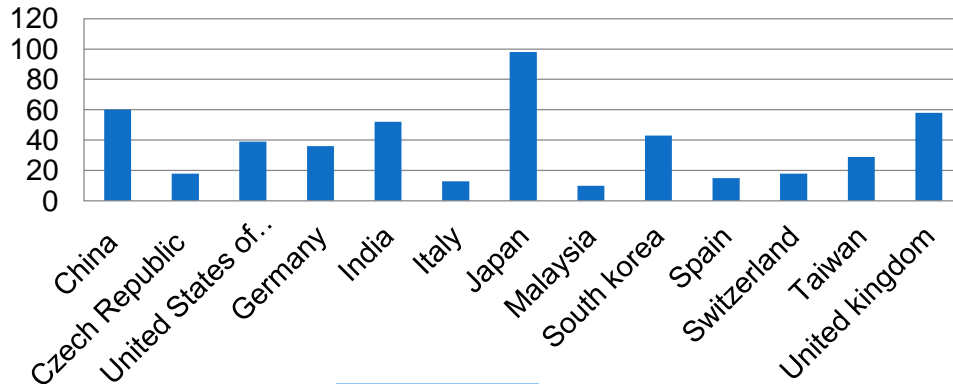
Key Benefits

- Renders Competitive advantage
- Improves business performance and manages business risk
- Attracts investment, enhances brand reputation and removes barriers to trade
- Saves you money
- Streamlines operations and reduces waste
- Encourages internal communication and raises morale
- Increases customer satisfaction

TickIT certified Organizations



ISO/IEC 20000 Certified Organizations



Key Benefits

1. Alignment of information technology services and business strategy.
2. Creation of a formal framework for current service improvement projects
3. Provides a benchmark type comparison with best practices
4. Creates competitive advantage via the promotion of consistent and cost-effective services.
5. By requiring ownership and responsibility at all levels, it creates a progressive ethos and culture.
6. Supports 'interchanging' of service providers and staff by virtue of the creation of inter-enterprise operational processes.
7. Reduction of risk and thus cost in terms of external service receipt
8. Through the creation of a standard consistent approach, aids major organizational changes.
9. Enhanced reputation and perception
10. Fundamental shift to pro-active rather than re-active processes
11. Improved relationship between different departments via better definition and more clarity in terms of responsibility and goals.
12. Creation of a stable framework for both resource training and service management automation.

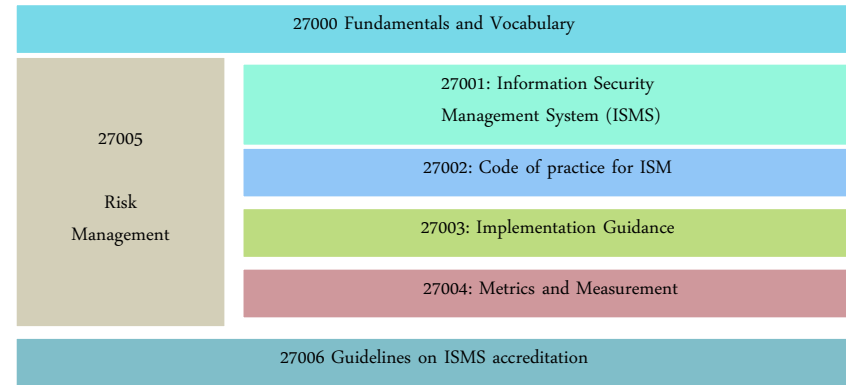
| ISO 20000 Clause | ISO 20000 Process |
|--|---|
| Requirements for a Management System | Management Responsibility Documentation Requirements Competence, Awareness & Training |
| Planning and Implementing Service Management | Plan, Implement, Monitor, Improve (Plan, Do, Check, Act) |
| Planning New Services | Planning and Implementing New or Changed Services |
| Service Delivery Management | Service Level Management Service Reporting Service Continuity & Availability Budget & Accounting for IT Services Capacity Management Information Security Management |
| Relationship Process | Business Relationship Process Supplier Management |
| Resolution Process | Incident Management Problem Management |
| Control Process | Configuration Management Change Management |
| Release Process | Release Management |

ISO 27000

Number of ISO/IEC 27001(or equivalent) certificates



Structure of 27000 series



Key Benefits

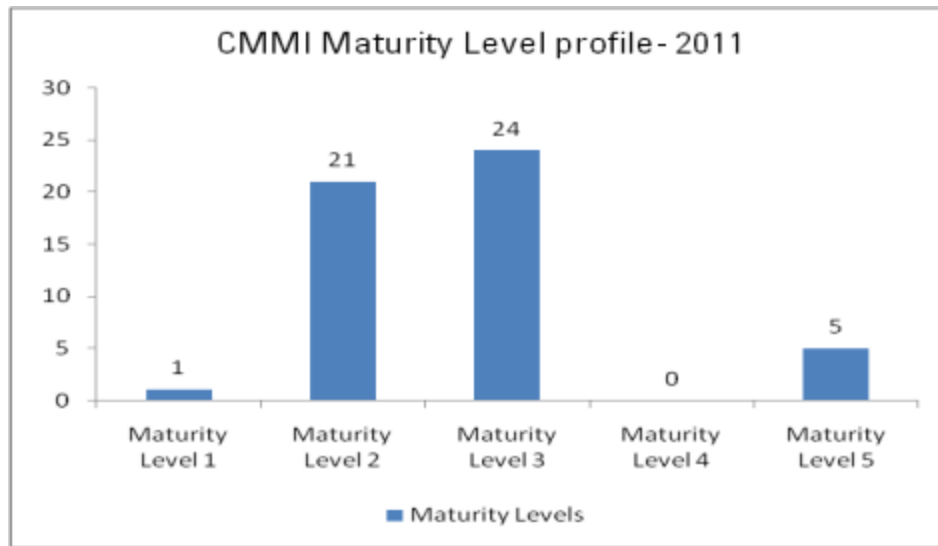
Interoperability - This is a general benefit of standardization. The idea is that systems from diverse parties are more likely to fit together if they follow a common guideline.

