

ITIL® 2011

FOUNDATION LEARNING PROGRAM

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Document Control

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July 2007	1.5	Final Draft – For first Learning Program
August 2007	1.6	Minor updates
August 2012	2011	Major Changes made

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Preface

This complimentary manual serves as an aid in preparation for the ITIL® 2011 Foundation Exam and follows the sequence of material, as disseminated during the Learning Program.

The Learning Program provides an overview of ITIL 2011 as the best practise approach for IT Service Management and explains and engages in discussion on the theory, language, lifecycle and concepts of ITIL 2011 as it pertains to the set requirements for the certification exam.

What is ITIL® 2011?

ITIL ® (IT Infrastructure Library) is a series of comprehensive, consistent publications that are used to aid the establishment of a quality IT Service Management framework within an organization, aligned with the international standard, ISO/IEC 20000. The ITIL philosophy has evolved and is globally recognized as the foundation of IT Service Management best practice, supported by a professional qualification program.

The latest version of ITIL ® (2011) consists of a core set of five publications that replaces the previous version of ITIL ® (published in 2000). The core publications, providing the guidance necessary for an integrated approach as required by the ISO/IEC 20000 standard specification, are:

- **Service Strategy**
- **Service Design**
- **Service Transition**
- **Service Operation**
- **Continual Service Improvement**

The core volumes will be supported by complementary titles, addressing the application of the generic core guidelines in particular markets or technological contexts.

As IT services become more closely aligned and integrated with the business, ITIL ® 2011 assists in establishing a business management approach and discipline to IT Service Management, stressing the complementary aspects of running IT like a business. **Service Management** is a set of specialized organizational capabilities for providing value to customers in the form of services. The core of Service Management is transforming resources into valuable services.

These *capabilities* take the form of functions and processes for managing services over a *lifecycle*, through *strategy, design, transition, operation, and continual improvement*. Without these capabilities, signifying capacity, competency, and confidence for action, a service organization is merely a bundle of resources that by itself has relatively low intrinsic value for customers.

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Icons

The following icons are used throughout the Learning Program and demarcate the required curriculum according to topic.

-  **Service Strategy (Awareness)**
-  **Service Design (Awareness)**
-  **Service Transition (Awareness)**
-  **Service Operation (Awareness)**
-  **Continual Service Improvement (Awareness)**
-  **ITIL ® Certification Scheme (Non-examinable)**
-  **Service Management as a practice (Comprehension)**
-  **Service Lifecycle (Comprehension)**
-  **Key Principles and Models (Comprehension)**
-  **Generic Concepts (Awareness)**
-  **Roles (Awareness)**
-  **Functions (Awareness)**
-  **Technology and Architecture (Awareness)**
-  **ITIL ® 2011 Processes (Awareness)**

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“The essence of learning is change, behavioral changes in people. To learn, a person must want to change, to be better, to do differently, and this change does not occur without resistance. Resistance may be slight, or it may be great, and it may take a variable number of overt and covert forms.”

(Lloyd Allen Cook)

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1. Service Management and the Service Lifecycle

1.1. ITIL® 2011 Accreditation and Qualifications

1.1.1. The ITIL® 2011 Accreditation Structure



This section is non-examinable.

ITILFND09

Current Examination Institutes:

- APM Group
- EXIN
- ISEB

Official ITIL Accreditors: APM Group

Founder and Copyright owner: OGC

Official publisher: The Stationery Office (TSO)

International user groups: itSMF

1.1.2. The ITIL® 2011 Qualification Scheme



This section is non-examinable.

ITILFND09

ITIL Foundation

- IT Service Management and Service Lifecycle
- Overview of Core Process Areas
- Standards and Frameworks

Service Capability Courses (5)

Logically grouped areas of expertise

- Service Portfolio and Relationship Management
- Service Design and Optimization
- Service Monitoring and Control
- Release and Deployment Management
- Service Operation and Support Management

Service Lifecycle Courses (5)

This course focuses on the 5 Core Process Areas

- Service Strategy
- Service Design
- Service Transition
- Service Operations
- Continual Service Improvement

Managing through the Lifecycle

This 'Capping' course has been introduced as a fail safe mechanism to ensure that anyone who wants to earn the Diploma in Service Management does so after passing the course that is essentially at the heart of ITIL 2011 – the Lifecycle.

Diploma in Service Management

This non-examinable qualification is bestowed upon earning sufficient points in the ITIL® 2011 Qualification Scheme as per **Figure 1-2 (next page)**.

Advanced Diploma in Service Management

This non-examinable qualification is bestowed on invitation, with a proven experience in IT Service Management.

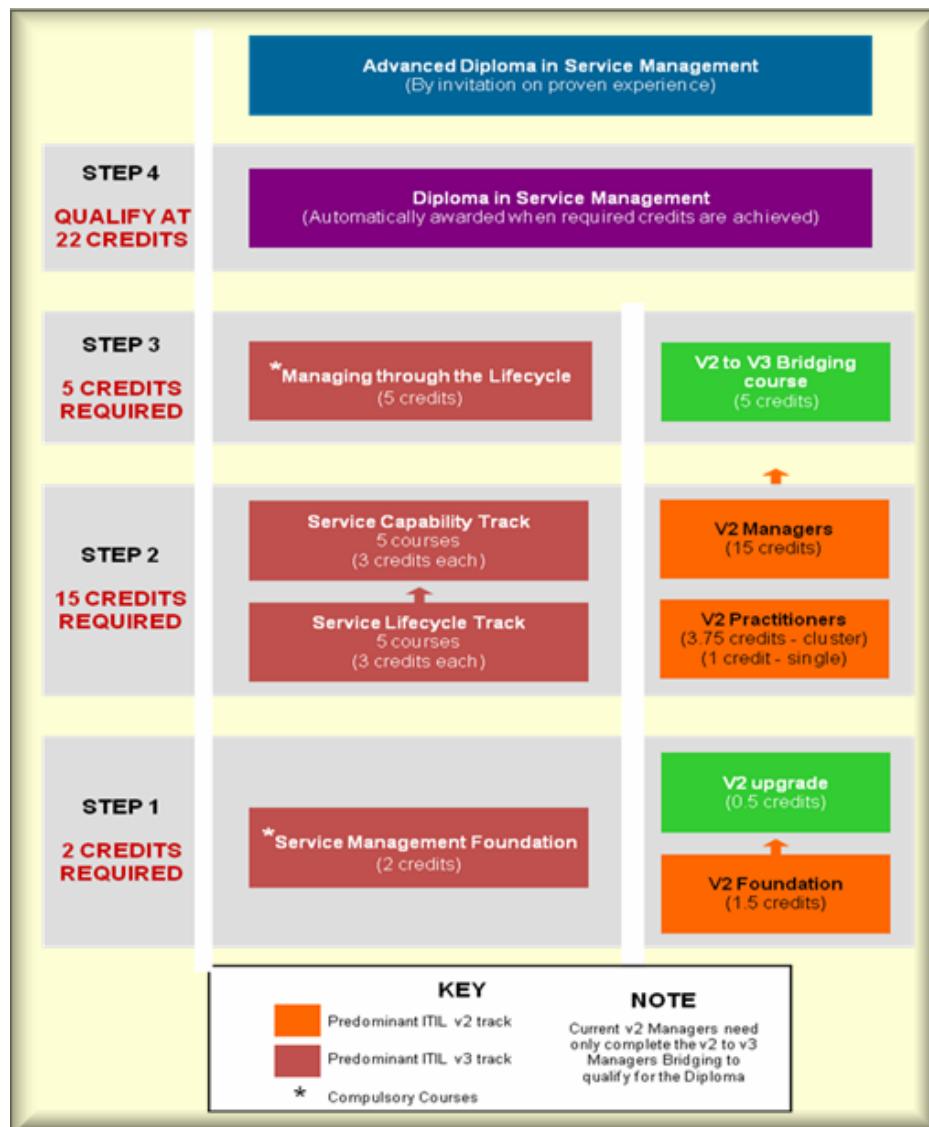


Figure 1 -2

1.2. Service Management as a Practice

1.2.1. Best Practice and Good Practice



Some organizations in an industry get ahead, because of their adoption or even development of best practice. Over time, others in the industry adopt the same practice or else go out of business. Once the “common practice” is in place then the industry operates in a state of good practice.

ITILFND01
01-1

Best Practise

- The approach to an undertaking that has already been proved to be the most effective.
- It is derived from the practices of the most effective and successful people in the field.

ITIL® 2011 as Good Practice

- What everybody is doing as it's seen as complete, with no gaps, and often referred to as the “most appropriate”
- There is a continuous search for improvement

Evolution

- There is a continuous search for improvement.
- **Figure 1-3** show how Best Practices becomes Good Practices becomes Commodity, Generally accepted principles, Perceived wisdom, or regulatory requirements.



Figure 1-3

1.2.2. What is a Service?



‘A means of delivering value to customers by facilitating outcomes that they want to achieve without the ownership of specific costs and risks’

ITILFND01
01-2

- ITIL® 2011 Service Strategy

Facilitating outcomes:

- To enhance the performance of associated tasks and reduce the effect of constraints
- The result is an increase in the probability of desired outcomes

Effect may be:

- Directly on resources and capabilities associated with the task and constraints
- Performance of a customer task e.g. business process

In IT Service Management (ITIL 2011), the customer is anybody that makes use of a (IT) service to achieve their own outcomes, and can be a commercial customer of the business or the business itself. Note the

difference between a customer and a user – basically the customer PAYS (directly or indirectly) for the service on behalf of the user. A customer can also be a user.

KEY-NOTE:

Broadly speaking, services facilitate outcomes by enhancing the performance and by reducing the grip of constraints.

Additional

An IT Service is based on the use of Information Technology and supports the Customer's Business Processes. IT staff often confuse a 'service' as perceived by the customer with an IT system. An IT Service is made up from a combination of people, processes and technology.

1.2.3. What is Service Management?



'A set of specialized organizational capabilities for providing value to customers in the form of services'

ITILFND01
01-3

- ITIL® 2011 Service Strategy

These capabilities:

- May exist as processes and functions that manage services over a lifecycle, specializing in strategy, design, transition, operation and continual improvement.
- Represent a service organization's capacity, competency, and confidence for action.
- Are shaped by the challenges they are required to overcome

Without these capabilities, a service organization is merely a resource grouping with relatively low intrinsic value for customers.

KEY-NOTE: Transforming resources into valuable services is at the core of service management!

1.2.4. The value proposition of services



Service assets are the source of value and customer assets are the recipients. Services have the potential to increase the performance of customer assets and create value to the customer organization.

ITILFND01
01-3

Improvements in the design, transition and operation of services increase the customer performance potential and reduce the risks of variations on customer assets.

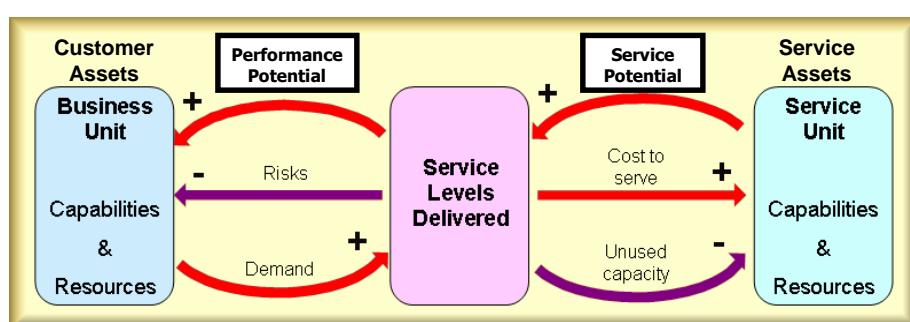


Figure 1-4

Figure 1-4 illustrates how services derive their potential from service assets:

- Service potential is converted into performance potential of customer assets.
- Increasing the performance potential frequently stimulates additional

demand for the service in terms of scale or scope.

- This demand translates into greater use of service assets and justification for their ongoing maintenance and upgrades.
- Unused capacity is reduced.
- Costs incurred in fulfilling the demand are recovered from the customer based on agreed terms and conditions.

1.2.5. What is a Function?



'A logical concept referring to people and automated measures that execute a defined process, an activity or a combination thereof'

- ITIL® 2011 Service Strategy

ITILFND01
01-4



A function is seen as a self-contained, specialized organization unit with required capabilities and resources, responsible for specific outcomes.

- Have their own body of knowledge through experience
- Optimize their work methods by focusing on outcome

In larger organizations a function may be broken out and performed by several departments, teams and groups, or it may be embodied within a single organizational unit. In smaller organizations, one person or group can perform multiple functions

Process Model

Enables understanding and assists in articulating distinct process features - ITIL® 2011 Service Design.

Functional silos hinder alignment and feedback critical to the success of the organization as a whole, and process models help avoid this problem with functional hierarchies by improving cross-functional coordination and control

1.2.6. What is a Role?



A role can be group, team, unit or person that performs tasks that are connected to a relevant process. A single department could also be expected to play several other roles at different times, e.g. A technical department can perform the role of:

ITILFND01
01-4



- *Problem Management* role when diagnosing the root cause of incidents
- *Change Management* role when assessing the impact of changes
- *Capacity Management* role when manage the performance of devices under their control

'A set of connected behaviours or actions that are performed by a person, team or group in a specific context'

- ITIL® 2011 Service Strategy

The definition helps us to understand that the EXPECTED behavior of an individual can be defined by a role statement. The scope of the role and trigger is defined by the relevant process and agreed by management.

1.2.7. What is a Process?



A set of coordinated activities combining and implementing resources and capabilities in order to produce an outcome, which directly or indirectly, creates value for the external customer or stakeholder - ITIL® 2011 Service Strategy

ITILFND01
01-4



Process:

- A structured set of activities designed to accomplish a specific objective.
- Takes one or more inputs and turns them into defined outputs.
- Includes all of the roles, responsibilities, tools and management controls required to reliably deliver the outputs.
- May also define or revise policies, standards, guidelines, activities, processes, procedures and work instructions if they are needed.

Procedures and Work instructions:

Processes are often described using *procedures* and *work instructions*.

- A **procedure** is a description of logically related activities, and who carries them out. A procedure may include stages from different processes. A procedure defines who does what, and varies depending on the organization.
- A set of **work instructions** defines how one or more activities in a procedure should be carried out.

