2.0 Integrated IT Governance Framework and Roadmap
• There are a growing number of models and frameworks that address one or more aspects of either business and/or IT Governance. There are few that integrate the components necessary to plan, develop and deploy a comprehensive IT Governance Framework and Roadmap to help guide an organization process improvement initiatives in this area.

• Some organizations use the COBIT (Control Objectives for Information and Related Technologies), but it does not focus on IT/Business Alignment or performance or outsourcing and is very control oriented.
• Others approach the problem from a security perspective and use ISO 17799 and ISO 27001 as a framework. Efforts are being made to correlate COBIT with ITIL, ISO 17799/ISO27001, CMMI, Prince2, PMBOK and other frameworks. Still others focus on strategic sourcing and are using ITsqc and the IAOP frameworks.

• The integrated IT Governance Framework and Roadmap proposed in this section includes the above frameworks plus additional ones that are very relevant to improving IT governance maturity and effectiveness.
Objectives

• Introduce an Integrated IT Governance Framework and Roadmap
• Provide an overview of select examples of current and emerging industry (vendor independent) best practice frameworks, maturity models and standards
• Identify the prerequisites for successful IT governance
• Identify the parameters that should determine how much IT governance is required
Benefits of Using an Integrated IT Governance Framework Leveraging Current and Emerging Best Practices Models, Frameworks and Standards

- Grounded in industry best practice research and experience
- Improve trust, credibility and confidence
- Overcome vertical silos and avoid re-inventing wheels
- Faster Acceptance
- Better Resource Utilization (Reduce, contain and/or avoid costs) based on standards
- Improve Customer Satisfaction and Responsiveness
- Common Terminology
- Clear Accountability
- Consistent, Repeatable, End-to-End, Measurable Processes
- Accelerated deployment (do not have to re-invent the wheel)
Integrated IT Governance Framework & Roadmap - Required to Plan, Develop, Deploy & Sustain an Effective Governance Policy and Process

• The Integrated Governance Framework consists of a composite of five (5) critical IT governance imperatives (which leverage best practice models) and address the following work areas:
  - Business Plan and Objectives (Demand Management)
  - IT Plan and Objectives (Demand Management) - IT Plan Execution (Execution and Resource Management – includes PM/PMO, ITSMD/ITIL, etc.)
  - Performance Management and Monitoring and Management Controls
  - Strategic Sourcing, Outsourcing and Vendor Management
  - People Development, Learning and Continuous Process Improvement

• For each IT governance imperative, a description of the components are provided as well as the deliverables and appropriate best practice model, frameworks and standard references

• An overview of select best practice models critical to IT Governance is provided, Deploy & Sustain an Effective Governance Policy and Process
Strategic Corporate Value Propositions - Alternatives For Focus*
(Effective Use of IT Can Enable – Innovation, Growth, Profitability, Asset Management, Cost Control and Customer Satisfaction)

CUSTOMER INTIMACY
(e.g. 80/20 rule; % of repeat customers; % of customer dollar spent; exceptional customer service, etc.)

VALUE PROPOSITION CHOICES

OPERATIONAL EXCELLENCE (LOW COST)
(e.g. 6 Sigma, CMMI, PPM, ISO 9000, Outsourcing; RO(ROA))

PRODUCT LEADERSHIP
(e.g. Innovation, Speed to Market; Growth, % Change in Revenue, ROI)

