ITIL & The Service Oriented Approach

Vivek Shrivastavava
Speaker Introduction

Vivek Shrivastava

Experienced in numerous aspects of IT during a 15 year career (Dev, QA, Bus Analysis, Project Management, Process Improvement, Service Management, Governance, Consulting and Training)

Certifications:

• ITIL Certified (APMG)
• Certified Six Sigma Black Belt (ASQ)
• Project Management Professional (PMI)
• Certified Software Test Engineer (QAI)
## Speaker Introduction

**Industry Domain experience:**

- Banking and Finance
- Media & Entertainment
- Payroll Processing
- Semiconductors
- Training

**Author of a weekly IT process improvement blog shortlisted by Computer Weekly magazine during their best IT blog competition for 2009.**

[http://itprocessimprovement.blogspot.com](http://itprocessimprovement.blogspot.com)
Webinar Objectives

At the conclusion of this webinar, the participants are expected to have gained a basic understanding of:

- Important concepts and definitions
- An understanding and awareness of the current paradigm shift to Services
- An overview of Service Management, the Service Lifecycle and ITIL
- A high level overview of the 19 ITIL processes
- A deeper look at Change Management
- Benefits that ITIL provides to an Organization
- Career benefits that ITIL provides to the individual
- What needs to be done to gain expertise in ITIL
- The various levels of certifications and relevant details for obtaining them
- Knowledge of resources available to move forward
ITIL’s History

• Created in the late 1980s by the Central Computer and Telecommunication Agency (CCTA) in the United Kingdom.
• Large companies and government agencies in Europe very quickly adopted this framework in the early 1990s and it has since become known as an industry best practice for IT Service Management.
• In the year 2000, CCTA merged with the Office for Government Commerce and the BS 15000 ITIL aligned standard was published.
• In 2001, version 2 of ITIL was released.
• In 2002, BS 15000 standard was significantly revised and in 2005, ISO standard 20000 published.
• In 2007, the ITIL V3 five core books published.
• ITIL has become the de-facto standard in delivering IT Services for all types of organizations. Both government and non-government organizations benefit from the approach regardless of the size of the IT department.
Proven Benefits

- Capital One: In 2 years time production incidents reduced by 30% and business critical incidents reduced by 92%
- Bombardier: In 12 months time 24% less incidents; 40% faster service recovery; 15% higher availability of critical applications
- Dell: Increased number of handled sustained events from six per second to more than 200 per second
- Shell Oil: Just implementing ITIL change management and software control and release management saved $5 million per year in desktop management.
- Proctor and Gamble: ITIL implementation across the corporation enabled $120 million cost reduction per year. (Over $500 million to date)
- KPN Telecom: saved $320K per day through reduction of temp labour and contractors by implementing the ITIL service support disciplines.
What is IT?

ITIL is the abbreviation for “Information Technology Infrastructure Library”.

“Information Technology” is defined by the Information Technology Association of America (ITAA) as:

“The study, design, development, implementation, support or management of computer based information systems, particularly software applications and computer hardware”

Where “information systems” refers to a system of persons, tools, data records and activities that process data and information in an organization.

Therefore, IT can be simply thought of as the use and management of computers and software to convert, store, protect and retrieve data within an organization.
So how does IT fit in an organization?

Let us consider a company that manufactures Steel Pipes
IT in an Organization

Is an IT department needed in a “non-IT” company like this steel pipe manufacturer?

Consider some needs of the company that relate to IT:

- Email capability for most if not all employees.
- Desktop/Laptop setup and maintenance for most if not all employees.
- Setup and maintenance of an Internal Network that connects to the internet and is secure (firewalled/virus and spyware protected).
- Setup and maintenance of a ERP/CRM application.
- Setup and maintenance of other of the shelf applications (CAD/CAM, Accounting, HR etc).
- Setup and maintenance of the software of manufacturing machines.
IT in an Organization

Therefore it emerges that an IT department is needed to fulfill the IT needs of the company even though it does not manufacture an IT product.

In fact, the IT department will be of substantial size and play a key role in the success of the company.

While the company can and should optimize the functioning of all its departments, the improvement of the IT department is a significant way for the company to gain an advantage over the competition.
IT’s Customers

Typically the IT department of the company services the other departments in the company and therefore, its customers are the other departments of the company or internal customers.