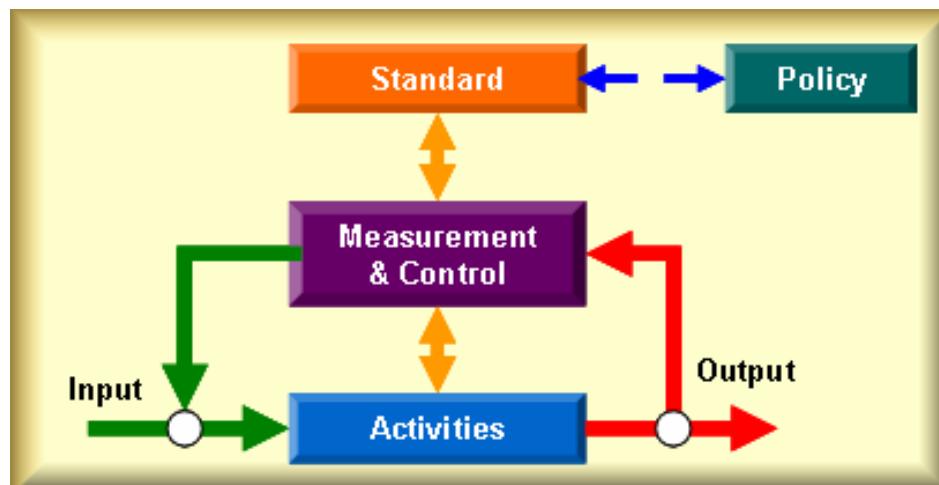


Figure 1-5

1.2.8. Process Control



'Control - The activity of planning and regulating a process, with the objective of performing a process in an effective, efficient and consistent manner'

ITILFND01
01-5

Design

- Defined processes should be documented and controlled.
- Controlled processes can be repeated and become manageable.
- The extent of control should be defined, followed by the process measurement metrics, to enable control and to improve the process



- ITIL® 2011 Service

1.2.9. Process Model



'The Process Model enables understanding and assists in articulating distinct process features' - *ITIL® 2011 Service Design*

ITILFND01
01-5

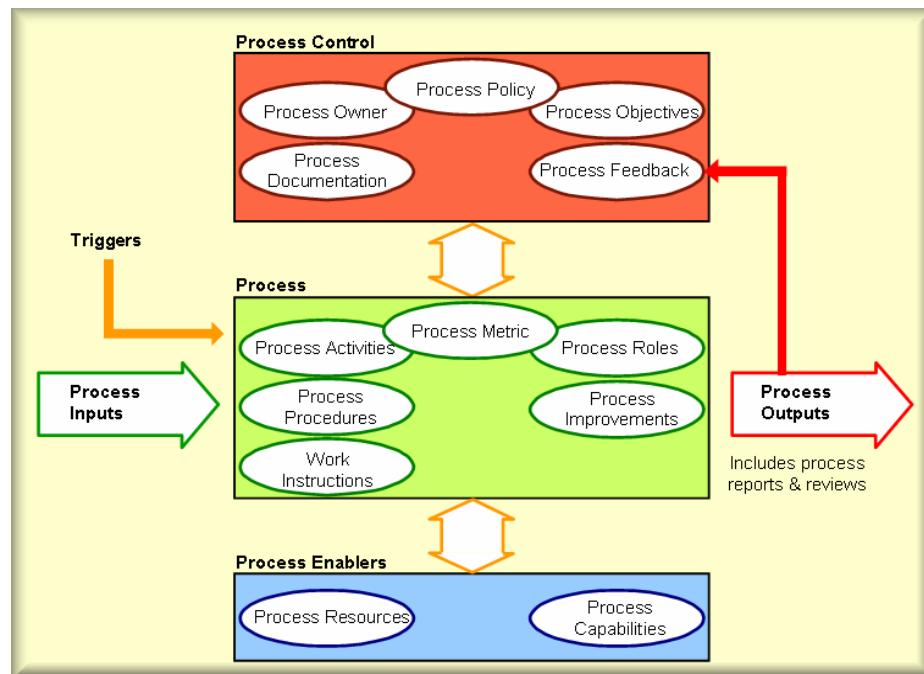


Figure 1-6

The generic process elements in **Figure 1-6** show:

1. data enters
2. is processed
3. is output
4. the outcome is measured and reviewed

This basic description underpins any process description. A process is always organized around a set of objectives and the main outputs should be driven by the objectives which should include process metrics, reports and improvement recommendations.

A process should have a process owner, responsible to ensure that the process meets its objectives and for ensuring its improvement. A process can span organizational and geographic boundaries, often in complex variants creating unique designs and patterns of execution. Defined processes should be documented and controlled.

1.2.10. Process Characteristics



Processes help to organize work - they are aligned to activity and output, but not necessarily to value.

ITILFND01
01-6

Processes are not strategic - You have to know what you want to achieve or assume that the customer does.



Processes have the following characteristics:

Processes are measurable:

Because a process is performance driven, it can be measured in a relevant manner.

- Managers measure cost, quality and other variables
- Practitioners are concerned with duration and productivity

Processes have specific results

A process exists to deliver a specific result(s) that must be individually identifiable and countable. E.g. we can count changes, it is impossible to count how many service desks were completed (Service desk is a function).

Processes deliver to customers

A process' primary results are delivered to a customer or stakeholder, who could be internal or external to the organization, but the process, must meet their expectations.

Processes respond to a specific event

Whether a process is ongoing or iterative, it should be traceable to a specific trigger.

1.3. Background and History of ITIL

ITIL Background



- First published mid-1980s
- V2 mid 1990s
 - Focus on Business Alignment
- V3 2007
 - Focus on Business Integration
- v3 Builds on the 10 processes and 1 function defined in v2
- Owner: Office of Government Commerce (OGC)
- Published by The Stationery Office (TSO)
- NOT a Public Domain Framework
 - Copyright and Trademark protected

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The Information Technology Library (ITIL) was first published in the 1980s as the British Government saw the emerging disparity in the way that Information Technology (IT) was being managed.

The original ITIL was many books, but was revised down to 8 primary books in the mid 1990s. Of these books there were two that stood out as being the real essence of ITIL; Service Support and Service Delivery volumes.

These volumes each described in great detail 5 processes at the tactical and operational levels.

Service Delivery - Tactical

- Service Level Management
- Capacity Management
- Availability Management
- IT Service Continuity Management
- Financial Management for IT Services

Service Support – Operational

- Incident Management
- Problem Management
- Change Management
- Release Management
- Configuration Management

The latest version of ITIL focuses on establishing Service Management across a lifecycle. One important final point is that ITIL is trademarked and copyright protected. Only authorized companies can directly use ITIL material in training courses and consulting materials.

1.4. Service Lifecycle

1.4.1. What is the Service Lifecycle?



'The ongoing multi-dimensional approach to effectively and efficiently transform strategy into desired output.'

ITILFND02
02-1

This is a limiting definition, so let's examine the Service Lifecycle more closely. To be effective and efficient, the lifecycle approach requires specialization and coordination AND feedback and control between the processes and functions within and across the elements of the lifecycle.

The Service Lifecycle should:

- Provide structure, stability, and strength to service management capabilities with durable principles, methods, and tools.
- Serve to protect investments and provide the necessary basis for measurement, learning, and improvement.

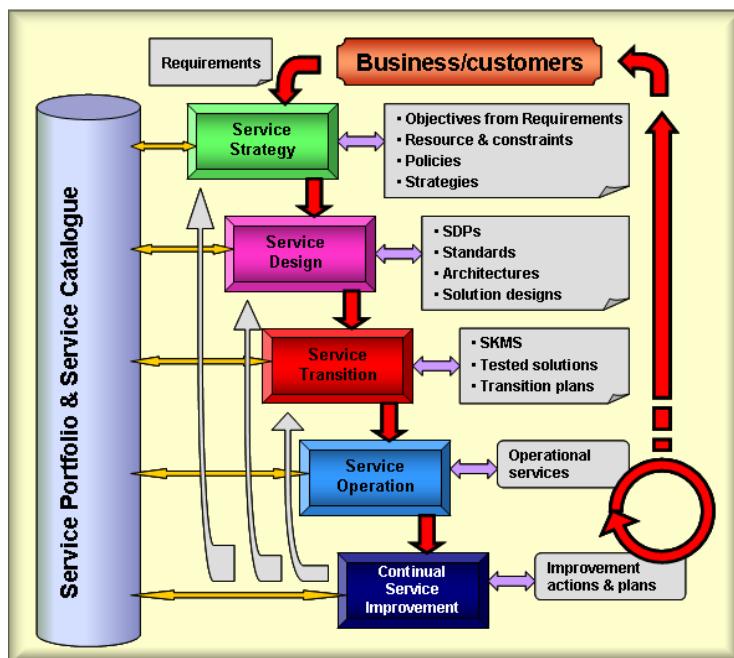


Figure 1-7

Figure 1-7 shows the high-level view of the IT Service Lifecycle:

- Business strategy dictates IT strategy
- IT strategy supports the business by designing service solutions
- Designed service solutions are tested and deployed to enable/support the business
- Whilst in operation, services are maintained and supported to ensure their performance against agreed levels
- To ensure competitiveness, effectiveness and efficiency, a continual improvement cycle should be adopted

This is not the only pattern of action in the service lifecycle as each element provides points for feedback and control (governance)

1.4.2. The Service Lifecycle based on the ITIL architecture



ITIL 2011 creates a way of integrating IT processes, people and tools with the Business Strategy and Outcomes through IT services.

ITILFND02
02-1

The volume of the ITIL Core is based on a Service Lifecycle as represented in **Figure 1-8**:

- **Service Strategy (SS)** represents policies and objectives and is the axis around which the lifecycle rotates.
- **Service Design (SD), Service Transition (ST) and Service Operation (SO)** are progressive phases of the Lifecycle, representing change and transformation, through which strategy is implemented.
- **Continual Service Improvement (CSI)** embodies learning and improvement, placing and prioritizing improvement programs and projects according to the strategic objectives.

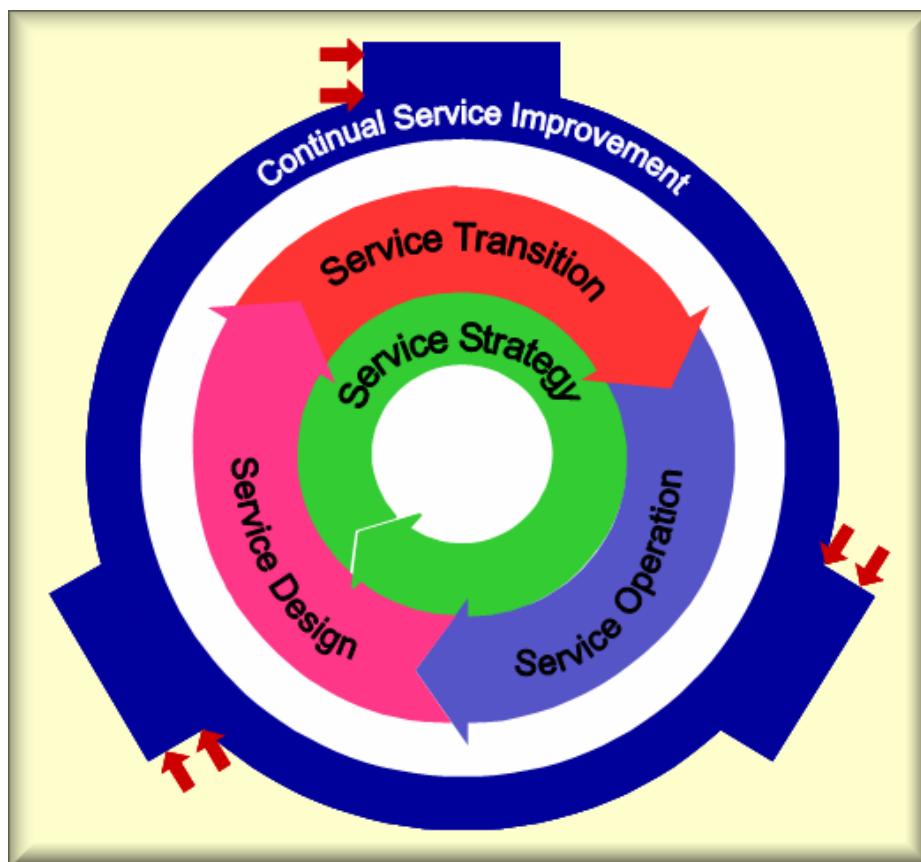


Figure 1-8

Important: The wheel diagram perfectly illustrates the ongoing challenges of Service Management (and service delivery).

- It would be unusual for any organization to start from nothing - so there is no obvious entry point to the wheel.
- This journey also never ends - so there is no easy exit point from the wheel.

1.4.3. Structure



Processes describe how things change whereas structure describes how they are connected. Structure determines behaviour and should be an organizing framework designed for sustainable performance.

ITILFND02
02-1

A comprehensive approach to service management seeks to:

- understand its structure
- the interconnections between all its components
- how changes will affect the system and its components (**Figure 1-9**); “Today’s problem is often created by yesterday’s solution”

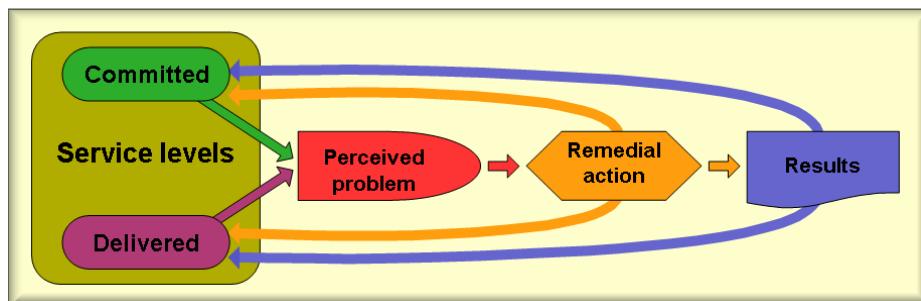


Figure 1-9

1.4.4. ITIL ® 2011 Library



Service Strategy (SS)

- Guidance on principles underpinning the practice of service management
- Useful to develop policies, guidelines and processes across the Lifecycle
- Guidance useful in conjunction with the other volumes
- Covered topics include the development of markets, internal and external, service assets, service catalogue, and implementation of strategy through the Service Lifecycle.
- Financial Management, Service Portfolio Management, Organizational Development, and Strategic Risks are among other major topics.



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Service Design (SD)

- Guidance for the design and development of services and processes.
- Covers design principles and methods for converting strategic objectives into portfolios of services and service assets.
- Not limited to new services.
- Includes the changes and improvements necessary to increase or maintain value to customers over the lifecycle of services, the continuity of services, achievement of service levels, and conformance to standards and regulations.



Service Transition (ST)

- Guidance for the development and improvement of capabilities for transitioning new and changed services into operations
- Guidance on Service Strategy requirements encoded in Service Design are effectively realized in Service Operation while controlling the risks of failure and disruption.
- Combines practices in Release Management, Program Management, and Risk Management
- Guidance on managing the complexity related to changes to services and processes
- Guidance is provided on transferring the control of services between customers and service providers.



Service Operation (SO)

- Guidance on achieving effectiveness and efficiency in the delivery and support of services to ensure value to customers
- Strategic objectives are realized, critical capability
- Guidance to maintain stability in service operations, allowing for changes in design, scale, scope, and service levels.
- Detailed process guidelines, methods, and tools provided for use in two major control perspectives: reactive and proactive.
- Knowledge provided to make better decisions on managing
 - availability of services
 - controlling demand
 - optimizing capacity utilization
 - scheduling of operations
 - fixing problems
- Guidance is provided on supporting operations through new models and architectures
 - shared services
 - utility computing
 - web services
 - mobile commerce



Continual Service Improvement

- Instrumental guidance in creating and maintaining value for customers through better design, introduction, and operation of services
- Combines principles, practices, and methods from quality management, change management, and capability improvement
- Realize incremental and large-scale improvements in service quality, operational efficiency, and business continuity
- Guidance for linking improvement efforts and outcomes with service strategy, design, and transition
- A closed-loop feedback system established, capable of receiving inputs for change from any planning perspective
- Based on the Plan, Do, Check, Act (PDCA) model in ISO/IEC 20000



1.4.5. ITIL ® 2011 - Continual Service Improvement



Figure 1-10 shows that CSI doesn't start after services are in operations. CSI is used throughout the lifecycle.

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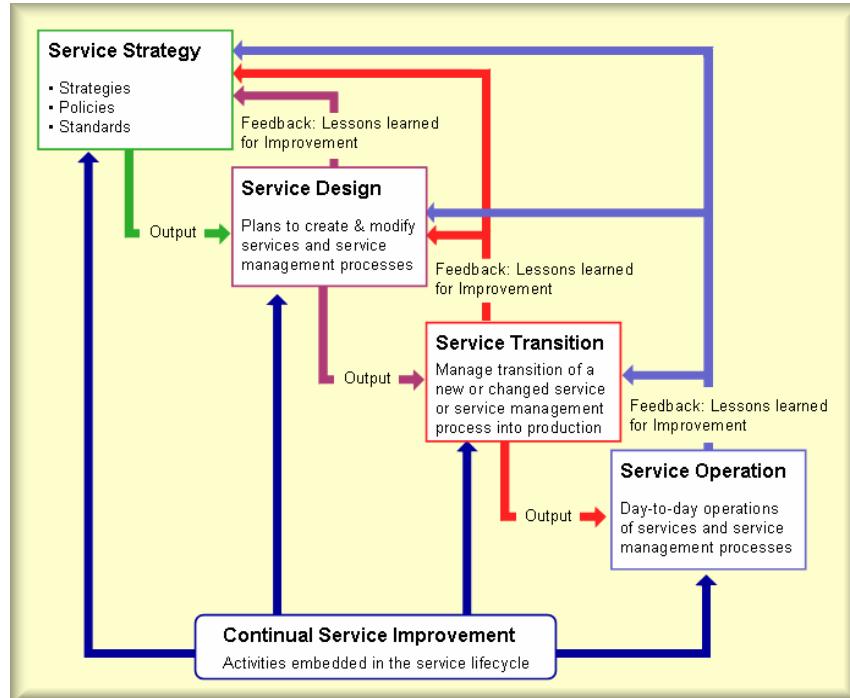


Figure 1-10

1.4.6. ITIL ® 2011 – Processes in the Service Lifecycle



ITIL processes in the Version 2011 lifecycle-based core books.