* A COMPANY CANNOT BE ALL THINGS TO ALL PEOPLE - PICK ONE & EXCEL. COMPETE IN THE OTHER TWO.
# PM Knowledge

## Project Management Knowledge Areas

<table>
<thead>
<tr>
<th>4. Project Integration Mgt.</th>
<th>5. Project Scope Management</th>
<th>6. Project Time Management</th>
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<td>4.1 Develop Project Charter</td>
<td>5.1 Scope Planning</td>
<td>6.1 Activity Definition</td>
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<td>4.2 Develop Preliminary Scope</td>
<td>5.2 Scope Definition</td>
<td>6.2 Activity Sequencing</td>
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<td>4.3 Develop Project Mgt. Plan</td>
<td>5.3 Create WBS</td>
<td>6.3 Activity Resource Estimating</td>
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<td>4.4 Direct &amp; Manage Project Execution</td>
<td>5.4 Scope Verification</td>
<td>6.4 Activity Duration Estimating</td>
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<td>4.5 Monitor &amp; Control Project Work</td>
<td>5.5 Scope Control</td>
<td>6.5 Schedule Development</td>
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<tr>
<td>4.6 Integrated Change Control</td>
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<td>6.6 Schedule Control</td>
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<td>4.7 Close Project</td>
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<tbody>
<tr>
<td>7.2 Cost Budgeting</td>
<td>8.2 Perform Quality Assurance</td>
<td>9.2 Acquire Project Team</td>
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<tr>
<td>7.3 Cost Control</td>
<td>8.3 Perform Quality Control</td>
<td>9.3 Develop Project Team</td>
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<td>9.4 Manage Project Team</td>
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<tbody>
<tr>
<td>10.1 Communications Planning</td>
<td>11.1 Risk Management Planning</td>
<td>12.1 Plan Purchasing &amp; Acquisitions</td>
</tr>
<tr>
<td>10.2 Information Distribution</td>
<td>11.2 Risk Identification</td>
<td>12.2 Contracting Plan</td>
</tr>
<tr>
<td>10.3 Performance Reporting</td>
<td>11.3 Qualitative Risk Analysis</td>
<td>12.3 Request Seller Responses</td>
</tr>
<tr>
<td>10.4 Manage Stakeholders</td>
<td>11.4 Quantitative Risk Analysis</td>
<td>12.4 Select Sellers</td>
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<td>11.5 Risk Response Planning</td>
<td>12.5 Contract Administration</td>
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<td></td>
<td>11.6 Risk Monitoring and Control</td>
<td>12.6 Contract Closure</td>
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</table>
PMI’s Organizational Project Management Maturity Model (OPM3)

• Overview: PMI’s OPM3 is a guideline comprised of three key elements that are intended to help organizations self-assess their PM organizational capabilities and improve their level of PM maturity.

• Knowledge Element – Describes organization project management maturity, explains why it is important and how maturity can be recognized.

• Assessment Element - Identifies methods, processes and procedures that an organization can use to self-assess its PM maturity.

• Improvement Element – Provides a process for moving an organization from its current level of maturity to higher levels of maturity. OPM3 is not an organization certification framework, but represents a continuous improvement process.
PMMM (Project Management Maturity Model) – Blends PMI’s PMBOK 9 knowledge areas with SEI’s CMMI’S 5 (Software Engineering Institute’s Capabilities Maturity Model Integrated) levels of maturity and enables organizations to self-assess their project management capabilities in the PMBOK areas at any given level and focus on identified activities that would help to achieve continuous improvements up the PM maturity ladder.

• PMMM represents a 5-level project management maturity model developed by PM Solutions, Inc. which integrates:
  • PMI’s PMBOK 9 Knowledge Areas with SEI’s 5 Levels of Maturity:
    – Level 1 – Initial Process
    – Level 2 – Structured Process and Standards
    – Level 3 – Organizational Standards and Institutionalized process
    – Level 4 – Managed Process
    – Level 5 – Optimized Process
PMMM identifies a well-defined and easy-to-use road map to improve organizational PM maturity