When a company actually makes IT products and services and sells them that the external customers are also the IT department’s customers. But typically these customers are directly handled by the Sales and Customer Service functions and have little direct contact with the company’s IT department.
The IT-Business Connection

IT assists the business by performing key services within the business processes that ultimately service the end customer.
Paradigm Shift

In the past it was all about products:
• who could manufacture the most
• make them the most economically
• sell the most by mass advertising

Today it is more about Services.
But what is the difference between a Product & a Service?

A similarity that Products and Services share is that they both satisfy a customer’s need.
Products & Services

Consider my need for Transportation - I need a car!

I can:

a) Buy a Car or
b) Rent a Car

What happens in each case if the car breaks down?

- If I own the car, I am responsible for all repairs maintenance, towing etc.
- If I rent the car, the rental company is responsible for repairs and all related expenses. In addition, I could hold them responsible for the inconvenience/damages suffered by me due to the break down.
Definition of a Service

Service is defined in the ITIL body of knowledge as

“a means of delivering value to customers by facilitating the outcomes that customers want to achieve without the ownership of specific costs and risks”

The major difference between a service and a product is the lack of ownership the customer has when utilizing a service.
A video game released 12+ years ago in Dec 1997 for which I was the developer.
This was a very product oriented release to the customer.
Once the customer accepted the “Gold Code” we had no further interaction with the customer.
The Shift to the Service Oriented Approach

Consider the same game released today:

• There will be a website dedicated to the game where patches, drivers, fixes and general game information will be provided.
• There will be a toll free number to call and get live support
• There will provision for multiplayer. This, then involves the following issues:
  ▪ Security issues: Login/Password, Credit Card Info, hackers etc.
  ▪ Availability Issues: Must be available 24/7
  ▪ Capacity Issues: Must be able to handle 10,000 concurrent users simultaneously
  ▪ Service Continuity Issues: Even if a server shuts down, the service must not be interrupted
It’s All Services Now

So as may be observed, what was essentially a product is now a combination of a product and associated services. This combination of products and services is the overall service provided to a customer.

Therefore, video games today are services and not products.

This is true of many other services across many industry domains.

It does not matter whether the final product of an organization is technical or non-technical, the service oriented approach is becoming more and more the way things are being done.
Services Today

In the past, IT’s role generally consisted of the creation of applications that were sold to customers as products.

However, today even though a customer may purchase an application, there are numerous support services that come with the purchase and the providing organization must deliver those services as promised.

IT offerings like email provision, network setup and maintenance etc are services and must be managed as such.

Therefore, the provision of services is the IT provider’s primary activity and the ability to effectively manage the delivery of services is of great importance to the organization.
Consider the differences in IT challenges 15 years ago and today.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>15 Years Ago</th>
<th>Today</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services Offered</td>
<td>Smaller portfolio of simple services</td>
<td>Large portfolio of complex services</td>
</tr>
<tr>
<td>Availability</td>
<td>9-5 Availability</td>
<td>24-7 Availability &amp; variety</td>
</tr>
<tr>
<td>Capacity</td>
<td>Less stringent Capacity requirements</td>
<td>More stringent Capacity requirements</td>
</tr>
<tr>
<td>Customer Service</td>
<td>Less focus on Customer Service</td>
<td>Primary focus is Customer Service</td>
</tr>
<tr>
<td>Incident Handling</td>
<td>Minimal focus on Incident handling</td>
<td>Incidents expected to be resolved quickly</td>
</tr>
<tr>
<td>Problem Resolution</td>
<td>Less urgency of Problem resolution</td>
<td>Problems expected to be resolved within set times</td>
</tr>
</tbody>
</table>
## IT Challenges Today