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Figure 1-11 (next page) provides a detailed overview of the ITIL processes, mapping the Service Lifecycle view (from ITIL 2011) with the traditional Processes view (from ITIL V2).

The columns represent the processes and activities that are carried out within each of the five stages of the Service Lifecycle and the rows represent the processes. Some processes exist in multiple Service Lifecycle stages and others fit within a single Service Lifecycle stage.

The color of a process matches the color of the core ITIL book in which the full process definition and overview will be found.

Processes	Owner	Lifecycle stages				
		Service Strategy	Service Design	Service Transition	Service Operation	Continual Service Improvement
Governance processes						
Service Measurement	CSI					
Service Reporting	CSI					
Service Improvement	CSI					
Demand Management	SS					
Strategy Generation	SS					
Service Portfolio Management	SS					
IT Financial Management	SS					
Operational Processes						
Service Catalogue Management	SD					
Service Level Management	SD					
Capacity Management	SD					
Availability Management	SD					
Service Continuity Management	SD					
Information Security Management	SD					
Supplier Management	SD					
Transition Planning & Support	ST					
Change Management	ST					
Service Asset & Configuration Management	ST					
Release & Deployment Management	ST					
Service Validation & Testing	ST					
Evaluation	ST				>>	
Knowledge Management	ST					
Event Management	SO					
Incident Management	SO					
Request Fulfilment	SO					
Problem Management	SO					
Operation Management	SO				<<	

Figure 1-11

1.4.7. ITIL® 2011 – Lifecycle Interfaces



Specialization and coordination are necessary in the lifecycle approach. Feedback and control between the functions and processes within and across the elements of the lifecycle make this possible

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The dominant pattern in the lifecycle is the sequential progress starting from SS through SD-ST-SO and back to SS through CSI. That, however, is not the only pattern of action.

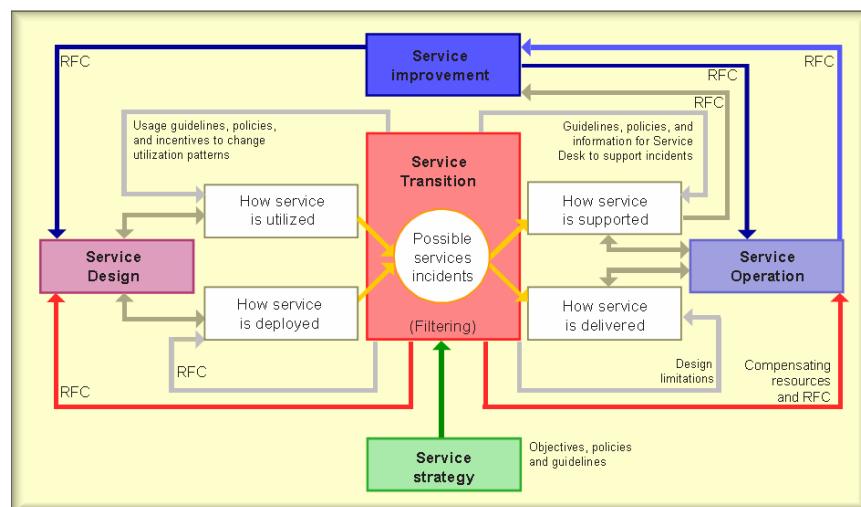


Figure 1-12

1.5. Generic concepts and definitions

1.5.1. Value of a service: Utility and Warranty



Value of a service

From the Customer's perspective, value has two facets:

- Utility – fitness for purpose
- Warranty - fitness for use

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Utility of a service

- Utility is what the Customer gets. It is derived from the attributes of a service that have a positive effect on performance or desired outcomes.
- Removal or relaxation of constraints on performance can also be a positive effect = Fitness for Purpose
- Utility increases the performance average.

Warranty of a service

- Warranty is the assurance that some products or services will be provided, and the way they are provided will meet certain specifications
- e.g. available when needed, in sufficient capacity and magnitude, and dependably in terms of continuity and security = Fitness for Use
- Warranty reduces the performance variation.

Any uncertainty in the service output creates skepticism about the value realized from services - costs may be certain but utility may vary from one unit of output to another. To dispel such concerns and convince a customer of possible gains and losses, the value of a service should be described in terms of utility and warranty. Customers cannot benefit from something that is fit for purpose but not fit for use and vice versa.

Figure 1-13 illustrates a useful way to separate the logic of utility from the logic of warranty for the purpose of design, development, and improvement. (From left-to-right, top-to-bottom)

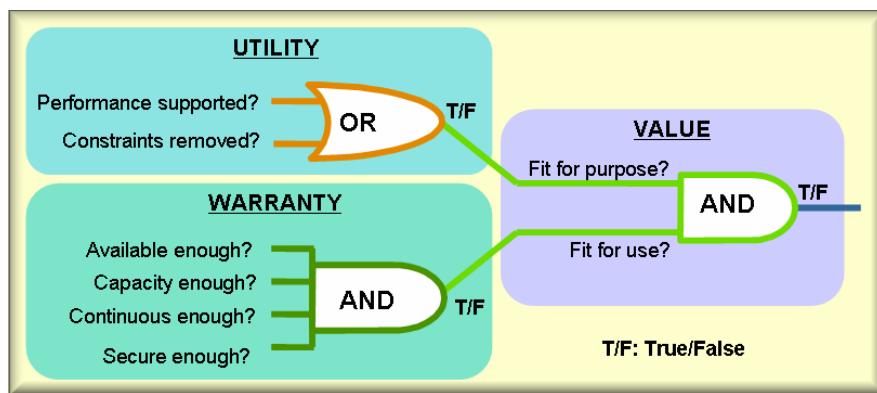


Figure 1-13

1.5.2. Service Portfolio



The Service Portfolio consists of all services, at whatever stage of their lifecycle.

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3 PHASES:

- Services being developed are in the **Service Pipeline**.
- Those that may be offered and consumed by customers constitute the **Service Catalogue**.
- **Retired services** remain in the **Service Portfolio**

Figure 1-14 illustrates this graphically.

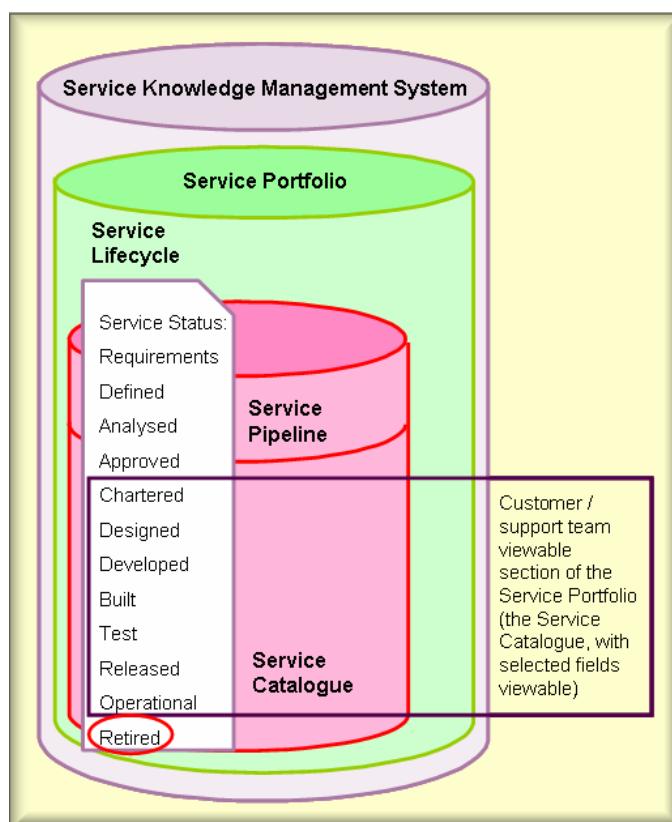


Figure 1-14

1.5.3. Service Catalogue



The Service Catalogue is the subset of the Service Portfolio visible to customers. It consists of services presently active in the Service Operation phase and those approved to be readily offered to current or prospective customers. It is a virtual projection of actual and present capabilities of the service provider.

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Items can enter the service catalogue only after due diligence has been performed on related costs and risks. Resources are engaged to fully support active services.

Many customers are only interested in what the provider can commit to now, rather than in future.

The Service Catalogue defines the criteria for what services fall under Service Portfolio Management (SPM) and the objective of each service

Figure 1-15 shows the suggested generic high-level content

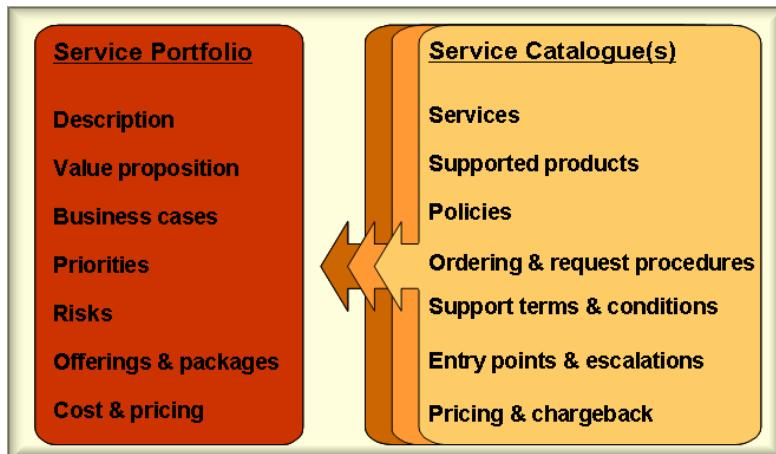


Figure 1-15

1.5.4. Business and Technical Service Catalogue



The Service Catalogue has two aspects:

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The Business Service Catalogue

- This is the customer view of the Service Catalogue.
- It contains details of all the IT services delivered to the customer.
- It includes the relationships to the business units and the business process that rely on the IT services.
- Facilitates the development of a much more proactive or even preemptive SLM process, allowing it to develop more into the field of Business Service Management.

The Technical Service Catalogue

- Should underpin the Business Service Catalogue **and not form part of the customer view.**
- It contains details of all the IT services delivered to the customer.
- It includes the relationships to the supporting services, shared services, components and CIs necessary to support the provision of the service to the business.
- Beneficial when constructing the relationship between services, SLAs, OLAs and other underpinning agreements and components, as it will identify the technology required to support a service and the support group(s) that support the components.

Some organizations maintain either a Business Service Catalogue or a Technical Service Catalogue. More mature organizations maintain both aspects within a single Service Catalogue, which is part of a totally integrated Service Portfolio supported by Service Management. The combination of a Business Service Catalogue and a Technical Service Catalogue is invaluable for quickly assessing the impact of incidents and changes on the business.

Figure 1-16 illustrates the relationship between the two aspects of the Service Catalogue:

- Business Service Catalogue
- Technical Service Catalogue

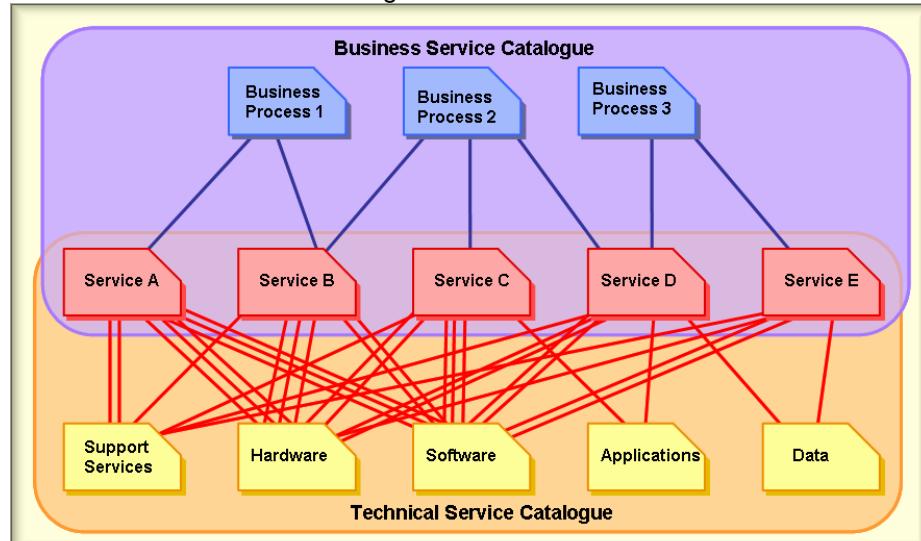


Figure 1-16

1.5.5. Business Case



A business case allows managers to better understand quality requirements and related delivery costs. It seeks to reduce costs through alternative means while maintaining service quality.

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- A means to identify business imperatives that depend on service management
- Model of what a service is expected to achieve
- Provide data and evidence to justifying reasons for:
 - Improving service or process
 - Pursuing a course of action
- Should present:
 - Cost
 - Expected benefits

1.5.6. Risk



Risk is defined as uncertainty of outcome, whether positive opportunity or negative threat.

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Managing risks requires the identification and control of the exposure to risk (vulnerability), which may have an impact on the achievement of an objective.

- Should be visible, repeatable and consistently applied to support decision making.
- Makes cost-effective use of a risk framework that has a series of well-defined steps.
- Aim is to support better decision making through a good understanding of risks and their likely impact.

There are two distinct phases (See **Figure 1-17**)

Risk Analysis

Concerned with gathering information about exposure to risk so that the organization can make appropriate decisions and manage risk appropriately.

Risk Management

- Having processes in place to monitor risks, access to reliable and up-to-date information about risks
- Having the right balance of control in place to deal with those risks
- Having decision-making processes supported by a framework of risk analysis and evaluation.

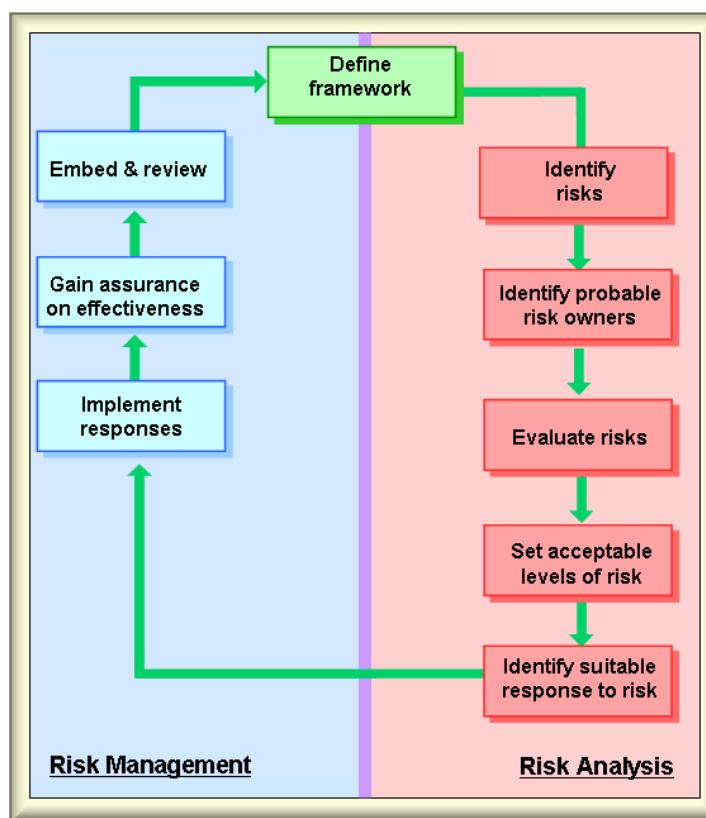


Figure 1-17

1.5.7. Service Model



Service models are blueprints for service management processes and functions to communicate and collaborate on value creation.