- PMMM enables an organization to assess its project management capabilities in the PMBOK knowledge areas at any given level.
<table>
<thead>
<tr>
<th>Levels of Project Management Maturity</th>
<th>Level 1 Initial Process</th>
<th>Level 2 Structured Process and Standards</th>
<th>Level 3 Organizational Standards and Institutionalized Process</th>
<th>Level 4 Managed Process</th>
<th>Level 5 Optimized Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Integration Management</td>
<td>No established practices, standards, or Project Office. Work performed in ad hoc fashion.</td>
<td>Basic, documented processes for project planning and reporting. Management only involved on high-visibility projects.</td>
<td>Project integration efforts institutionalized with procedures and standards. Project Office beginning to integrate project data.</td>
<td>Processes/standards utilized by all projects and integrated with other corporate processes/systems. Decisions based on performance metrics.</td>
<td>Project integration improvement procedures utilized. Lessons learned regularly examined and used to improve documented processes. Effectiveness and efficiency metrics drive project scope decisions by appropriate levels of management. Focus on high utilization of value.</td>
</tr>
<tr>
<td>Project Scope Management</td>
<td>General statement of business requirements. Little/no scope management or documentation. Management aware of key milestones only.</td>
<td>Basic scope management process in place. Scope management techniques regularly applied on larger, more visible projects.</td>
<td>Full project management process documented and utilized by most projects. Stakeholders actively participating in scope decisions.</td>
<td>Full project management processes used on all projects. Projects managed and evaluated in light of other projects.</td>
<td>Improvement procedures utilized for time management processes. Lessons learned are examined and used to improve documented processes.</td>
</tr>
<tr>
<td>Project Cost Management</td>
<td>No established practices or standards. Cost process documentation is ad hoc and individual project teams follow informal practices.</td>
<td>Processes exist for cost estimating, reporting, and performance measurement. Cost management processes are used for large, visible projects.</td>
<td>Cost processes are organizational standard and utilized by most projects. Costs are fully integrated into project office resource library.</td>
<td>Cost planning and tracking integrated with Project Office, financial, and human resources systems. Standards tied to corporate processes.</td>
<td>Lessons learned improve documented processes. Management actively uses efficiency and effectiveness metrics for decision-making.</td>
</tr>
<tr>
<td>Project Quality Management</td>
<td>No established project quality practices or standards. Management is considering how they should define &quot;quality.&quot;</td>
<td>Basic organizational project quality policy has been adopted. Management encourages quality policy application on large, visible projects.</td>
<td>Quality process is well documented and an organizational standard. Management involved in quality oversight for most projects.</td>
<td>All projects required to use quality planning standard processes. The Project Office coordinates quality standards and assurance.</td>
<td>The quality process includes guidelines for feeding improvements back into the process. Metrics are key to project quality decisions.</td>
</tr>
<tr>
<td>Project Human Resource Management</td>
<td>No repeatable process applied to planning and staffing projects. Project teams are ad hoc. Human resource time and cost is not measured.</td>
<td>Repeatable process in place that defines how to plan and manage the human resources. Resource tracking for highly visible projects only.</td>
<td>Most projects follow established resource management process. Professional development program establishes project management career path.</td>
<td>Project team performance measured and integrated with career development.</td>
<td>Process engages teams to document project lessons learned. Improvements are incorporated into human resources management process.</td>
</tr>
<tr>
<td>Project Communications Management</td>
<td>There is an ad hoc communications process in place whereby projects are expected to provide informal status to management.</td>
<td>Basic process is established. Large, highly visible projects follow the process and provide progress reporting for triple constraints.</td>
<td>Active involvement by management for project performance reviews. Most projects are executing a formal project communications plan.</td>
<td>Communications management plan is required for all projects. Communications plans are integrated into corporate communications structure.</td>
<td>An improvement process is in place to continuously improve project communications management. Lessons learned are captured and incorporated.</td>
</tr>
<tr>
<td>Project Risk Management</td>
<td>No established practices or standards in place. Documentation is minimal and results are not shared. Risk response is reactive.</td>
<td>Processes are documented and utilized for large projects. Management consistently involved with risks on large, visible projects.</td>
<td>Risk management processes are utilized for most projects. Metrics are used to support risk decisions at the project and the program levels.</td>
<td>Risk management is actively engaged in organization-wide risk management. Risk systems are fully integrated with time, cost, and resource systems.</td>
<td>Improvement processes are utilized to ensure projects are continually measured and managed against value-based performance metrics.</td>
</tr>
<tr>
<td>Project Procurement/Vendor Management</td>
<td>No project procurement process in place. Methods are ad hoc. Contracts managed at a final delivery level.</td>
<td>Basic process documented for procurement of goods and services. Procurement process mostly utilized by the large, visible projects.</td>
<td>Process an organizational standard and used by most projects. Project team and purchasing department integrated in the procurements project management process.</td>
<td>Make/buy decisions are made with an organizational perspective. Vendor is integrated into organization's project management systems.</td>
<td>Procurement process reviewed periodically. On-going process improvements focus on procurement efficiency and effectiveness.</td>
</tr>
</tbody>
</table>
Capability Maturity Model Integrated (CMMI)

CMM was developed by the Software Engineering Institute (at Carnegie Mellon University) and is a process improvement model, originally developed, and still largely used as a framework to guide system and software development efforts and provide a method for assessing the capability of contractors (originally for the U.S. Government).

• CMMI, the successor to CMM, is a software and systems engineering process improvement model that provides a set of practices that address productivity, performance, costs, and overall customer satisfaction.

• The CMMI roadmap consists of three cycles:
  – Entry/Reentry Cycle
    – Specifies the actions required to evaluate, adopt and adapt processes for continuous improvement and reduction of defects.
  – Implementation Cycle
    – Specifies the action required to create an environment and the infrastructure needed for improvement.
  – Process Cycle
    – Specifies the actions required to execute and monitor the processes.
CMMI process areas consist of 5 maturity levels (See Diagram).