Assurance - Management can be assured of the quality of a system, business unit, or other entity, if a recognized framework or approach is followed.

Due Diligence - Compliance with, or certification against, an international standard is often used by management to demonstrate due diligence.

Bench Marking - Organizations often use a standard as a measure of their status within their peer community. It can be used as a bench mark for current position and progress.

Awareness - Implementation of a standard such as ISO 27001 can often result in greater security awareness within an organization.



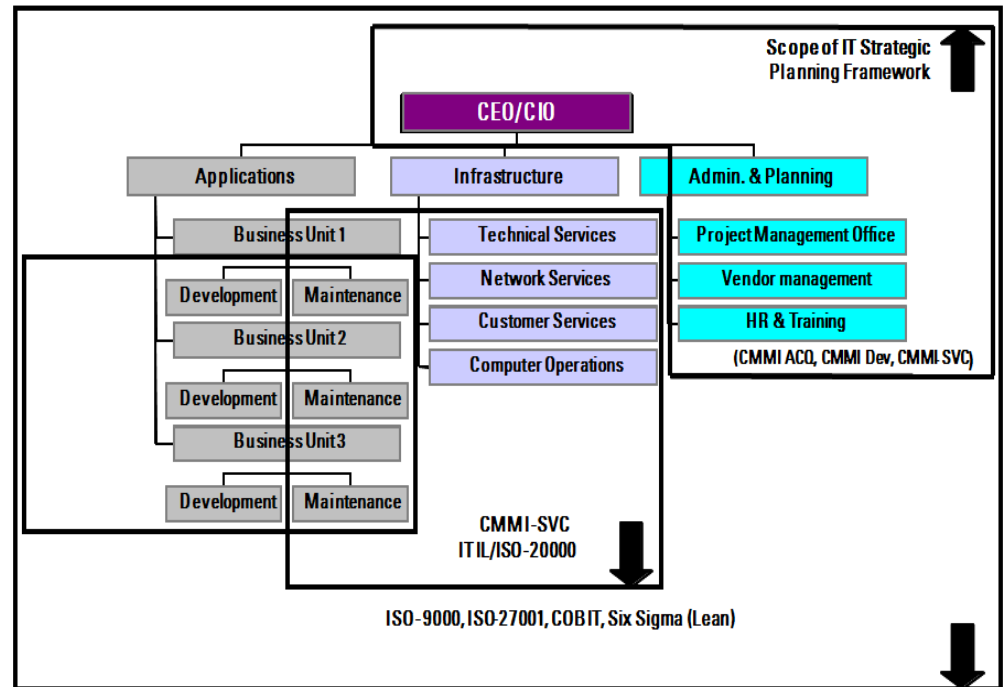
- High number of CMMI Dev appraisals were done [In 2011 ,72 CMMI Dev appraisals done till now]
- Good opportunity for SVC implementation across IT/ ITES and other sectors
- Increasing interest in PCMM based improvements

Integrating Process Improvements --Implementation Challenges

- Aligning corporate commitments by adjusting priorities based on budgets
- Defining key success indicators and critical metrics that meet the businesses needs
- Effective and timely stakeholder communication
- Hiring and retaining CMMI model-knowledgeable, experienced resources as a support function
- Gaining customer acceptance for implementing improvement frameworks
- Process knowledge remaining as a concept with various subject matter experts and not spread
- Process documentation is still considered as a pain area/ overhead
- Relating perceived benefits to actual benefits
- Finding the optimal sequence of implementing the processes within each framework
- Not one model can fix all quality problems in an organization – hence the need for Integrated frameworks

Need for Integrated Frameworks

- Compliance to various process models has become a *business need* at organization level than a function specific requirement.
- Organizations are diversified with many service lines / departments (development, deployment & operations) etc
- Different frameworks focus on different areas and levels of control



Evolution of Integrated frameworks

- CMMI's multi-model appraisal method
- COBIT's adaptability to plug-in existing models/ practices
- Six Sigma + CMMI at high maturity levels
- Agile + CMMI , facilitates ease of implementation in New product development



Summary

Conclusion — key take aways

- Process improvement models promise reduced costs, increased predictability of project costs and schedules, higher quality and productivity, shorter cycle time leading to **increased customer satisfaction and higher employee morale**
- The **model based trend is growing** and the market is also showing an interest in complementary approaches
- There are many frameworks proliferating the process model market for improved governance . The **right fit and sequencing are critical to enable the benefits**
- Process models help develop a competitive advantage and **can act as a differentiator** with respect to competitors and vendors.
- **Multi-model approaches are gaining** pace to address different aspects while **integrated business excellence approach becomes vital for tapping the full benefits**





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THANK YOU

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