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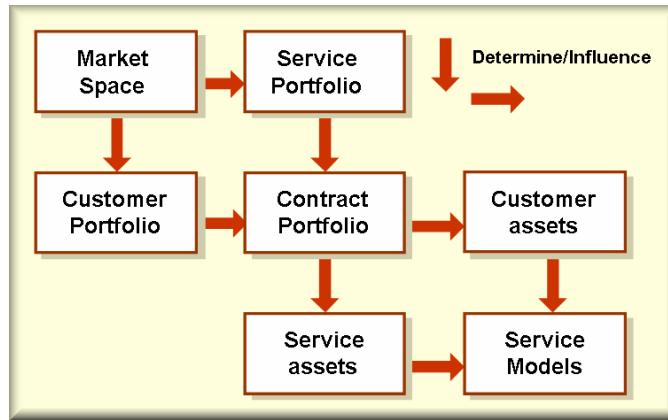


Figure 1-18

Figure 1-18 illustrates:

- Service Models describe how service assets interact with customer assets and create value for a given portfolio of contracts - **Interaction** means demand connects with the capacity to serve.
- Service agreements specify the terms and conditions in which this interaction occurs with commitments and expectations on each side.
- The outcomes define the value to be created for the customer, which rests on the utility provided to customers and the warranty.

Service models codify the structure and dynamics of services, which are influenced by factors of utility and warranty to be delivered to customers.

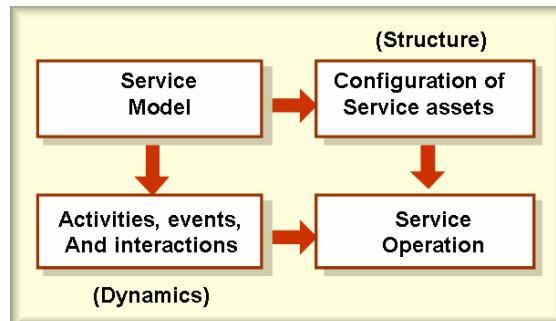


Figure 1-19

Figure 1-19 illustrates:

Structure is defined in terms of:

- particular service assets needed and
- The patterns in which they are configured.

Dynamics of a service include:

- Patterns of business activity, demand patterns, exceptions and variations.
Activities, flow of resources, coordination, and interactions.

1.5.8. Service Knowledge Management system (SKMS)



Within IT Service Management, Knowledge Management focuses on the Service Knowledge Management System (SKMS). The SKMS is underpinned by data, held in a central logical repository or Configuration Management System (CMS) and Configuration Management Database

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(CMDB).

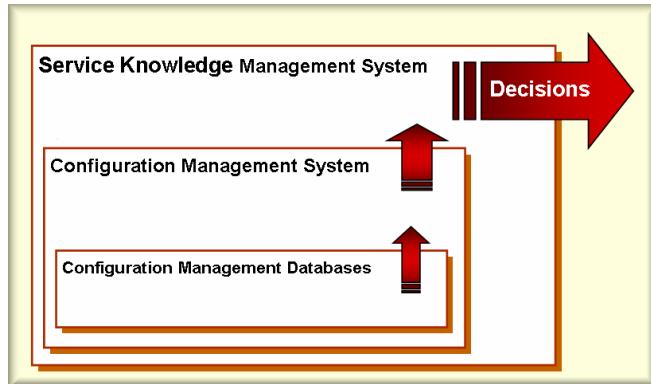


Figure 1-19

Figure 1-19 illustrates the relationship of the three levels:

1. Data being gathered within the CMDB
2. Feeding through the CMS into the SKMS
3. Supporting the informed decision making process.

The SKMS is a broader concept that covers a much wider base of knowledge, for example:

- The experience of staff
- Records of peripheral matters, e.g. user numbers and behaviour, organization's performance figures
- Suppliers' and partners' requirements, abilities and expectations
- Typical and anticipated user skill levels.

Figure 1-20 illustrates: Data-to-Wisdom maturity.

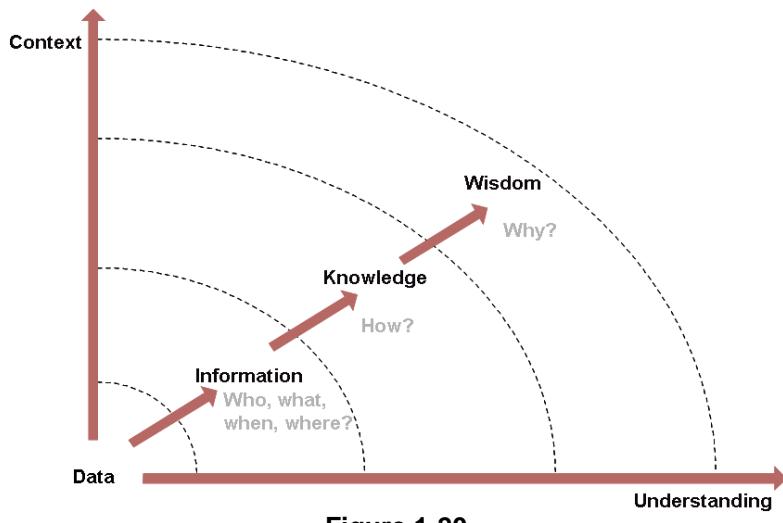


Figure 1-20

1.6. Roles definitions

1.6.1. Process Owner



A Process Owner is responsible for ensuring that their process is being performed according to the agreed and documented process and is meeting the aims of the process definition. This includes such tasks as:

- Documenting and publicizing the process
- Defining the Key Performance Indicators (KPIs) to evaluate the effectiveness and efficiency of the process
- Reviewing KPIs and taking action required following the analysis
- Assisting with and ultimately responsible for the process design
- Improving the effectiveness and efficiency of the process
- Reviewing any proposed enhancements to the process
- Providing input to the on-going Service Improvement Program
- Addressing any issues with the running of the process
- Ensuring all relevant staff have the required training in the process and are aware of their role in the process
- Ensures that the process, roles, responsibilities and documentation are regularly reviewed and audited
- Interfaces with line management ensuring, that the process receives the needed staff resources (line management and process owners have complementary tasks, they need to work together to ensure efficient and effective processes. Often it is the task of line management to ensure the required training of staff)

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1.6.2. Service Owner



The Service Owner is responsible to the Customer for the initiation, transition and ongoing maintenance and support of a particular service. The Service Owner has the following responsibilities:

- Act as prime Customer contact for all Service related enquiries and issues
- Ensure that the ongoing Service delivery and support meet agreed Customer requirements
- Will identify opportunities for Service Improvements, discuss with the Customer and will raise the RFC for assessment if appropriate
- Will liaise with the appropriate Process Owners throughout the Service Management lifecycle
- Will solicit required data, statistics and reports for analysis and to facilitate effective Service monitoring and performance
- Will be accountable to the IT Director for the delivery of the Service.

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1.6.3. RACI



The RACI model will be beneficial in enabling decisions to be made with pace and confidence.

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- It clarifies to all involved which activities they are expected to fulfill
- It identifies any gaps in process delivery and responsibilities

RACI is an acronym for the four main roles of:

- Responsible** - The person or people responsible for getting the job done
- Accountable** – Only 1 person can be accountable for each task
- Consulted** - People who are consulted and whose opinions are sought
- Informed** – The people that are kept up-to-date on progress

Occasionally an expanded version of RACI is used called **RACI-VS** with 2 further roles as follows:

- **Verifies** - The person or group that checks whether the acceptance criteria has been met
- **Signs off** - this is the person that approves the V decision and authorizes the product hand off. This could be the A person

A third variation of the RACI model is **RASCI** where the S represents **Supportive**. This role provides additional resources to conduct the work or plays a supportive role in implementation for example. This could be beneficial for IT service implementation.

Figure 1-21 illustrates a RACI table.

	Director Service Management	Service Level Manager	Problem Manager	Security Manager	Procurement Manager
Activity 1	AR	C	I	I	C
Activity 2	A	R	C	C	C
Activity 3	I	A	R	I	C
Activity 4	I	A		R	I
Activity 5	I	I	A	C	I

Figure 1-21

1.6.4. To Build a RACI chart



To build a RACI chart the following steps are required:

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- Identify the activities / processes
- Identify/define the functional roles
- Conduct meetings and assign the RACI codes
- Identify any gaps/overlaps for example where there are 2 Rs or no Rs
- Distribute the chart and incorporate feedback
- Ensure that the allocations are being followed

1.6.5. RACI Model - Problems



Some problems that may be encountered:

- More than one person accountable = nobody responsible
- Delegation of responsibility without necessary authority
- Focus on matching processes and activities with departments
- Wrong division/combination of functions; conflicting agendas or goals

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1.7. Technology and Architecture

1.7.1. Service Management technology



There is **general** consensus that a Service Management tool is essential for the success of the majority of process implementations.

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- It must always reference the Service Portfolio
- It is, however, important that the tool supports the processes – not the other way around. ***Don't modify the process to fit the tool!***
- There may not be a tool that totally supports the designed process, requiring an element of process re-design without limiting functionality:

Generic core functionality requirements:

- **Self-Help**
Technology should support the capability to offer 'Self-Help' functionality to users. This could include a web front-end allowing web pages to be defined offering a menu-driven range of Self-Help and Service Requests – with a direct interface into the back-end process-handling software.
- **Workflow or process engine**
This allows the pre-definition and control of defined processes such as an Incident Lifecycle, Problem Lifecycle, Change Model, etc. This should allow responsibilities, activities, timescales, escalation paths and alerting to be pre-defined and then automatically managed.
- **Integrated CMS**
This allow the organization's IT infrastructure assets, components, services and any supplementary CIs (contracts, locations, licenses, suppliers etc. – anything that the IT organization wishes to control) to be held, together with all relevant attributes, in a centralized location. To allow relationships between each of these to be stored and maintained, and linked to Incident, Problem, Known Error and Change Records as appropriate.
- **Discovery/Deployment/Licensing technology**
To populate or verify the CMS data and to assist in Licence Management, requires discovery or automated audit tools. Such tools should be capable of being run from any network location and allow interrogation and recovery of information relating to all CIs in the IT Infrastructure. It should allow 'filtering' and the ability to deploy new software to target locations. An interface to 'Self Help' capabilities is desirable.
- **Remote control**
To allow relevant support groups to take control of the user's desk-top (under properly controlled security conditions), allowing them to perform investigations or correct settings, etc. Facilities to allow this level of remote control will be needed.
- **Diagnostic utilities**
To use diagnostic scripts and other diagnostic utilities (such as, for example, case-based reasoning tools) to assist with earlier diagnosis of incidents. Ideally, these should be 'context sensitive' and

presentation of the scripts automated so far as possible.

- **Reporting**

It should incorporate good reporting capabilities, as well as allow standard interfaces which can be used to input data to industry-standard reporting packages, dashboards, etc. Ideally, instant, onscreen as well as printed reporting can be provided through the use of context-sensitive 'top ten' reports.

- **Dashboards**

To allow 'see at a glance' visibility of overall IT service performance and availability levels and can be included in management-level reports to users and customers. It can give real-time information for dynamic reporting, and can be used for support and investigation purposes. Capabilities to support customized views of information to meet specific levels of interest can be particularly useful. If this only represent a technical rather than service view of the infrastructure it may be of less interest to customers and users.

Integration with Business Service Management

There is an IT industry trend to attempt the coordination of business-related IT with the processes and disciplines of IT Service Management – some call this Business Service Management. To facilitate this, business applications and tools need to be interfaced with ITSM support tools to give the required functionality.

Consider the product's ability to:

- Perform (CAPACITY)
- Enlarge the size of the databases (SCALABILITY)
- Recover from failure (CONTINUITY)
- Maintain data integrity (SECURITY, AVAILABILITY)
- Conform to international standards
- Enable efficient compliance with Service Management Requirements

Purchasing or developing a tool doesn't solve all problems – there is a dependency on:

- Process
- Function
- People (most important)

Remember: '**a fool with a tool is still a fool'**

1.7.2. Service Automation



Automation can significantly impact the performance of service assets such as:

- Management
- Organization
- People
- Process
- Knowledge
- Information

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Automation is considered to improve the utility and warranty of services and may offer advantages in many areas of opportunity:

- Ability to adjust the capacity of automated resources in response to variations in demand volumes.
- Reducing restriction on time of access for automated resources – ability to serve outside normal working hours.
- Provide a good basis for measuring and improving service processes in respect of human resources - service quality and costs vs. levels of knowledge, skills and experience.
- Address optimization problems such as scheduling, routing and allocation of resources due to computing power.
- Enables the capturing of knowledge required for a service process - reducing the depreciation of knowledge when employees move or permanently leave.

When judiciously applied, the automation of service processes helps improve the quality of services:

- reduce costs
- reduce risks:
 - reducing complexity and uncertainty
 - efficiently resolving trade-offs

Service Management can benefit from automation in the following areas:

- Design and modeling
- Service catalogue
- Pattern recognition and analysis
- Classification, prioritization and routing
- Detection and monitoring
- Optimization.

“Vision without action is merely a dream. Action without vision just passes the time. Vision with action can change the world.”

(Joel Barker)

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2. Service Strategy

2.1. Service Strategy in the Service Lifecycle

2.1.1. Goal



Service Strategy assists managers to tackle higher levels of uncertainty, complexity and conflict, and to select, adapt and tune their IT strategies.

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To improve strategic impact through design, development, implementation and practice of service management:

- As an organizational capability
- As a strategic asset

Enable Managers to cope with demands and to tune IT Strategies

Main Activities:

- Define the market
- Develop the offerings
- Develop strategic assets
- Prepare for execution

2.1.2. Objectives



Service Strategy enables a clearer relationship between various services, systems or processes that are managed and the business models, strategies, or objectives they support.

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- To improve the strategic impact of Service Management
- To transform service management into a strategic asset
- To establish relationships between services, systems or processes & business models, objectives or strategies they support.
- Provides strategic management focus in respect of IT Service
- Management through:
 - Strategic analysis
 - Planning & Positioning
- Provides underpinning principles to assist in developing
 - Policies
 - Guidelines
 - Processes

Service Strategy answer questions like:

- What services should we offer and to whom?
- How should we define service quality?

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- How can financial management provide visibility and control over value-creation?
- How do we:
 - Differentiate ourselves from competing alternatives?
 - Truly create value for customers?
 - Capture value for stakeholders?
 - Choose between different paths for improving service quality?
 - Efficiently allocate resources across a portfolio of services?
 - Resolve conflicting demands for shared resources?
 - Make a case for strategic investments?

2.2. Generic Concepts and Definitions

2.2.1. Resources & Capabilities



Resources and capabilities are types of assets.

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Resources:



Resources are direct inputs for production such as management, organization, people, and knowledge are used to transform resources.

Resources are easier to acquire than capabilities

Capabilities:

Capabilities by themselves cannot produce value without adequate and appropriate resources:

- A service provider is dependent on the resources under its control.
- For example, capabilities such as capacity management and availability management are used to manage the performance and utilization of processes, applications, and infrastructure, ensuring service levels are effectively delivered

Capability represents:

- Coordination
- Control
- Deployment of resources to produce value

It is important to develop distinctive capabilities to retain customers – the same resources with different capabilities give competitive advantage:

- Two service providers may have similar resources such as applications, infrastructure, and access to finance.
- Their capabilities, however, differ in terms of management systems, organization structure, processes, and knowledge assets.
- This difference is reflected in actual performance.

Figure 2-1 provides an overview of what Capabilities and Resources are made up of.