- CMMI Certification is performed by licensed third party organizations.
- CMMI is generally pursued by large software development shops or vendors supplying software or systems engineering services to public and private organizations on-shore or off-shore.
CMM/CMMI Process Areas by Maturity Level (Version 1.1)

Level 5: Optimizing
- Focus on CONTINUOUS process improvement

Level 4: Quantitatively Managed
- Process QUANTITATIVELY measured and controlled

Level 3: Defined
- Process characterized for the ORGANIZATION and is PROACTIVE

Level 2: Managed
- Process characterized for PROJECTS and is MANAGED

Level 1: Initial
- Process unpredictable, poorly controlled and REACTIVE
PRINCE2 (Projects in Controlled Environments)

• PRINCE 2, an enhancement to PRINCE, was established by CCTA (Central Computer Telecommunications Agency). It has become a de facto standard used extensively by the UK Government and its vendors to manage IT projects and is widely utilized in the private sector, both in the UK and internationally.

• Key features of PRINCE 2:
  – Focuses on business justification
  – Identifies a defined organization structure and processes for the project management team
  – Product (deliverable) based planning approach
  – Emphasis on dividing (Work breakdown) the project into manageable and controllable stages or packages
  – Flexibility to be applied at a level appropriate to the project
  – Used as a standard for UK government systems projects
ISO 9001 (or ISO 9001) and ISO 14000 Overview

- ISO 9001 focuses on quality improvements and reduction of defects in and applies to an organization’s overall operations.
  ISO 9001: 2000 strives to satisfy customers by continuing to improve the quality of an organization’s processes and operations.
- ISO certification is performed by licensed independent third parties and is recognized globally.
- The ISO 9001 family is primarily concerned with “quality management” This means what an organization does to fulfill:
  – The customer’s quality requirements
  – Applicable regulatory requirements
  – Achieve continual improvement of its performance in pursuing these objectives
- The ISO 14000 family is primarily concerned with “environmental management”. This means what an organization does to:
  – Minimize harmful effects on the environment caused by its activities
  – Achieve continual improvement of its environmental performance
Six Sigma – is about creating accurately predictable output processes that are fully aligned with customer demands

• It is an organizational initiative or discipline that measures statistical variances and determines what pieces of a process must be improved by:
  - Measuring the inputs, efficiency and output
  - Mapping it against customer demands
  - Identifying improvement areas
  - Resetting benchmarks (higher)

• Six Sigma has evolved from quality improvement practices (developed in Japan and the U.S.) and was popularized first by Motorola and then by GE in the USA.

• Technically, Six Sigma is a statistical representation of 3.4 defects per million opportunities.

• Organizationally, Six Sigma represents a managerial methodology for continuous process and product improvement throughout an organization identified by process improvement techniques and measured quantitatively through process variance statistics.

• Six Sigma is an attitude and a frame of mind, not just a methodology.

• To be successful, 6 Sigma requires a radical change in the way an organization works

• According to GE, customers and shareholders love it:
  - It drives customer centricity
  - Reduces costs
  - Improves product/service/systems capability and performance
Eight Steps to Six Sigma:

1. Identify strategic business objectives
2. Identify core, key sub and enabling processes
3. Identify process owners
4. Identify key metrics and dashboards (KPIs - Key Performance Indicators)
5. Collect data from KPIs and analyze
6. Select process improvement criteria
7. Prioritize process improvement projects
8. Continual Management of Processes

GE 6 Sigma Process Improvement Methods:

1. Improved Control – DMAIC – Define, Measure, Analyze, Improve, Control
   (On average, the process is great – the issues lie with the variation)
   (Structural problem with the process)
<p>| | | |</p>
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<tbody>
<tr>
<td>Goal</td>
<td>Create flow and eliminate waste</td>
<td>Improve process capability &amp; eliminate variation</td>
</tr>
<tr>
<td>Application</td>
<td>Primarily manufacturing processes</td>
<td>All business processes</td>
</tr>
<tr>
<td>Approach</td>
<td>Teaching principles &amp; implementation based on best practices</td>
<td>Teaching a generic problem-solving approach relying on statistics</td>
</tr>
<tr>
<td>Project Selection</td>
<td>Driven by Value Map (Highest Value Proposition based on priority selection attributes (e.g. cost reduction, speed to market, contract/legal compliance, load balancing, etc.)</td>
<td>Various approaches (e.g. eliminate variations</td>
</tr>
<tr>
<td>Length of Projects</td>
<td>Under 3 months</td>
<td>Over 3 months</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Training is becoming more formal; uses technology as an enabler</td>
<td>Dedicated resources, broad based training</td>
</tr>
<tr>
<td>Training</td>
<td>Kaizen Workshop of Team</td>
<td>Formal individual certifications</td>
</tr>
</tbody>
</table>
Quality Function Deployment (QFD) Overview