### Differences in IT, 15 years ago and today, continued...

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>15 Years Ago</th>
<th>Today</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Accountability</td>
<td>Almost no financial accountability</td>
<td>Increased financial accountability</td>
</tr>
<tr>
<td>Service Desk</td>
<td>Minimal or nonexistent Service Desk</td>
<td>24-7 Service Desk in multiple languages</td>
</tr>
<tr>
<td>Customer Relationship</td>
<td>Minimal focus on Customer Relationship</td>
<td>Primary focus on Customer relationship</td>
</tr>
<tr>
<td>Security</td>
<td>Less complex Security</td>
<td>More complex Security</td>
</tr>
<tr>
<td>Disaster Recovery</td>
<td>Minimal focus on Disaster Recovery</td>
<td>Expected to function in spite of occurrence of a Disaster</td>
</tr>
<tr>
<td>Agility</td>
<td>Slow response to changes</td>
<td>Expected to change quickly</td>
</tr>
<tr>
<td>Competition</td>
<td>Less aggressive competition</td>
<td>Relentless and aggressive competition</td>
</tr>
<tr>
<td>Customer Loyalty</td>
<td>Customers did not go elsewhere easily</td>
<td>Customers will switch to the competition quickly</td>
</tr>
</tbody>
</table>
IT faces increasing complexity and challenges in almost all areas of operation. More significantly, this tendency of increasing complexity is expected to continue in the foreseeable future.

IT Service Management and ITIL provide a guideline and framework for effectively meeting the challenges that IT faces today.
IT Service Management

IT Service Management is a process based discipline for managing IT systems while focusing on the customer’s perspective of IT’s contribution to the business.

ITIL is a set of good practices that provides a framework for effective service management and guidance for:

- Converting ideas and concepts into services for customers
- Solving problems with effective and enduring solutions
- Controlling costs and risks that can potentially destroy carefully created value
- Learning from successes and failures to manage new challenges and opportunities

ITIL is a public domain good practice. It works well with other methodologies like Six Sigma, CMMI, PMI etc and is not exclusive.
ISO/IEC 20000

ISO/IEC 20000 is the first worldwide standard specifically aimed at IT Service Management. It describes an integrated set of management processes for the effective delivery of services to the business and its customers.

ISO/IEC 20000 is applicable to any organization, large or small, in any sector or part of the world which relies on IT services. The standard is particularly suitable for internal IT service providers, such as IT departments, and external IT service providers, such as IT outsourcing organizations.

itSMF is the governing body for ISO/IEC 20000.
Capabilities & Resources

Capabilities represent an organization’s ability to coordinate, control and deploy resources to provide value. Capabilities represent an organization’s capacity, competency and capability for action. Capabilities are typically experience-driven, knowledge-intensive, information-based and firmly embedded within the organization’s people, processes and technologies. E.g. Management, Organization, Processes, Knowledge, People

Resources are direct inputs for production. E.g. Financial Capital, Infrastructure, Applications, Information, People.

Service Assets are Capabilities and Resources working together.
Functions

Functions are units of organizations specialized to perform certain types of work and be responsible for specific outcomes. They are self-contained with capabilities and resources necessary for their performance and outcomes. Capabilities include work methods internal to the functions.

Functions have their own body of knowledge, which accumulates from experience.

They provide structure and stability to organizations.
A process is defined as “a set of coordinated activities combining and implementing resources and capabilities in order to produce an outcome, which, directly or indirectly creates value for an external stakeholder”

Processes have the following characteristics:

- **Measurable**
- **Specific Results**
- **Customer oriented**
- **Respond to specific triggers**
Process Structure

Processes have a basic generic structure.
Processes Oriented Approach

In a process oriented approach, the objective is achieved by the successful completion of one or more processes.

In a department oriented approach, the work items typically pass from one department to the other and get modified along the way. This approach is not as efficient as the process oriented approach.
Processes & Functions

Functions provide resources and capabilities to the processes so that they can accomplish their objectives.

<table>
<thead>
<tr>
<th>Process Step 1</th>
<th>Function 1</th>
<th>Function 2</th>
<th>Function 3</th>
<th>Function 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Step 2</td>
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<tr>
<td>Process Step 3</td>
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<tr>
<td>Process Step 4</td>
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<tr>
<td>Process Step 5</td>
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Instances of Processes

Typically there will be multiple processes occurring at the same time within an organization.
Process Owner

In order to manage multiple instances of processes within an organization, Process Owners are assigned to manage all instances of the process that they are the owner of.

For example, the Change Manager is responsible for the successful completion of all change management processes instances. The Change Manager may not necessarily be a subject matter expert on the changes being made, but will ensure that all the process steps have been followed, inputs utilized and outputs & metrics generated for each instance of change.