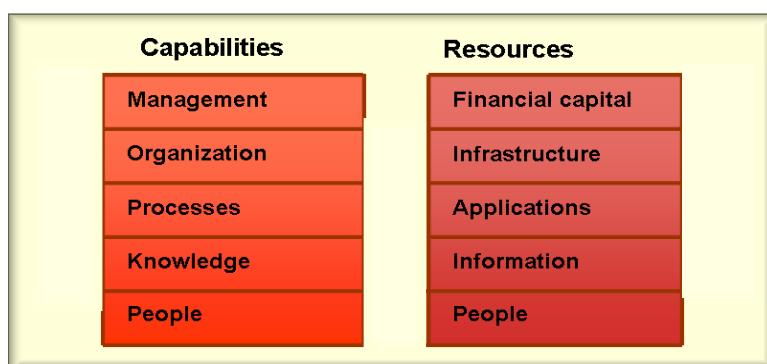


Figure 2-1

2.3. Key Principles & Models

2.3.1. Service Assets as the basis of Value Creation



Capabilities represent an organization's ability to coordinate, control, and deploy the resources to produce value. Service Assets are used to create value in the form of goods & services.

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- 1 Resources input assets for production
- 2 Management, organization, people & knowledge transforms resources
- 3 Capabilities coordinate, control & deploy resources to produce value

2.3.2. Value Creation



Business outcomes & customer perceptions defines value. The ability to quantify value adds value to the concept of value creation, which need not necessarily be expressed in financial terms, but can be expressed in feelings, beliefs and perceptions.

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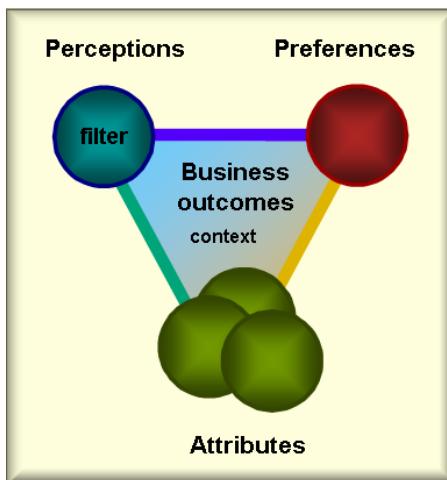


Figure 2-2

Figure 2-2 shows that customers' perceptions, preferences (expectations) and the particular features of a service (attributes) allow us to set a baseline reference value. Over TIME as the supplier aims to demonstrate value and influence perceptions and respond to preferences then we should see a higher reference value emerge. The difference in the two values (the net difference) added to the latest reference value gives us the overall service "economic value" – as perceived by the customer.

Perceptions are influenced by:

- Attributes of a service
- Customer's self image (innovator, market leader or risk-taker)
- Expectations

Service Providers should:

- Demonstrate value
- Influence perceptions
- Respond to preferences

2.4. Service Strategy Processes

2.4.1. Four Main Activities

2.4.1.1 Activity 1 – Define the Market



Define Services for Strategy & vice versa

- Strategies developed for the services offered
- Services for Business strategies

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For example:

A software vendor decides to offer software as a service:

1. The vendor combines its software development capabilities with new service management capabilities
2. By bundling its software applications maintenance capabilities with technical support, it has created a new core service
3. By adopting a service-oriented approach which is now supported by service management capabilities, it has transformed itself into a service business

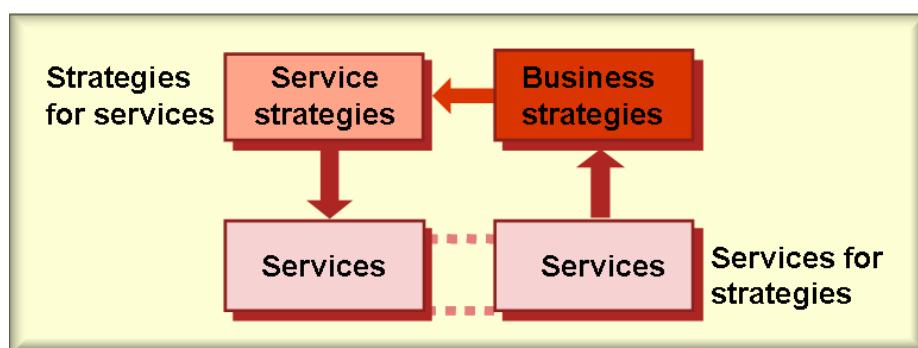


Figure 2-3

Activity requirements:

- **UNDERSTAND THE CUSTOMER**

In order to define the value of a service, the performance of customer assets should be the primary focus of service management, because without customer assets there is no basis to define the value of a service for a business to achieve its objectives.

- **UNDERSTAND THE OPPORTUNITIES**

Customers use assets to create value, these assets are means of opportunities to achieve performance for the business which in return will enable or enhance value-creation, and thus an organization must understand the opportunities. New opportunities emerge when changes in the business environment cause a hitherto well-supported outcome to be poorly supported

- **INSIGHT INTO THE BUSINESS**

Business needs to identify the outcomes for every customer and market space that falls within the scope of the particular strategy.

- **CLASSIFY AND VISUALIZE**

Services differ primarily by **how** they create value and in **what** context.
Service archetypes are like business models for services.

1 Examine how the services create value + what assets need to be deployed to create value = Investment appraisal

2 Services with closely matching patterns indicate opportunity for consolidation or packaging as shared services:

- When services share market spaces they also tend to share capabilities, resources, costs, risks, challenges, opportunities etc.
- Services with high degree of overlap could be consolidated under the same operations. Variants of services have very high degree of overlap.
- Similar services can have the same core service package.

Figure 2-4 illustrates how services can share market space.

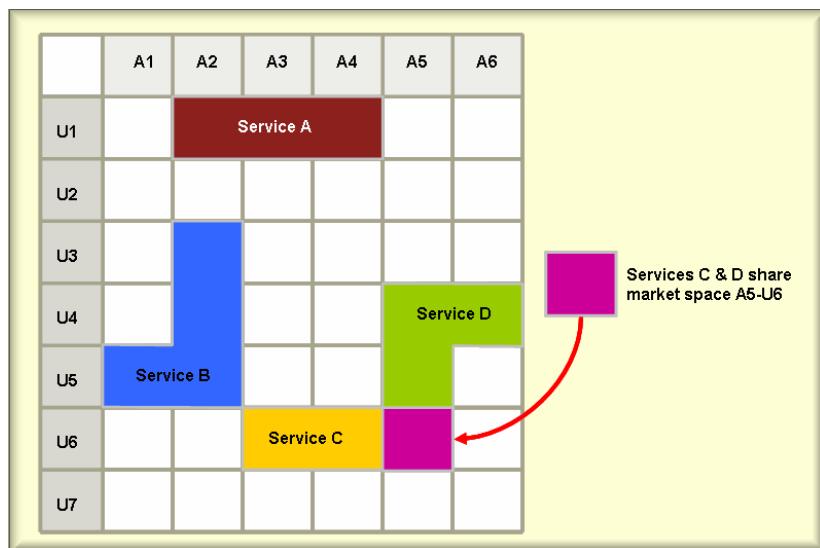


Figure 2-4

2.4.1.2 Activity 2 – Develop the Offerings



- **MARKET SPACE**

Market Space is defined by the outcomes that customers desire, facilitated by services. It represents a set of opportunities to deliver value through one or more services. The delivery of value will enhance relationship building.

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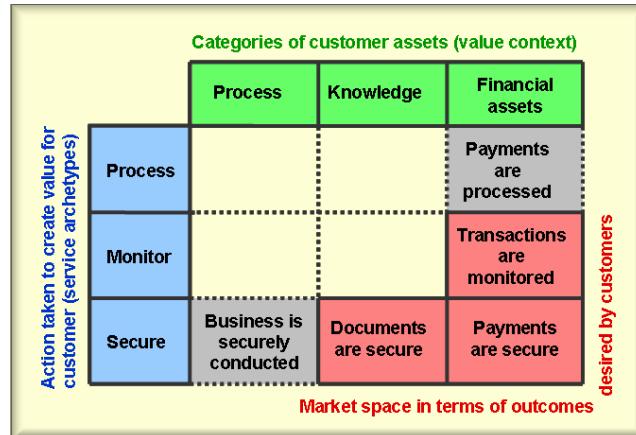


Figure 2-4

Figure 2-4 illustrates that Market Space:

- Can be related to one or more categories of assets (People/Infrastructure/Information)
- Can be linked to services - proper definition of services takes into account the context in which customers perceive value from the services.

- **OUTCOME-BASED DEFINITION OF SERVICES**

Delivering value to customers by facilitating outcomes customers need to achieve without owning specific costs and risks:

- Well-formed service definitions lead to effective & efficient service management processes.
- Service definitions are useful when broken down into discrete elements (**Figure 2-5**) that can then be assigned to different groups, who will manage them in a coordinated manner to control the overall effect of delivering value to customers.

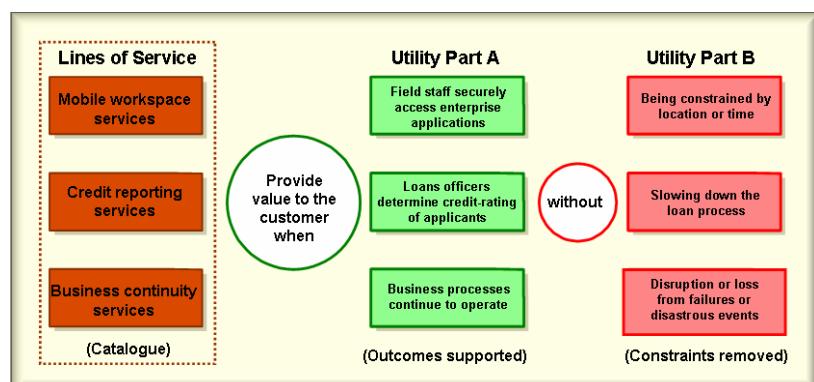


Figure 2-5

- **SERVICE PORTFOLIO** (As discussed in Generic Concepts in paragraph 1.4.2)

The Service Portfolio represents all commitments and investments

made by a service provider across all customers and market spaces, and includes:

- Accurate information (including contracts) relating to all services (current and future) and service statuses
- Includes third-party services that make up the service offering
- Includes service changes initiated by CSI

Service Portfolio assists with:

- Prioritizing investments and improve the allocation of resources.
- Instilling financial discipline necessary to avoid making investments that will not yield value.

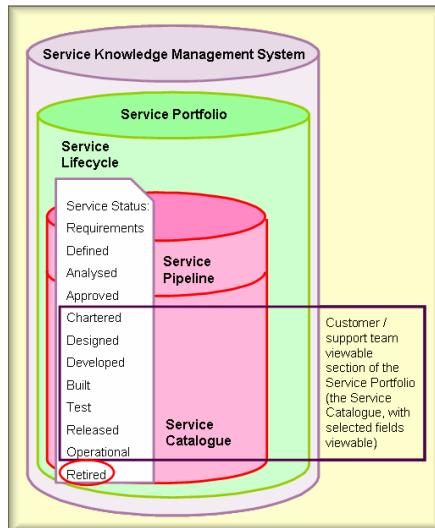


Figure 2-6

Service Portfolio (Figure 2-6) consists of:

- Service Catalogue
 - ‘Menu’ of presently active and approved, planned services
 - Subset of the Service Portfolio visible to customers.
 - Consists of services presently active in the Service Operation phase and those approved to be readily offered to current or prospective customers.
- Service Pipeline
 - Services under development for a given market space or customer
 - Services are to be phased into operation by Service Transition after completion of design, development, and testing.
 - The general health of the provider is reflected in the pipeline.
 - It also reflects the extent to which new service concepts and ideas for improvement are being fed by Service Strategy, Service Design and Continual Improvement
- Retired Services
 - Services being phased out or retired
 - Commitments are fulfilled, service assets are released from contracts

Changes to portfolios are governed by policies and procedures.

2.4.1.3 Activity 3 – Develop Strategic Assets



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STRATEGIC ASSETS

Service Management is a strategic asset and should be entrusted with challenges and opportunities in terms of customers, services, and contracts to support. Investing in trusted assets is less risky because they have the capability to deliver consistently.

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- **SERVICE MANAGEMENT AS CLOSED-LOOP CONTROL SYSTEM**

Service Management represent a set of organizational capabilities specialized in providing value to customers in the form of services. Capabilities interact with each other to function as a value creation system.

- Service assets are the source of value and customer assets are the recipients (see **Figure 2-7**).
- Services have the potential to increase the performance of customer assets and create value to the customer organization.

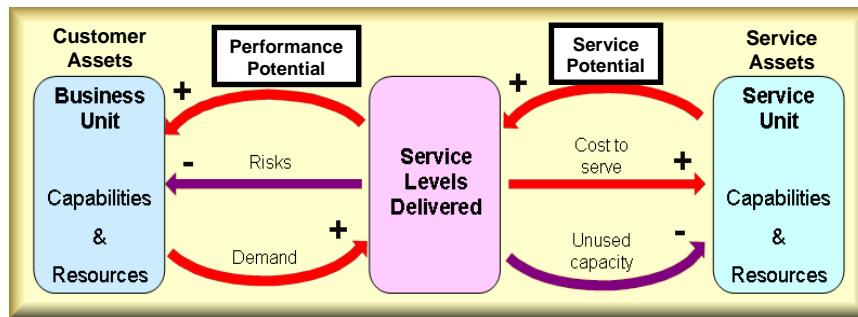


Figure 2-7

Figure 2-7 explains how service assets are the source of value and customer assets are the recipients:

1. Services derive their potential from service assets.
 - Develop and maintain service assets
2. Service potential is converted into performance potential of customer assets.
 - Understand the performance potential of customer assets
 - Map service assets to customer assets through services
 - Design, develop, and operate suitable services
3. Increasing the performance potential frequently stimulates additional demand for the service in terms of scale or scope.
 - Extract service potential from service assets
 - Convert service potential into performance potential
4. This demand translates into greater use of service assets and justification for their ongoing maintenance and upgrades.
 - Convert demand from customer assets into workload for service assets
5. Unused capacity is reduced.
 - Reduce risks for the customer
6. Costs incurred in fulfilling the demand are recovered from the customer based on agreed terms and conditions.
 - Control the cost of providing services

- **SERVICE MANAGEMENT AS A STRATEGIC ASSET**

Service Management defines the value network to develop strategic assets for service providers to support the customers, because:

- It enables managers to manage business models and strategies more efficiently
- The service cost and risks to provide it can be accounted for

- **INCREASING THE SERVICE POTENTIAL**

This is accomplished through projects that develop or improve

capabilities and resources as increased efficiency in utilization of assets improves capability. The key objective in Service Management is to improve the service potential of its capabilities and resources.

- **INCREASING PERFORMANCE POTENTIAL**

Increasing the Performance Potential provides justification for customers to procure the services and ensures alignment between service providers and business needs. This is accomplished by answering questions such as:

- What is our market space?
- What does that market space want?
- Can we offer anything unique in that space?
- Is the space already saturated?
- Do we have the right portfolio of services developed for a given market space?
- Do we have the right catalogue of services offered to a given customer?
- Is every service designed to support the required outcomes?
- Is every service operated to support the required outcomes?
- Do we have the right models and structures to be a service provider?

- **DEMAND, CAPACITY AND COST**

Increase in Performance Potential leads to an increase in a customer's demand for the service. Service demand is accompanied by compensation received by service levels, based on the type of agreement i.e. Higher Service levels achieved increase the compensation.

An increase in the customer's demand for services also leads to a decrease in the cost of providing additional units of service, because of the effect of fixed costs and overheads.

2.4.1.4 Activity 4 – Prepare for Execution



- **STRATEGY**

Strategy is critical for performance:

- A process can be represented in a model, around which a strategy can be built.
- Strategy doesn't guarantee success – it requires reflection and examination to make it suitable in a specific context or situation - it involves thinking as well as doing.

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Figure 2-8 illustrates the establishment of Service Strategy.