• QFD – structured approach to defining customer needs or requirements and translating them into specific plans to produce products to meet those needs

• Summary of Customer Needs – summarize the needs in a product Planning (requirements) Matrix. These matrices are used to translate higher level “What’s or needs into lower level How’s,” product requirements or technical attributes to satisfy those needs QDF Matrices* –

• QDF matrices are the means and not the end. The real value in in the process of: - Communicating with the customer - Decision making - Multi-functional team participation

• QFD Four Phases* - Product Planning – define customer needs and prioritize strong, moderate and weak, etc. - Assembly/Part Deployment (BOMP) - identify parts and assemblies & translate into characteristics and target values - Process Planning – Determine critical processes, process flows, parameters - Process & Quality Control – Establish process quality, inspection and test methods
Kano Model & Framework Overview

Kano Model – a technique for assessing customer satisfaction by classifying product attributes into three classifications: threshold (basic/musts), one dimensional (performance/linear) and attractive (Exciters/Delighters); determining how they are perceived by the customer and their impact on customer satisfaction. These classification are useful for guiding design decisions in that they indicate when good is good enough and when more is better.

Product Characteristics are classified as*:

• Threshold/Basic Attributes – Attributes which must be present in order for the product to be successful. This can be viewed as the “price of entry.”

• One Dimensional Attributes (Performance/Linear) – These attributes are directly correlated to customer satisfaction (e.g. increased functionality will result in increased customer satisfaction.

• Attractive Attributes (Exciters/Delighters) – Customers can get great satisfaction from a feature and may be willing to pay a premium price. These are often difficult to identify up front and therefore are called latent or unknown needs

Product Differentiation – can either be gained by a high level of execution of the Linear attributes or the inclusion of one or more “delighter” features
Customer Satisfaction vs. Performance

- Field research
- Marketing/branding vision
- Industrial design, packaging
- Call center data
- Site logs

- Competitive analysis
- Interviews
- Surveys
- Search logs
- Usability testing
- Customer forums

- Focus groups
- Lawsuits & regulations
- Buzz on Internet

Excitement (Differentiation)
Linear (Competitive)
Basic (Cost of Entry)

Source: Kano Model – http://www.betterproductdesign.net/tools/definition/kano/htm
Kano Model & Framework Overview

- Noriaki Kan, Professor, Tokyo Rika University - Research areas: quality and customer satisfaction - “Voice of the customer” – Better client communications and customer experience is fundamental to design (interactive product design)

- Kano Structured User Survey Methodology - Determine main customer product functions - Devise questionnaire into two groups for each feature - functional questions (the feature is present) and dysfunctional questions (the feature is not present)

- Summarize Kano Questionnaire Answers – I like it: I expect it: I’m neutral; I can tolerate it: I dislike it.

- Identify Classification of Responses - Plot Features on Kano Graph of Functional and Dysfunctional question responses (like, expect, etc.) based on classifications (excitement, linear, basic, etc.)

- Kano Model Uses* - Especially for widely divergent user populations - Adds market analysis dimension - Leverage data for targeting marketing and promotional messages
**ITIM (Information Technology Investment Management) Stages of Maturity and Critical Processes** – ITIM identifies the IT investment stages, their characteristics and the levels of maturity. It also identifies criteria for IT investment oversight.

<table>
<thead>
<tr>
<th>Maturity stages</th>
<th>Critical processes</th>
</tr>
</thead>
</table>
| **Stage 5:** Leveraging IT for strategic outcomes | - Optimizing the investment process  
- Using IT to drive strategic business change |
| **Stage 4:** Improving the investment process | - Improving the portfolio's performance  
- Managing the succession of information systems |
| **Stage 3:** Developing a complete investment portfolio | - Defining the portfolio criteria  
- Creating the portfolio  
- Evaluating the portfolio  
- Conducting postimplementation reviews |
| **Stage 2:** Building the investment foundation | - Instituting the investment board  
- Meeting business needs  
- Selecting an investment  
- Providing investment oversight  
- Capturing investment information |
| **Stage 1:** Creating investment awareness | - IT spending without disciplined investment processes |
ITIL (Information Technology Infrastructure Library)