Over and above this, the Change Manager will manage the resources and capabilities needed for the successful functioning of the process. E.g. Change Management Database

The Process Owner will also be responsible for the design and modifications made to the process.
Process Manager & Service Owner

In larger organizations, a Process Manager may also be assigned to assist the Process Owner in the day to day activities of the process.

The Service Owner is responsible for the delivery of a service as per agreed upon quality levels. This involves the scheduling of processes and the acquisition of resources and capabilities from functions within the organization in order that the service objectives are met.

Is responsible to the customer for the successful delivery of the service as well as ongoing maintenance and improvement.

The Service Owner interacts with the process owners of each process to ensure that the service is delivered successfully.

One person could perform multiple roles. For example, A configuration manager and change manager could be the same person at a small organization.
Advantages of Process

The advantages of a process oriented approach are:

• A structured approach with predetermined steps and inputs and outputs. This makes the results of the process predictable and repeatable every time.
• Previously determined outputs and metrics are generated with every instance of the process.
• Less dependence on departments and greater agility and adaptability.
• Well defined roles and responsibilities allow for increased employee productivity and morale.
• Easier focus on service delivery and alignment to the business requirements.
• Easier to make continuous improvements with a well defined structure in place.
• Easier to manage suppliers and contractors with well defined processes in place.
The Service Lifecycle

For any type of service, during it’s existence, the service goes through certain stages.

To begin with, a strategy for the service is considered and all aspects of providing the service including risks and financial considerations are analyzed. The strategy is monitored and acted upon all through the life of the service.

The service is then designed as per the strategy decided.

The designed service is then transitioned to the customer(s) in the live environment.

The service is then maintained in an operational state at pre-defined levels of quality.

During any of the above stages, opportunities to improve the service are undertaken based on what makes the best business sense.
The Service Lifecycle

The interaction between these 5 aspects of the service lifecycle (Strategy, Design, Transition, Operation and Improvement) is shown below.
## The ITIL Processes

<table>
<thead>
<tr>
<th>ITIL v3 Process</th>
<th>Lifecycle Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Management</td>
<td>Service Strategy</td>
</tr>
<tr>
<td>Service Portfolio Management</td>
<td>Service Strategy</td>
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<tr>
<td>Demand Management</td>
<td>Service Strategy</td>
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<tr>
<td>Service Level Management</td>
<td>Service Design</td>
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<tr>
<td>Service Catalogue Management</td>
<td>Service Design</td>
</tr>
<tr>
<td>Availability Management</td>
<td>Service Design</td>
</tr>
<tr>
<td>Capacity Management</td>
<td>Service Design</td>
</tr>
<tr>
<td>Information Security Management</td>
<td>Service Design</td>
</tr>
<tr>
<td>Service Continuity Management</td>
<td>Service Design</td>
</tr>
<tr>
<td>Supplier Management</td>
<td>Service Design</td>
</tr>
<tr>
<td>Change Management</td>
<td>Service Transition</td>
</tr>
<tr>
<td>Service Asset and Configuration Management</td>
<td>Service Transition</td>
</tr>
<tr>
<td>Release and Deployment Management</td>
<td>Service Transition</td>
</tr>
<tr>
<td>Event Management</td>
<td>Service Operation</td>
</tr>
<tr>
<td>Incident Management</td>
<td>Service Operation</td>
</tr>
<tr>
<td>Request Fulfillment</td>
<td>Service Operation</td>
</tr>
<tr>
<td>Problem Management</td>
<td>Service Operation</td>
</tr>
<tr>
<td>Access Management</td>
<td>Service Operation</td>
</tr>
<tr>
<td>7 Step Improvement Model</td>
<td>Continual Service Improvement</td>
</tr>
</tbody>
</table>
Change Management

The objective of Change Management is to ensure that standardized methods and procedures are used to handle changes promptly and efficiently, in order to minimize the impact of Change-related incidents upon service quality, and consequently to improve the day-to-day operations of the organization.