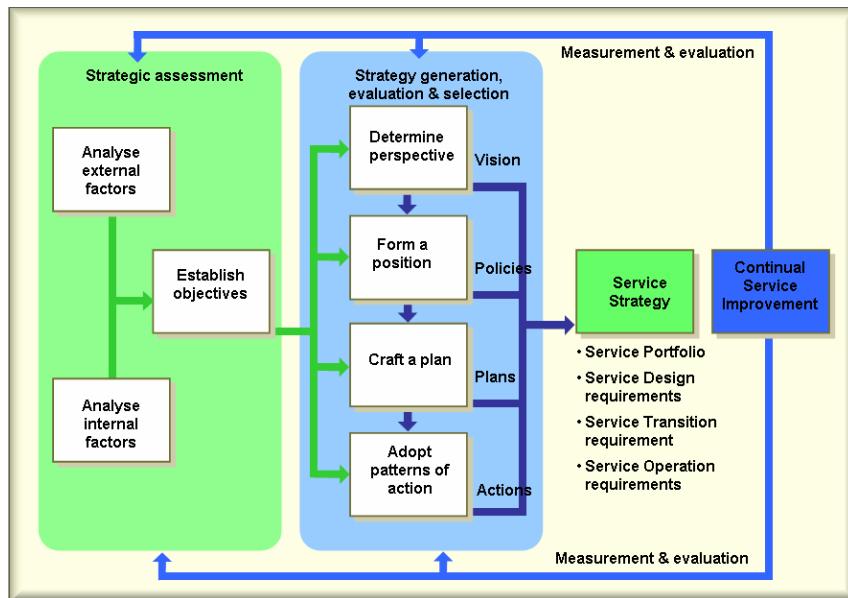


Figure 2-8

- **STRATEGIC ASSESSMENT**

The current strategy has to be defined before developing a new strategy as a core of differentiation could already exist. Answers to the following questions can identify current distinctive capabilities or reveal patterns that lend insight to future strategic decisions and objectives:

1. Which of our services or service varieties are the most distinctive?
 - Those services that the customer cannot easily substitute or service attributes not readily found elsewhere, such as product knowledge, regulatory compliance, provisioning speeds, technical capabilities or global support structures.
2. Which of our services or service varieties are the most profitable?
 - Value may be monetary (higher profits, lower expenses), or social (saving lives, preventing crime) – it helps to substitute ‘profit’ with ‘benefits realized’.
3. Which of our customers and stakeholders are the most satisfied?
4. Which customers, channels or purchase occasions are the most profitable?
 - The value can be monetary, social or other.
5. Which of our activities in our value chain or value network are the most different and effective?

- **SETTING OBJECTIVES**

Strategies represent the actions to be taken to accomplish objectives.

Manage by objectives as it enables consistent decision making,

minimizing later conflicts by setting priorities and serving as standards.

Avoid:

- Managing by crisis – this allows events to dictate management decisions.
- Managing by extrapolation – doing the same activities in the same manner because it works.
- Managing by hope – believing that decisions will ultimately work out.
- Managing by subjective – doing the best to accomplish what should be done (no plan).

Determine metrics: Understand desired outcomes and how best to satisfy the important (currently underserved) outcomes.

Three data sources through which value can be created:

- *Customer tasks*: What task or activity is the service to carry out? What job is the customer seeking to execute?
- *Customer outcomes*: What outcomes is the customer attempting to obtain? What is the desired outcome?
- *Customer constraints*: What constraints may prevent the customer from achieving the desired outcome? How can the provider remove these constraints?

Four common categories of information frequently gathered and presented as objectives. Each of these have risks associated, which should be avoided:

- *Solutions* – requirements in the form of a solution to a problem. To mitigate risk, look for the criteria used to measure the value of a service.
- *Specifications* – requirements in the form of specifications. By accepting specifications, the solution might not be optimal.
- *Needs* – requirements as high-level descriptions of the overall quality of the service. This doesn't include specific benefits - ensure all input is measurable and actionable.
- *Benefits* – requirements in the form of benefit statements. There is risk in the ambiguity of general statements ('Fast response' or 'Improved security').

- **ALIGNING SERVICE ASSETS WITH CUSTOMER OUTCOMES**

Service providers should manage assets in the same manner as their customers, as this will ensure that service assets are coordinated, controlled, and deployed to maximize the value to customers, while minimizing risks and costs for the provider.

- **DEFINE CRITICAL SUCCESS FACTORS**

Critical success factors determine the success or failure of a service strategy and are influenced by customer needs, business trends, competition, regulatory environment, suppliers, standards, industry best practices and technologies.

Critical success factors determine the service assets required to implement a service strategy successfully. Critical success factors have the following characteristics:

- They are defined in terms of capabilities and resources
- They are proven to be key determinants of success by industry leaders

- They are defined by market space levels, not peculiar to any one firm
 - They are the basis for competition among rivals
 - They change over time, so they are dynamic not static
 - They usually require significant investments and time to develop
 - Their value is extracted by combination with other factors.
-
- **CRITICAL SUCCESS FACTORS AND COMPETITIVE ANALYSIS**
As mentioned before, CSFs are determinants of success in a market space because they evaluate strategic position in a market space and driving changes to such positions. As such, CSFs should be refined according to distinct value propositions to customers.

This means that apart from the current position, the future movement, the magnitude of change, and related probabilities should be considered. This analysis is necessary to avoid being surprised by changes that can destroy value-proposition

- **PRIORITISING INVESTMENTS**
A common problem experienced is prioritizing investments and managerial attention on the right set of opportunities. Customer needs are similar to Maslow's Hierarchy of Needs for individuals. **Figure 2-9** shows:
 - Customer Portfolio - The importance and current level of satisfaction of a need, determines the priority in the customer's mind for purchases that is where service providers should focus.
 - Service Portfolio - Service portfolios should be extended to support these opportunity areas (requirement for utility and warranty).
 - Critical Success Factors - Consider costs and risks as reasons why needs remained unfulfilled – might require innovation.

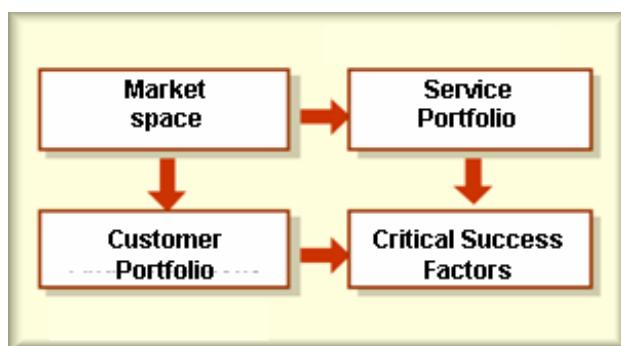


Figure 2-9

- **EXPLORING BUSINESS POTENTIAL**
Providers can be present in many spaces and should analyze their presence (strengths, weaknesses, opportunities and threats).
 - Analyze business potential on 'unserved' or 'under-served' spaces
 - Long-term vitality depends on supporting changing and growing needs, and exploiting opportunities
 - Analysis identifies opportunities (current and prospective)
 - Prioritizes investments in service assets based on potential markets (and those that should be avoided), addressing:

- Services to offer (Service Portfolio)
- Customers to serve (Customer Portfolio)
- Critical success factors
- Underserved market spaces
- Service models and assets
- Service Pipeline and Service Catalogue.
- Priority and strategic value
- Investments required
- Financial objectives (including profit motive)
- Risks involved
- Policy constraints.

- **ALINGNMENT WITH CUSTOMER NEEDS**

Understand the mutual relationship between customers and market spaces:

- Strategy usually determines the placement of spaces and visa-versa, leading to changes to either, over time.
- Providers' strategies must be aligned to customers desired outcomes – think market spaces

- **EXPANSION AND GROWTH**

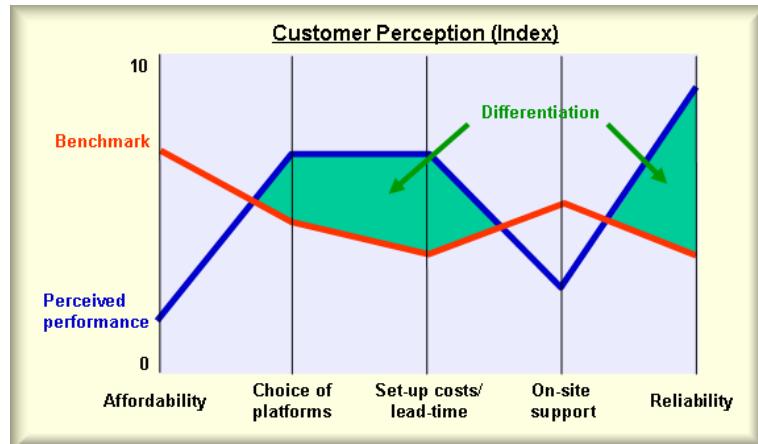
Successful expansion strategies should be based on leveraging existing service assets & portfolios to drive new growth and profitability with less risk:

- Anchored by core capabilities and demonstrated performance presents the proven ability to deliver value.

- **DIFFERENTIATION IN MARKET SPACES**

CSFs determine whether or not providers are competitive in service offering: affordability, delivery platforms, lead times, availability, etc.

- Use indexes (**Figure 2-10, next page**) or scales to link performance to CSFs to determine value curve.
- Establish separation between value curves to determine distinctive value-proposition offered in services through benchmarking
- Benchmark may be based on industry averages, closest rival or most attractive alternative for the customer
- Customer perception may be measured on some suitable scale or index accepted within the industry or region
- Improve through better mix of services – efficiency and effectiveness



2.5. Specific Processes: Service Strategy

2.5.1. Service Portfolio Management (SPM)



SPM is a dynamic method for governing investments in service management across the enterprise & managing them for value.

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SPM is responsible for the Service Portfolio (Services at any stage of their lifecycle), which consist of:

- Service Pipeline - Developed & planned services
- Service Catalogue - Services offered to & consumed by customer
- Retired Services

Figure 2-11 illustrates the position of the Service Pipeline, Service Catalogue & Retired Services in respect of Service Portfolio.

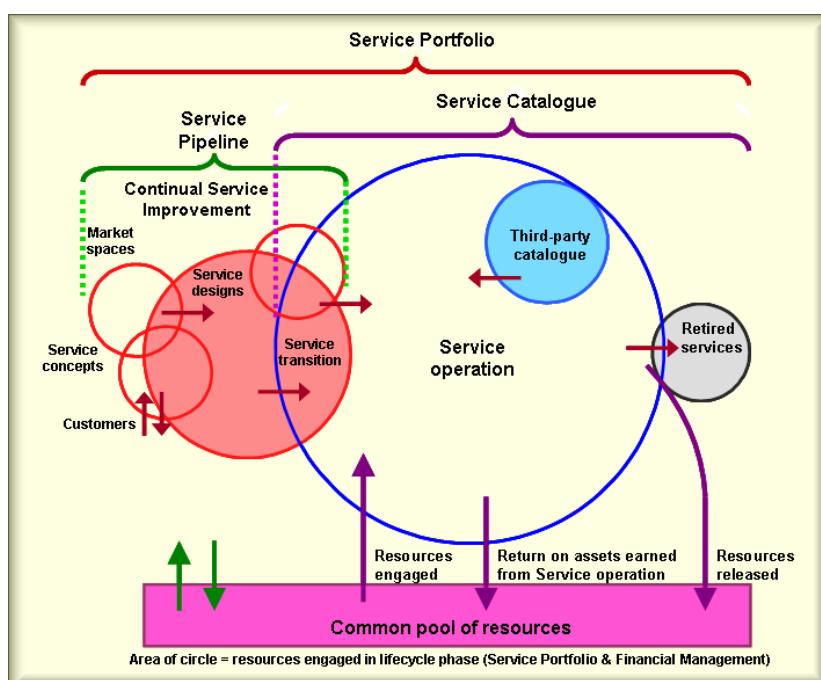


Figure 2-11

Objectives

- Apply comparable practices to manage service portfolios
- Maximize value while managing risks and costs

Business Value

Value is derived from better service delivery and customer experiences, and begins with documenting services. SPM demonstrates value through the ability to anticipate change and the ability to maintain traceability to strategy and planning. The market space and service portfolio at the Service Strategy stage drive effectiveness throughout the lifecycle, making it valuable in:

- decision making in terms of the appropriate Service Transition plan,
- And the resource requirements during business-as-usual service operation.

Service Portfolio Management is aimed at maximizing value while managing risks and costs. The value realization is derived from better service delivery and customer experiences. Managers are better able to understand quality

requirements and related delivery costs. SPM seeks to reduce costs through alternative means while maintaining service quality.

Basic Concepts

Service Portfolio Management is a dynamic & ongoing process set with the following work methods:

- **Define:** inventory services, ensure business cases and validate portfolio data.
 - Establish the Service Portfolio - The actual creation of the Service Portfolio. It may be as broad as saying: "What are all the services we would LIKE to have if there were no constraints imposed?"
(These can all feed into the Service Pipeline).
 - Collect data from existing and proposed services.
- **Analyze:** maximize portfolio value, align and prioritize and balance supply and demand.
 - Sets the "strategic intent"
 - Answers to the questions determines the SPM outcomes
 - What are the long-term goals of the service organization?
 - What services are required to meet those goals?
 - What capabilities and resources are required for the organization to achieve those services?
 - How will we get there?
- **Approve:** finalize proposed portfolio, authorize services and resources.
 - Approve and Authorize the "To Be" state for new services and resources
 - Categories for outcomes of existing services (These are the STATUS that a service could hold – it gives an indication on the future for the particular service). The OUTCOMES for existing services could be:
 - Retain
 - Replace
 - Rationalize
 - Re-factor
 - Renew
 - Retire
- **Charter:** communicate decisions, allocate resources and charter services.
 - List actions and decisions according to budget
 - Clearly communicate decisions to the organization:
 - Promote newly chartered services to Service Design.
 - Retired services begin their sunset to Service Transition.
 - Refresh existing services Service Catalogue.
Concept of Refresh (when considering SPM reviews):
 - Situations change that invalidate previous calculations and knowledge (for example, mergers and acquisitions)
 - Compliance and Regulatory changes occurs which changes business needs and service requirements

2.5.1.1 Roles



Product Manager

Product Manager is a key role within Service Portfolio Management.

- Manage services as a product over the lifecycle

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- Coordinates, focus and owns the Service Catalogue
- Work closely with Business Relationship Managers – focus on Customer Portfolio
- Recognized as the subject matter experts on Lines of Service
- Evaluate new market opportunities, operating models, technologies, and the emerging needs of customers.

2.5.2. Financial Management



'Financial Management quantifies the value of IT Services, assets underlying the provisioning of services, and qualifications of operational forecasting, in financial terms'

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'Economy does not lie in sparing money, but in spending it wisely.'
- Thomas Henry Huxley

Objectives

Financial Management provides the enterprise with operational visibility, insight and superior decision making capabilities.

- It provides Business and IT with the quantification:
 - In financial terms
 - Value of IT services
 - Value of underlying assets that provide the services
 - Qualification of operational forecasting
- It works together with business and IT to:
 - Identify;
 - Document;
 - Agree the value of services being received;
 - Enable demand modeling and management
- It provides value to the business by striving to
 - Analyze, package, market and deliver services
 - Understand and control factors of demand and supply
 - Provide cost effective services

Basic Concepts

Figure 2-12 (next page) illustrates the commonality of interests and benefits between the business and IT.



Figure 2-12

- **Service Valuation**

Financial calculation and assignment of a monetary value required by the business and IT for services delivered based on the agreed value of the services.

- Storyline for business to understand exactly what is delivered from IT
- Means to mutual agreement in what a service is, the components and the actual cost and worth

- **Demand Modelling**

Models anticipated usage by the business and how IT support through service-oriented financial information of demand and supply.

- Identifying the total cost of utilization (TCU)
- Predicting financial implications of future service demand
- Model to:
 - Identify funding requirements
 - Identifying variations and drivers for the variations
 - Assist in managing service demand

- **Service Portfolio Management**

- Used to make decisions if service should be provisioned internally
- Understanding cost structures applied to provision services to benchmark service costs against competitors

- **Service provisioning optimization**

Make services more competitive in terms of cost or quality

- Examines financial inputs and constraints of services or models to determine other means of provisioning a service
- SPO helps to reduce an organization's service cost structure or enhance service value

- **Planning confidence**

Provides financial translation and qualification of expected future demand, focusing on demand and supply variance through:

- Business strategy
- Capacity inputs
- Forecasting

Categorized into 3 areas, representing financial results, required for visibility and valuation:

- Operating & Capital (general and fixed asset ledgers)
- Demand (need and use of IT services)
- Regulatory and Environmental (compliance)

- **Service investment analysis**

Obtains a value indication for the total lifecycle of a service based on

- the value received
- costs incurred during the lifecycle of the service

Service investment analysis represents:

- Commitments and investments made by the service provider across all customers and market spaces
- Contractual commitments, new service development, and ongoing service improvement programmes initiated by Continual Service Improvement
- Includes third-party services which are integral part of service offerings to customers.
- Resources presently engaged or being released in various phases of the Service Lifecycle.