• Owned and maintained by OGC (Office of Government Commerce – UK)
• v2 - Consists of twelve repeatable, consistent documented processes or functions for improving IT Service Management and Delivery
• Focuses on the IT Operations and Infrastructure functions
• OGC contracted with EXIN and IBEG to maintain and publish libraries and develop/administer the ITIL certification program for three levels of individual certifications for v2:
  - IT Foundation Certification
  - ITIL Practitioner’s Certification
  - ITIL Service Manager Certification
• Standardized approach and terminology
• Streamlines IT service management and deliver and improves quality (reduces costs, improves customer satisfaction and improves compliance)
Select ITIL Design Templates/Documents (Illustrative Example)

Incident Management Process Deliverables
• Process Roles, Responsibilities & Ownership
• Policies
• Process Workflow
• Process Activities and Work Instructions
• Templates and Report Design
• Prioritization and Escalation Attributes and Procedures
• Incident Closure
• Monitoring and Control Procedures
• Key Metrics
• Communications Plan and Notifications
ITIL Version 3 – Qualification and Certifications

Managing through the lifecycle

ITIL Service Lifecycle Modules
SS  SD  ST  SO  CSI

ITIL Service Capability Modules
PP&O  OS&A  RC&V  SO&A

ITIL Foundation for Service Management
COBIT® (Control Objectives for Information and Related Technology)

- Developed by the IT Governance Institute (ITGI®), COBIT 4.0 provides a control framework linking 34 IT processes (e.g. define a strategic IT plan; define the information architecture, ensure continuous service, etc.) to four (4) domains – planning and organization; acquisition and implementation; delivery and support and monitoring all of which are related to specific IT resources and metrics. COBIT was originally released by the IT assurance and audit community and still has that orientation. COBIT 4.0 was released in late 2005.

- The Information Systems Audit and Control Association (ISACA®) works closely with ITGI and provides several individual certifications: Certified Information Systems Auditor™ (CISA®) and Certified Information Security Manager (CISM®).

- COBIT consists of a checklist of processes relating to IT governance. COBIT does not provide detailed policies, processes and procedures as to how to do the processes on the checklist. That is the responsibility of each organization.

- Several groups are in the process of initially aligning COBIT with other standard frameworks such as ISO 20000 (ITIL) and ISO 17799 (Information Security).
<table>
<thead>
<tr>
<th>Domain Process</th>
<th>Planning &amp; Organization</th>
<th>Acquisition &amp; Implementation</th>
<th>Delivery &amp; Support</th>
<th>Monitoring</th>
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</thead>
<tbody>
<tr>
<td>P01- Strategic IT Plan</td>
<td>X</td>
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<td>P02- Information Architecture</td>
<td>X</td>
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<td>P03- Determine Technology Direction</td>
<td>X</td>
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<tr>
<td>P04- IT Organization</td>
<td>X</td>
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<tr>
<td>P05- Manage IT Investment (Portfolio Investment Management)</td>
<td>X</td>
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<tr>
<td>P06- Communicate Direction</td>
<td>X</td>
<td></td>
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<tr>
<td>P07- Manage Human Resources</td>
<td>X</td>
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<tr>
<td>P08- Ensure External Compliance (SOX ++)</td>
<td>X</td>
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<td>P09- Assess Risks</td>
<td>X</td>
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<tr>
<td>P10- Manage Projects (PMMM, PMBOK, Prince2, CMMI, etc.)</td>
<td>X</td>
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<tr>
<td>A11- Identify Automated Solutions</td>
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<td>X</td>
<td></td>
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<tr>
<td>A12- Buy/Maintain Application Software</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Domain Process</td>
<td>Planning &amp; Organization</td>
<td>Acquisition &amp; Implementation</td>
<td>Delivery &amp; Support</td>
<td>Monitoring</td>
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<tr>
<td>A13- Acquire/Maintain Technology Infrastructure (ITIL)</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>A14- Enable Operations &amp; Use (ITIL)</td>
<td></td>
<td>X</td>
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<td></td>
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<tr>
<td>A15- Procure IT Resources</td>
<td></td>
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<td>A17- Install &amp; Accredit Solutions</td>
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<td>DS1- Define &amp; Manage Service Levels (ITIL)</td>
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<td>DS2- Manage Third party Services</td>
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<td>DS3- Manage Performance &amp; Capacity (ITIL)</td>
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<td>DS4- Ensure Continuous Service (ITIL)</td>
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<td>DS5- Ensure Systems Security (ISO 17799 &amp; ITIL)</td>
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<td>DS6- Identify/allocate costs</td>
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<td>DS7- Educate/Train Users</td>
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<td>DS8- Manage Service Desk &amp; Incidence (ITIL)</td>
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<td>Domain Process</td>
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<td>DS 10- Manage Problems (ITIL)</td>
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<td>DS11- Manage Data</td>
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<td>DS12- Manage Facilities &amp; Physical Environment</td>
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<td>DS13- Manage Operations (ITIL)</td>
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<td>ME1- Monitor &amp; Evaluate IT Performance</td>
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<td>ME2- Monitor &amp; Evaluate Internal Controls</td>
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<td>ME3- Ensure Regulatory Compliance</td>
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<td>ME4- Provide IT Governance</td>
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IT Security Framework – should consist of at least the following components:

- Security policy
- Organizational security
- Asset classification and control
- Personnel security
- Physical and environmental security
- Access control
- Business and IT continuity management
- Compliance
- Data and document security
- System development and maintenance

- **Security Domains**
  
  There are 9 security (policy) domains which are used to develop strategy, execute plans and track progress:
  
  - Information Security Organization
  - Risk Assessment and Asset Classification
  - Operating and Architectural Controls
  - Personnel Security
  - Physical & Environmental
  - Access Control
  - Systems Development & Maintenance
  - Monitoring Compliance
  - Business Continuity
  - Wireless Communications
  - Security Incident Management

Security Levels – There are 6 security (policy) levels which are used to develop policies, procedures and documentation:
- Information Security Policy Statement
- Information Security Policies
- General IT Standards
- Supporting Documents, Templates & Forms

COBIT and ISO 17799 are complementary: COBIT represents a broader framework to improve IT controls, while ISO 17799 tends to focus on more details in IT security.
ISO 17799 & ISO/IEC 27001 – Information Security


- Security Levels – There are 6 security (policy) levels which are used to develop policies, procedures and documentation - Information Security Policy Statement; Information Security Policies; General IT Standards; Minimum Security Guidelines, Security Procedures & Security Guidelines; Supporting Documents, Templates & Forms and Security Awareness (Marketing) Material and Training.

ISO/IEC 27001 IT Security Management Systems – The purpose of ISO/IEC 27001 is to help organizations establish and maintain an information security management system (ISMS). It is designed to be used for certification purposes.

While ISO/IEC 27001 lists a set of control objectives and controls, which came from ISO/IEC 17799, ISO 17799 also provides implementation guidance. ISO/IEC 27001 is aligned with ISO 17799. Many organizations use both standards to develop and improve their information security management environment, policies, processes and controls.
IT Governance Framework

- **Leadership** – values, direction and performance expectations
- **Strategic Planning** – process for how an organization develops strategic objectives, investment priorities and action plan
- **Customers and Market Focus** – determine customer and market preferences
- **Human Resource Focus** – motivate and develop employees
- **Process Management** – develop and improve business processes
- **Business Results** – measure results in terms of balanced metrics such as financial, customers, innovation, learning and operational and process performance

Baldrige Award Criteria for Performance Excellence Framework

Baldrige Award & Performance Excellence
The IT Services Qualification Center at CMU

• ITsqc creates capability models and qualification methods to improve sourcing relationships in the Internet-enabled economy

• ITsqc developed the eSourcing Capability Model for Service Providers (eSCM-SP) v2 for three purposes: – It helps IT-enabled sourcing service providers appraise and improve their ability to provide high quality sourcing services – it gives them a way to differentiate themselves from the competition – Prospective clients can evaluate service providers based on their eSCM-SP level of certification and practice satisfaction profile

• ITsqc developed the eSourcing Capability Model for Clients (eSCM-CL) which represents best practices for clients to use to manage their sourcing initiatives
eSCM Structure

- 84 Practices
- Each practice has three dimensions – Sourcing Life-Cycle
  - On-going (spans entire life cycle)
  - Initiation (negotiation, agreement, deployment)
  - Delivery (delivery of service)
- Completion (transferring responsibility back to client) – Capability Area – Capability Level
On-Going Life Cycle Practices (some examples)

• Managing and motivating personnel
• Managing relationships
• Measuring and reviewing performance
• Managing information and knowledge systems
• Identifying and controlling threats
• Managing the technology infrastructure
• Managing new product development and commercialization
Capability Areas 10 Logical groupings of the 84 practices

- Knowledge Management
- People Management
- Performance Management
- Relationship Management
- Technology Management
- Threat Management
- Contracting
- Service Design & Deployment
- Service Delivery
- Service Transfer
Capability Levels - 5

- Level 1 - Providing Services
- Level 2 – Consistently Meeting Requirements
- Level 3 – Managing Organizational Performance
- Level 4 – Proactively Enhancing Value
- Level 5 – Sustaining Excellence
Uses of eSCM