Some definitions:

- A Change request is known as a Request for Change (RFC).
- The Change Advisory Board (CAB) is a body that exists to support the authorization of Changes and to assist CM in the assessment and prioritization of the Changes.
- The Forward Schedule of Change (FSC) that contains details of all the Changes approved for implementation and their proposed implementation dates.
- The Projected Service Availability (PSA) is a document that outlines the effect implementing changes will have on the levels of availability agreed upon.
The Change Process
Inputs & Outputs

Change Management

Process Inputs
• RFC (Request for Change)
• FSC (Forward Schedule of Change)
• Information from the CMDB
• Information from other processes

Process Outputs
• Change Management Reports
• FSC (Forward Schedule of Change)
• PSA (Projected Service Availability)
• CAB agenda and minutes
KPIs

Some of the Key Process Indicators (KPIs) for Change Management are:

- Number of unauthorized changes
- Number of unsuccessful changes
- Number of successful changes
- Number of rollbacks
- Number of RFCs implemented on schedule
- Number of Emergency changes
- Number of defects attributable to changes
- Accuracy of change estimates
## Roles in Change Mgmt

The roles in Change Management are:

### Change Manager
- Receives, logs, and allocates priority.
- Tables all RFCs for a CAB meeting.
- Decides which people will come to which meetings.
- Convenes CAB or Emergency CAB (ECAB) meetings for RFC assessment.
- Chairs all CAB and ECAB meetings.
- Authorizes acceptable Changes.

### CAB
- Is an advisory body, requiring appropriate terms of reference (for example, meeting regulations and scope of influence).
- Formal authorization is obtained for each Change from a Change authority that may be a role, person, or group of people, including:
  - Change Manager (Local Authorization), CAB or ECAB, IT Management Board, and Business Executive Board.
ITIL’s Benefits

ITIL offers the following benefits to the implementing organization:

- Improved resource utilization
- Decrease in defects/rework
- Elimination of redundant work
- Improved project deliverables including schedule and budget
- Improved availability, reliability and security of IT services
- Improved service quality which translates into improved finished product quality (superior IT provided to the organizations business units results in superior business being delivered to the end customer)
- Services aligned to customer demands which leads to improved customer satisfaction
- Integration of central processes
- Effective documentation and common terminology that helps with repeatability
- Effective metrics that help in understanding the status of processes and services in the organization
- Continuous process, product and service improvement
Career Benefits

The benefits of ITIL certification to the individual are:

• The de facto standard in Service Management
• Worldwide recognition
• More and more organizations are adopting ITIL which requires certified staff
• Undergoing certification develops a deeper understanding of the material making implementation easier
• Job security in a turbulent market
• Increased probability for promotion and better job opportunities
• Provides uniformity in terminology and organizational structure
ITIL Qualification Scheme
# Costs of Certification

The costs for the various levels of certification are:

- **Foundation**: Approx $1,000 + $150 exam fee
- **v3 Expert**: Approx $3,000 per module (includes exam fee)
- **v2 – v3 Manager Bridge**: Approx $3,000 (includes exam fee)

**Prerequisites:**

- **Foundation**: Some exposure to IT
- **Life cycle or Capability**: Foundation certification
- **v2 – v3 Manager Bridge**: v2 Manager certification
## Resources

<table>
<thead>
<tr>
<th>Resource</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITIL Official Site</td>
<td><a href="www.itil-officialsite.com">www.itil-officialsite.com</a></td>
</tr>
<tr>
<td>APMG Site</td>
<td><a href="www.apmg-international.com">www.apmg-international.com</a></td>
</tr>
<tr>
<td>• APMG is the organization responsible for certification and accreditation for individuals and organizations</td>
<td></td>
</tr>
<tr>
<td>Office of Government Commerce</td>
<td><a href="www.ogc.co.uk">www.ogc.co.uk</a></td>
</tr>
<tr>
<td>• OGC is the responsible body for the ITIL body of knowledge</td>
<td></td>
</tr>
<tr>
<td>itSMF</td>
<td><a href="www.itsmfi.org">www.itsmfi.org</a></td>
</tr>
<tr>
<td>• Governing body for ISO 20000. Also an informal forum for ITIL and Service Management professionals to network and share information</td>
<td></td>
</tr>
<tr>
<td>ISO 20000 User Group</td>
<td><a href="www.15000.net">www.15000.net</a></td>
</tr>
<tr>
<td>• An informal forum for those interested in BS 15000 and ISO 20000</td>
<td></td>
</tr>
</tbody>
</table>
Thank You

For ITIL certification and consulting, please contact

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