- **Accounting**

- Identification and tracking of service-oriented expense or capital items
- Better understanding and detail is achieved regarding service provisioning and consumption
- Generation of data that feeds directly into the planning process

- **Characteristics**

- Service Recording – Assigning a cost entry to an appropriate service
- Cost Types - higher level expenses categories, assist with reporting and analyzing demand and usage
- Cost Classifications - designate the end purpose of the cost
 - Capital/Operational
 - Direct / Indirect
 - Fixed/Variable
 - Cost Units

- **Compliance**

- Shows that suitable and consistent accounting practices are being employed
- COBIT, ISO/IEC 20000, Basel II can be used to assist
- BASEL II (three pillars for greater stability in the Financial systems)
 - Minimum capital requirement
 - Supervisory review
 - Market discipline (disclosures)

- **Variable Cost Dynamics**

VCD analysis can be used to identify a marginal change in unit cost resulting from adding or subtracting one or more incremental units of a service. Such an analysis is helpful when applied toward the analysis of expected impacts from events such as acquisitions, divestitures, changes to the Service Portfolio or service provisioning alternatives etc. In performing VCD, the provider must ensure that it:

- Analyze and understands the extent of
 - Variables that impact service cost
 - Sensitivity of those elements to variability and
 - Related incremental value changes
- Identify a marginal change in unit cost - adding or subtracting one or more incremental units of a service

2.5.2.1 Roles



IT Financial Manager

- Assist to identify, document and agree the value of services to the business
- Participate in Demand Modelling activities (incentive or penalty)
- Provision of cost information for Service Portfolio Management
- Maintain regulatory compliance regarding finance issues

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2.5.3. Demand Management



'Demand Management optimize and rationalize the use of IT resources'

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Objectives:

- Reducing the risk of unavailability because of poorly managed demand through:
 - SLA's
 - Forecasting
 - Planning
 - Tight coordination
- Managing cost and creating value through reducing excess capacity
- Balance supply and demand of resources
- Ensuring quality of service is maintained with sufficient capacity

Figure 2-13 illustrates how consumption produces demand and production consumes demand in a highly synchronized pattern.

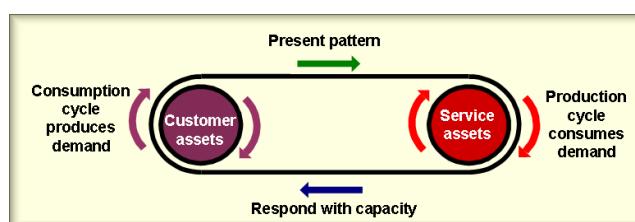


Figure 2-13

2.5.3.1 Roles



Demand Manager

- Create and Manage incentive and penalty schemes
- Participate in creation of Service Level Agreements
- Monitor overall demand and capacity
- Manage capacity potential of individual resources
- Respond to changing Patterns of Business Activity (PBA)

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Schemes are required that will influence demand.

Scheme example:

Demand Management techniques such as off-peak pricing, volume discounts and differentiated service levels can influence the arrival of demand in specific patterns.

Figure 2-14 illustrates how Demand Management interacts with the Capacity Plan and introduce schemes to influence consumption

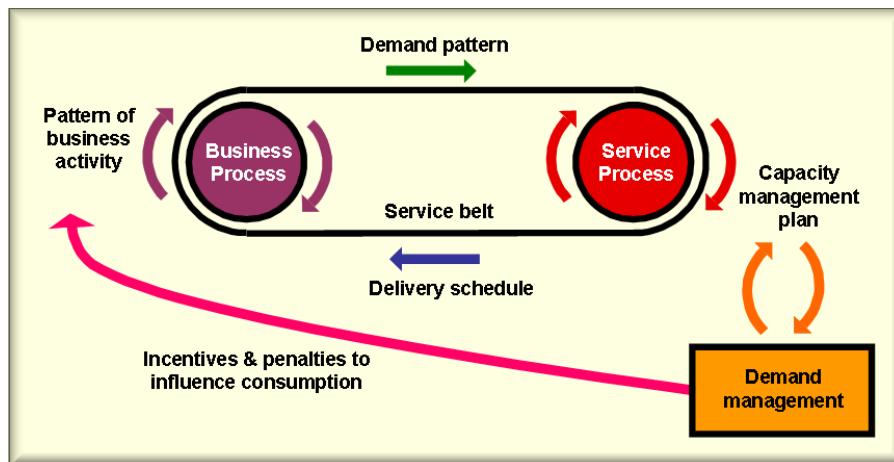


Figure 2-14

“You know you've achieved perfection in design, Not when you have nothing more to add, But when you have nothing more to take away.”

(Antoine de Saint-Exupery)

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3. Service Design

3.1. Service Design in the Service Lifecycle



'The design of appropriate & innovative IT services, including their architectures, processes, policies & documentation, to meet current and future agreed business requirements'

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On the definition:

- Service Design translates strategic plans and objectives and creates the designs and specifications for execution through service transition and operations.
- It provides guidance on combining infrastructure, applications, systems, and processes, along with suppliers and partners, to present feasible service offerings.

This means:

- Translating strategic plans & objectives and creating designs & specifications for execution through service transition & operations.
- Combining infrastructure, applications, systems, & processes, with suppliers & partners, to present feasible service offerings

The main purpose of the Service Design stage of the lifecycle is the design of new or changed service for introduction into the live environment.

3.1.1. Goal



To create a realistic service outline with:

- Policies – for the design of quality IT solutions, to meet current and future agreed business needs
- Architecture
- Portfolios – convert strategic objectives into portfolios of services
- Service Models
- Effective Technology
- Process & Measurement design

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It provides guidance on development of Services, Models & processes by assisting in deciding on activities to be done (how and what)

It maintains or increases value where changes and improvements are necessary

3.1.2. Objectives



The *Service Design* volume provides guidance on the design and development of services and service management processes.

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- It includes design principles and methods for converting strategic objectives into portfolios of services and service assets.
- It also provides guidance on the development of design capabilities for service management.

Service Design is not limited to new services

It includes the changes and improvements required to maintain or increase value to customers over the lifecycle of services, taking into account:

- The continuity of services,
- Conformance to standards and regulations and
- Achievement of service levels.

Should adopt a holistic approach:

- For all aspects & areas
- To ensure consistency & integration
- Within all activities & processes
- Across the entire IT technology
- To provide end-to-end business related functionality & quality.

Key Message:

It is important that a holistic approach to all aspects of design is adopted and that when changing or amending any of the individual elements of design all other aspects are considered.

Thus when designing and developing, it shouldn't be done in isolation, but should also consider the impact on:

- The overall service,
- The Service Portfolio and Catalogue,
- The technology,
- The Service Management processes and
- The necessary measurements and metrics.

This will ensure that not only the functional elements are addressed by the design, but also that all of the management and operational requirements are also addressed as a fundamental part of the design and are not added as an afterthought.

3.1.3. Business Value



With good Service Design it will be possible to deliver quality, cost effective services and to ensure that the business requirements are being met.

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Reduced Total Cost of Ownership (TCO)

- Through properly implemented services, technology and processes

Improved quality of service

- On an operational and service level

Improved consistency of service

- Services will be designed in conjunction with the corporate strategy, architectures etc.

Easier implementation of new or changed services

- Service Design is better integrated

Improved service alignment

- New or changed services are better aligned with the business needs

More effective service performance

- Plans are better integrated especially Capacity, Financial, Availability and IT Service Continuity plans

Improved IT governance

- Enhanced communication and implementation of governance controls.

More effective Service Management and IT processes

- Quality and cost effective process designs are developed

Improved information and decision making

- More comprehensive and effective measurements and metrics

3.2. Generic Concepts and Definitions

3.2.1. Service Provider



The entity responsible for delivery of a service (e.g. email, billing) to customers & business (internal or external).

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3.2.2. Supplier



Any external third parties necessary to provide third and fourth line support of the components required to provide the service e.g. networks, hardware, software.

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3.2.3. Service Level Agreement (SLA)



The SLA describes:

- IT Services & Service Level Targets
- Roles and Responsibilities
- Covers multiple Services or multiple Customers

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SLA's should be reviewed regularly to ensure conformance.

IMPORTANT: Stand-alone SLA's may not be legally enforceable and 'represents the goodwill and faith of the parties signing it'. It is in the interest of signatories that SLA's are incorporated into an appropriate contractual framework, to meet the ITIL objective that SLA's are binding agreements.

3.2.4. Operational Level Agreement (OLA)



The OLA is any underpinning agreements necessary to deliver the quality of service agreed within the SLA and defines:

- Goods or services provided
- Roles and responsibilities of those providing it

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OLA's are established between:

- Service Provider & Procurement
- Service Desk & Support Group

3.2.5. Contract



A contract is an agreement between two or more parties. It is legally binding, and covers the obligations each entity has to the other; from the first day of the contract, often extending beyond its termination

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Formal contracts are appropriate for external supply arrangements which make a significant contribution to the delivery and development of the business. A contract is used as the basis for external supplier agreements where an enforceable commitment is required.

High-value and/or strategic relationships are underpinned by a formal contract. The formality and binding nature of a contract are not at odds with the culture of a partnering agreement, but rather form the basis upon which trust in the relationship may be founded.

3.2.6. Service Design Package (SDP)



Service Design produce a “Service Design Package” for each new service, major change to a service, removal of a service or change to the “Service Design Package”.

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The SDP is passed from Service Design to Service Transition and details all aspects of the service and its requirements through all of the subsequent lifecycle stages.

3.2.7. Availability



Availability defines the proportion of time that a customer is able to access a particular service or the ability to perform an agreed function when required and is measured from the customer's point of view and recorded in the SLA.

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Availability is determined by:

- Reliability
- Maintainability
- Serviceability
- Performance
- Security

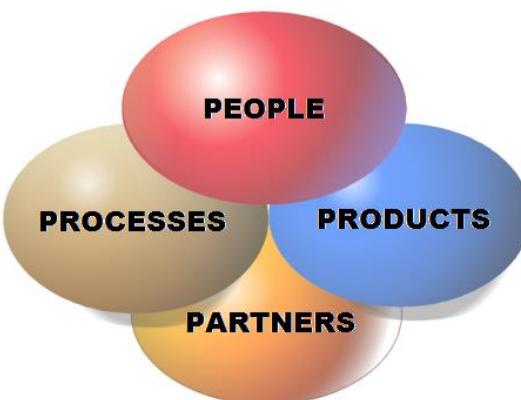
The time/percentage of service availability should match or exceed the agreed Service Time and Downtime as specified in the SLA.

3.3. Key Principles and Models

3.3.1. Importance of the 4P's



Service Management implementation is about preparing and planning the effective and efficient use of the four Ps (displayed in **Figure 3-1**) :



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Figure: 3-1

To obtain the best benefits:

- determine the roles of processes and people,
- implement the tools to automate the processes
- facilitating people's roles and tasks

Develop a model that supports “end-to-end” areas of technology in order to close the gaps, decrease “silo” and keep the 4 P's integrated. Without the integration and close relationship between the 4 P's any designs, plans and projects normally fail, because of the lack of preparation and management.

3.3.2. Service Design Perspective - links, inputs & outputs



Service Lifecycle illustrated.

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Figure 3-2 illustrates the links, inputs and outputs involved in each of the stages of the service lifecycle as well as the key outputs produced by each stage, which are used as inputs by the subsequent stages. The Service Portfolio acts as “the backbone” of the service lifecycle.

The key facet is the design of new or changed service solutions to meet changing business needs. Every time a new service solution is produced it must be checked against each of the other facets to ensure that it will integrate and interface with all of the other services already in existence.

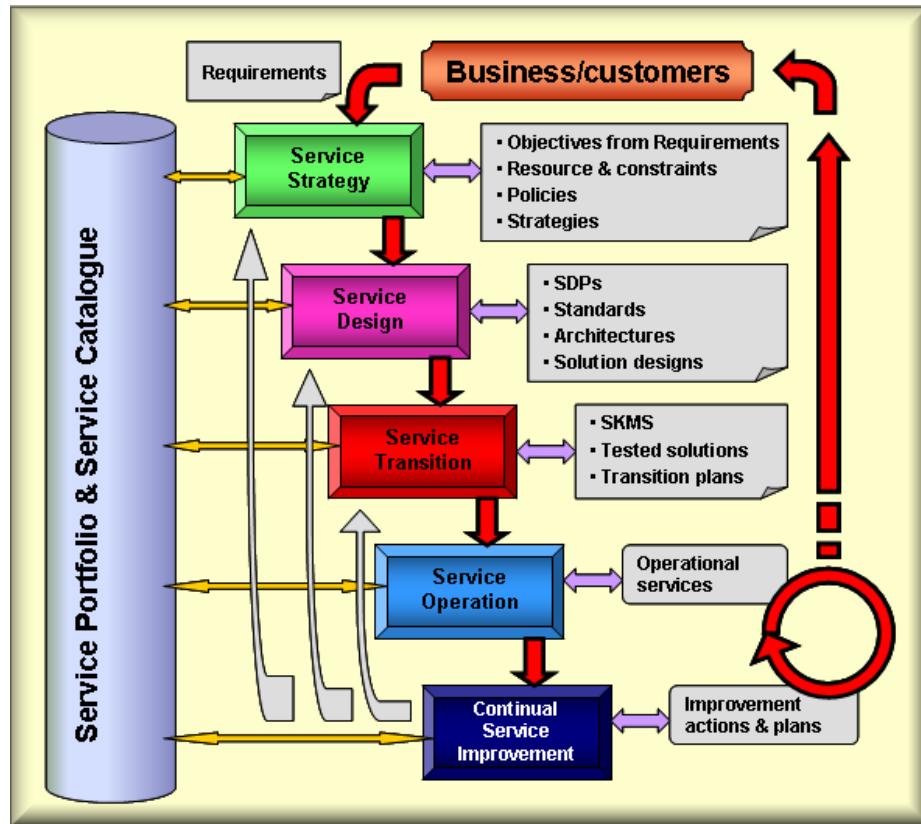


Figure: 3-2

5 Major aspects of Service Design

Service Design is concerned with the following 5 major issues/aspects:

- **Service Portfolio Management**
Managing and controlling services through their lifecycle with service management systems and tools.
- **Identification of Business Requirements, definition of Service requirements and design of Services**
Services are designed with all the functional requirements, resources and capabilities needed.
- **Technology architectural design**
Designing the technology architectures and management systems required to provide the services.
- **Process design**
Designing the processes needed for transition, to operate and improve the services, the architectures and the processes themselves.
- **Measurement design**
Designing the measurement methods and metrics of the services, the architectures and their constituent components and the processes.

3.3.2.1 Major Aspect 1 - Service Portfolio Management



For an organization to support and automate efficient processes and effectively manage all aspects of service through their lifecycle, the correct management systems and tools needs to be put in place. The Service Portfolio is one of the management systems used for this in order to describe a provider's services in terms of business value.

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Service Portfolio

By definition, business value terms correspond to markets terms, providing a means for comparing service competitiveness across alternative providers.

By acting as the basis of a decision framework, a service portfolio either clarifies or assists to clarify the following strategic questions:

- Why should a customer buy these services?
- Why should they buy these services from you?
- What are the pricing or chargeback models?
- What are my strengths and weaknesses, priorities and risk?
- How should my resources and capabilities be allocated?

In addressing Service Transition, the Service Portfolio should:

- Form part of a comprehensive Service Knowledge Management System (SKMS)
- Be registered as a document in the Configuration Management System (CMS).

Once a strategic decision to charter a service is made, this is the stage in the service lifecycle that Service Design begins architecting the service, which will eventually become part of the Service Catalogue.