• Clients of service providers
  - Use eSCM evaluations to determine provider capabilities
  - Evaluate multiple potential providers
  - Reduce risks in sourcing relationships
  - Managing the sourcing function and life cycle

• Service providers
  - Systematically assess their existing capabilities and implement improvement efforts
  - Use results to set priorities for improvement efforts
  - Implement in conjunction with other quality initiatives
  - Improve their relationships with clients
  - Demonstrate their capability to clients through Certification
Certification – 1 – Organizational Certification

- Professionals trained by Carnegie Mellon from authorized organizations perform evaluation for certification
  - Authorized lead evaluators and evaluators on website
  - First evaluation for certification was completed 4Q04
- Carnegie Mellon’s Certification Board reviews data
- Board issues certificates for service providers indicating:
  - Span of organization being certified
  - Duration of certification (typically 2 years)
  - Service(s) being certified
- Carnegie Mellon website displays list of Certified Providers
  Certification 2 - Issues certification for quality and compliance
  Certification 3 - Research and measurement opportunities
IAOP* — International Association of Outsourcing Professionals International Association of Outsourcing Professionals — Setting the Standard of Excellence Across the Profession and Industry Certified Outsourcing Professional (COP)

Program Objectives:

• Establish a common, globally-recognized standard for the experience and knowledge outsourcing professionals should possess. (Individuals are certified)

• Define the process for professionals to demonstrate they possess the requisite capabilities.

• Create a highly-coveted professional designation distinguishing the field’s leading practitioners.
Setting the Standard for Excellence

(1) Outsourcing Professional Body of Knowledge (OPBOK)
Generally accepted set of knowledge and practices applicable to the successful design, implementation, and management of outsourcing contracts.

(2) Outsourcing Professional Standards
Set the evaluation criteria used to determine that professionals possess requisite experience and knowledge as defined in the OPBOK.

(3) Guide to Becoming a Certified Outsourcing Professional (COP)
Documents the steps required to obtain and maintain certification as a Certified Outsourcing Professional (COP).

(4) Certified Outsourcing Professional (COP) Preparation Class
3-hour preparation class that takes an individual through the requirements and process for becoming a Certified Outsourcing Professional (COP).

(5) Certified Outsourcing Professional (COP) Master Class
4-day program for experienced individuals providing a structured, intensive training program covering the OPBOK.

(6) Outsourcing Professional Course Catalogue
an online resource indexing accredited training programs that deliver against the knowledge and practices defined in the OPBOK.

(7) Certified Outsourcing Professional (COP) Award Package
Award certificate, guidelines for use, and applicable requirements and forms for keeping COP designation current.
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<th>Client Platforms</th>
<th>ETA Strategy &amp; Standards</th>
<th>Application Development</th>
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### Summary

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<tr>
<th>MODEL</th>
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<tbody>
<tr>
<td>COBIT®</td>
<td>IT Control Objectives</td>
<td>ITGI (IT Governance Institute)</td>
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<td>ITIM</td>
<td>IT Investment Management</td>
<td>GSA (General Services Administration)</td>
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<td>Kano</td>
<td>Customer Needs and Requirements</td>
<td>Kano</td>
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<td>CMMI®</td>
<td>Systems and Software Development and Systems Integration</td>
<td>SEI (Software Engineering Institute)</td>
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<td>Balanced Scorecard</td>
<td>Corporation Measurement Scheme</td>
<td>Kaplan and Norton</td>
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<td>e-Sourcing Capability Model</td>
<td>Sourcing (for both Service Providers and customers)</td>
<td>ITsqc (IT Services Qualification Center)</td>
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<td>People - CMM® (P-CMM)</td>
<td>Human Asset Management</td>
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<td>Generic Framework for IT Management</td>
<td>IT Management</td>
<td>University of Amsterdam and Henderson and Venkatraman</td>
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Summary and Implications for Improving IT Governance

• There are a growing number of continuous process improvement frameworks and models
• All of them focus on helping either individuals and/or organizations improve their effectiveness, competencies and maturity levels.
• The selection of a particular framework or combination of frameworks is largely dependent on the strategic objectives, available resources of an organization and their desired outcomes. All of the frameworks require the management of change and cultural transformation (see Appendix - Change Acceleration Framework)
• An organization should leverage, adopt and integrate those models or parts of models that apply to creating a more robust and comprehensive IT governance roadmap
• Clearly define the roles and responsibilities for IT governance development and ownership and continuous improvement
• Use technology to enable the processes

A flexible, yet integrated IT governance framework will provide an appropriate roadmap to steer a more effective journey towards a higher level of IT maturity