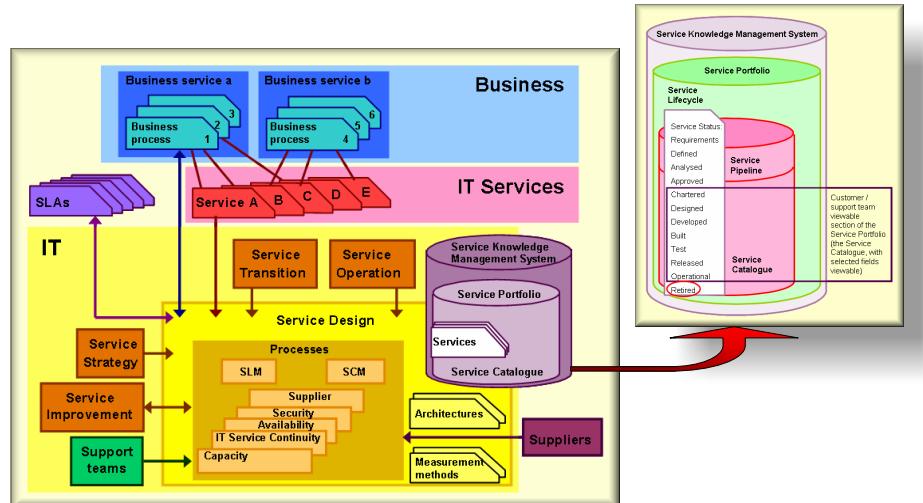


Figure: 3-3

The Service Portfolio (**Figure 3-3**) should contain information relating to every service and its current status within the organization.

The options of status within the Service Portfolio should include:

- **Requirements:** a set of outline requirements have been received from the business or IT for a new or changed service
- **Defined:** the set of requirements for the new service are being assessed, defined, and documented and the SLR is being produced.
- **Analysed:** the set of requirements for the new service are being

analysed and prioritised

- **Approved:** the set of requirements for the new service have been finalised and authorised
- **Chartered:** the new service requirements are being communicated and resources and budgets allocated.
- **Designed:** the new service and its constituent components are being designed- and procured, if required
- **Developed:** the service and its constituent components are being developed or harvested, if applicable
- **Built:** the service and its constituent components are being built
- **Test:** the service and its constituent components are being tested
- **Released:** the service and its constituent components are being released
- **Operational:** the service and its constituent components are operational within the live environment
- **Retired:** the service and its constituent components have been retired

The Service Portfolio would therefore contain details of all services and their status with respect to the current stage within the service lifecycle

For an organization to design a Service Portfolio the following content should be included:

- Service name
- Service description
- Service status
- Service classification and criticality
- Applications used
- Data and / or data schema used
- Business processes supported
- Business owners
- Business users
- IT owners
- Service warranty level, SLA and SLR references
- Supporting services
- Supporting resources
- Dependent services
- Supporting OLA's, contracts and agreements
- Service costs
- Service charges (if applicable)
- Service revenue (if applicable)
- Service metrics

The Service Portfolio is the main source of information on the requirements and services and needs to be very carefully designed to meet all of the needs of all of its users. The design of the Service Portfolio needs to be considered in the same way as the design of any other IT service to ensure that it meets all of these needs.

3.3.2.2 Major Aspect 2 - Identification of Business Requirements



Identification of Business Requirements, definition of Service requirements and design of Services

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For an organization to produce a new or changed service, many activities first need to be completed within Service Design. A structural approach is needed to produce the new service at the right cost, functionality, quality and

within the right time. In order to design a service solution the following should be included:

- **Analysis of the agreed business requirements**
- **Review the existing IT services and Infrastructure**
To maybe re-use or develop components and services in other market spaces
- **Design the service solutions to the new requirements including its supporting components in terms of the following and document this design:**
 - Facilities, functionality and information required
 - Business processes supported, dependencies, priorities, criticality and impact of the service, with the business benefits delivered by the service
 - Business cycles, business transaction levels, service transaction levels, the numbers/types of users, anticipated future growth and the business continuity requirements
 - Service Level Requirements and targets with required service measuring, reporting and reviewing activities
 - Time scales involved, planned outcomes and the impact on any existing services
 - Requirements for testing, including any User Acceptance Testing (UAT) and associated responsibilities
- **Service Acceptance Criteria (SAC) requirements**
Ensure the contents is incorporated and the required achievements planned into the initial design
- **Evaluate & cost - alternative designs**
Highlighting advantages as well as disadvantages of the alternatives
- **Agreeing the expenditure and budgets**
- **Re-evaluate & confirm business benefits (RoI & TCO)**
 - Return on Investment (RoI) - All service costs, business benefits and increased revenues
 - Total Cost of Ownership (TCO) – start-up costs such as design costs, transition costs, project budget and all ongoing operational costs including management, support and maintenance
- **Agree the preferred solution and its planned outcomes and targets (Service Level Requirement -SLR)**

- **Check consistency with corporate & IT strategies**
Confirm that the solution is consistent with all corporate and IT strategies, policies, plans and architectural documents. If not revise either the solution or the strategic with due consideration of the effect on other strategic documents, services and components.
- **Confirm inclusion - Corporate, IT governance & security controls**
Ensure that all of the appropriate corporate and IT governance and security controls are included with the solution
- **Complete IT readiness assessment - ensure effective operability***
To ensure that the service can be effectively operated to meet its

agreed targets, confirming appropriate capability to deliver the agreed level. This will include:

- The commercial impact on the organization from both a business and IT perspective, including all of the business benefits and all of the costs
 - Assessment and mitigation of the risks associated with the new or changed service, particularly with regards to the operation, security, availability and continuity of the service
 - Business capability and maturity. Should be performed by the business itself to ensure that all the resources are in place to operate the new service
 - IT capability and maturity:
 - Environment and all areas of technology, having considered the impact on existing components of the infrastructure and existing services
 - IT organizational structure and the roles and responsibilities
 - IT processes and its documentation
 - Skills, knowledge and competence of the staff
 - IT management processes and supporting tools
- **Establish supplier & supporting agreements**
To maintain and deliver the service.
 - **Assemble Service Design Package (SDP) for subsequent stages**
Operation and improvement of the new or changed service solution.

3.3.2.3 Major Aspect 3 - Technology architectural design



This aspect concerns the design of the technology architectures and management systems required to provide the services concerned with the overall strategic "blueprints" for the development and deployment of an IT infrastructure (applications and data), which satisfy the current and future needs of the business.

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Although technology underpins the delivery of quality IT services, it cannot do so alone; it is essential that the people, process and partner / supplier aspects surrounding these technological components (products) are also considered.

- **Definition: Architecture**

The fundamental organization of a system embodied in its components, their relationships to each other and to the environment, and the principles guiding its design and evolution.

- **Definition: System**

A collection of components organized to accomplish a specific function or set of functions.

The system could be, e.g. a whole organization, a business function, a product line or an information system.

Each of these systems will have an "architecture" as defined earlier, made up of:

- The components of the system
- The relationships between them (such as control interfaces and data exchanges)
- The relationships between the system and its environment (political, organizational, technological, etc.)
- The design principles which inform, guide and constrain its structure and operation, as well as its future development.

- **Definition: Architectural Design**

The development and maintenance of IT policies, strategies, architectures, designs, documents, plan and processes for the deployment and subsequent operation and improvement of appropriate IT services and solutions throughout an organization.

Architectural design needs to assess and reconcile many types of needs, which might be in conflict with one another, to ensure that:

- IT infrastructures, environments, data, applications and external services serve the needs of the business, its products and services. This includes the technology components and their management.
- The right balance is achieved between innovation, risk and cost whilst seeking a competitive edge, where desired by the business
- Compliance with relevant architectural frameworks, strategies, policies, regulations and standards (fiduciary requirements)
- Coordinated interface is provided between IT designers and planners, strategists, business designers and planners.

- **Definition: Enterprise Architecture**

An Enterprise Architecture show how all the components (and others) are integrated in order to achieve the business objectives both now and in the future and can be large and complex. We are focusing on those architectures concerned with the business and the information systems which support it; each of these architectures calls upon distinct architectural disciplines and areas of expertise

With the necessary architectures in place, the role of Service Design is affected as follows:

- Must work within the agreed architectural framework and standards
- Will be able to re-use many of the assets created as part of the architecture

If architecture design is to be accomplished effectively and economically, the documents, processes and activities of the business and architectural design should be closely coordinated and synchronized.

Key message: The real benefit and ROI of the Enterprise Architecture comes not from the architecture itself, but from the ability of an organization to design and implement projects and solutions in a rapid and consistent manner.

3.3.2.4 Major Aspect 4 - Process design



The design of the processes needed to design, transition, operate and improve the services, the architectures and the processes themselves.

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- **Process model**

A process model enables understanding and helps to articulate the distinctive features of a process. It represents the structured set of activities designed to accomplish a specific objective.

- A process takes one or more inputs and turns them into defined outputs.
- A process includes all of the roles, responsibilities, tools and management controls required to reliably deliver the outputs.
- A process may also define or revise policies, standards, guidelines, activities, processes, procedures, and work instructions if they are needed.



- **Process control**

The activity of planning and regulating a process, with the objective of performing a process in an effective, efficient and consistent manner. Processes, once defined, should be documented and controlled; once under control, they can be repeated and become manageable.

Degrees of control over processes can be defined, and then process measurement and metrics can be built in to the process to control and improve the process.

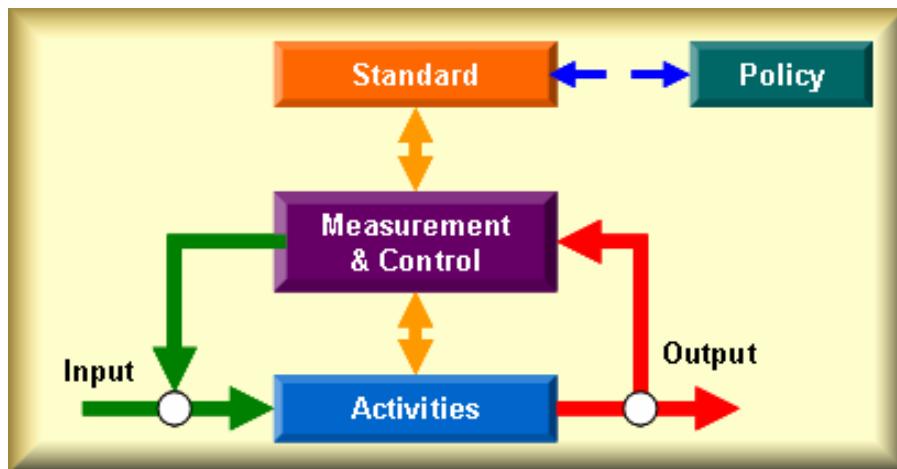


Figure: 3-4

- **Generic Process Elements**

Figure 3-4 shows:

- show how data enters the process,
- is processed,
- is output and
- the outcome is measured and reviewed

A process is always organized around a set of objectives. The main outputs from the process should be driven by the objectives and should always include process measurements (metrics), reports and process improvement.

- **Process Owners**

Service Design assist each process owner with the design of processes to ensure that processes use standard terms and templates, are consistent and integrate with each other to provide end-to-end integration across all areas.

Process owners are responsible for:

- The process and its improvement
- Ensuring that a process meets its objectives.

- **Measurable Outputs**

By defining what the organization's activities are, which inputs are necessary and which outputs will result from the process, it is possible to work in a more efficient and effective manner. Measuring and steering the activities increases this effectiveness. Finally, by adding norms to the process, it is possible to add quality measures to the output. **Figure 3-5** provide more detail in this regard.

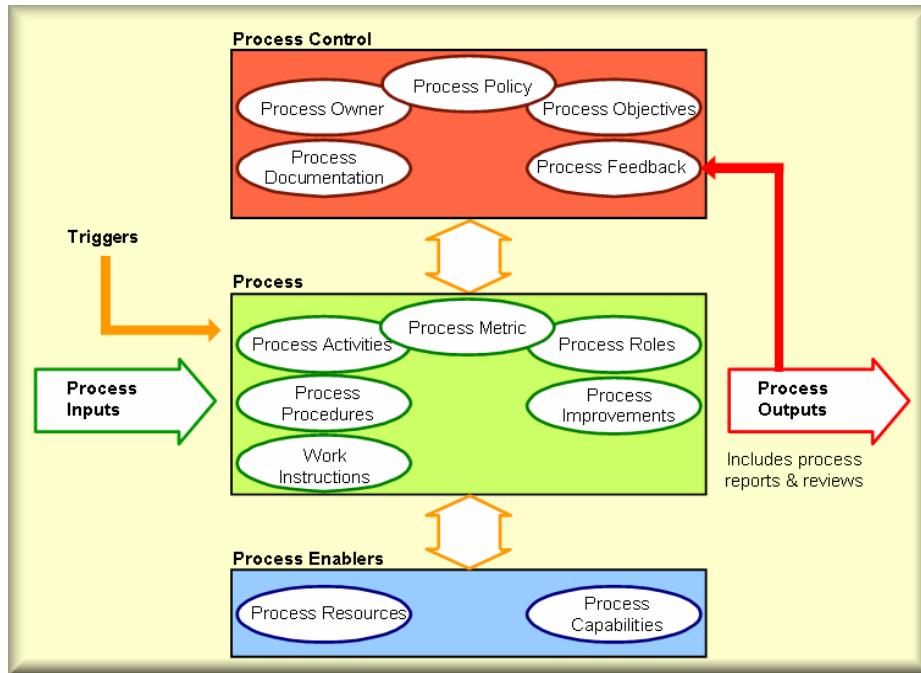


Figure 3-5

This approach underpins the 'plan-do-check-act' cycle of continual improvement for any quality-management system. Plan the purpose of the process in such a way that process actions can be reviewed, assessed or audited for successful achievement and, improved.

- **Norms**
Define conditions that the results should meet and introduces quality aspects to the process.
- **Perfect Processes?**
Adopt a formalized approach to the design and implementation of Service Management processes. Do not design “perfect processes”, but design practical and appropriate processes with “in-built” improvement mechanisms so that the effectiveness and efficiency of the processes are improved.

3.3.2.5 Major Aspect 5 - Measurement design



Continual Service Improvement (CSI):

In order to manage and control the design processes they have to be monitored and measured.

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“If you can’t measure it then you can’t manage it.”

- **PROGRESSION:**
Be careful when selecting measurements and metrics because the metrics and measurements chosen will affect and change the behavior of people working with the activities and processes being measured, particularly where this relates to objectives, personal and team performance and performance related pay schemes.

Only measurements that encourage progression towards meeting business objectives or desired behavioral change should be selected.

- **REQUIREMENTS:**

Design solutions that:

- Is “fit for purpose”
- Has the appropriate level of quality
- Is “right first time”
- Minimize “rework” & “add-ons”
- Is effective and efficient

Measurement methods and metrics should:

- Reflect requirements and be designed to measure the ability of design processes to match these requirements
- Reflect the quality and success of the design processes from the perspective of the business, customers and users.
- Reflect the ability of the delivered solutions to meet the identified and agreed requirements of the business.

- **APPROPRIATENESS:**

Process measurements selected need to be appropriate for the capability and maturity of the processes being measured.

- **Progress:** milestones and deliverables in the capability of the process
- **Compliance:** compliance of the process to governance requirements, regulatory requirements and compliance of people to the use of the process.
- **Effectiveness:** the accuracy and correctness of the process and its ability to deliver the “right result”
- **Efficiency:** the productivity of the process, its speed, throughput and resource utilization

- **BALANCED SCORECARD:**

Balanced Scorecards represent a management system which enables increasing numbers of organizations to clarify their vision and strategy into action.

The balanced scorecard can be used to develop Metrics Trees or Dashboards; the most effective method of measurement is to establish a “metrics tree” or “KPI tree”. Dashboard presents an opportunity to view trends over time, rather than static data, in order that potential performance degradation can be identified and rectified at an early stage.

3.3.2.6 5 Major Aspects – *The Big Picture*



The aim of Service Design is the design of service solutions to meet the changing requirements of the business.

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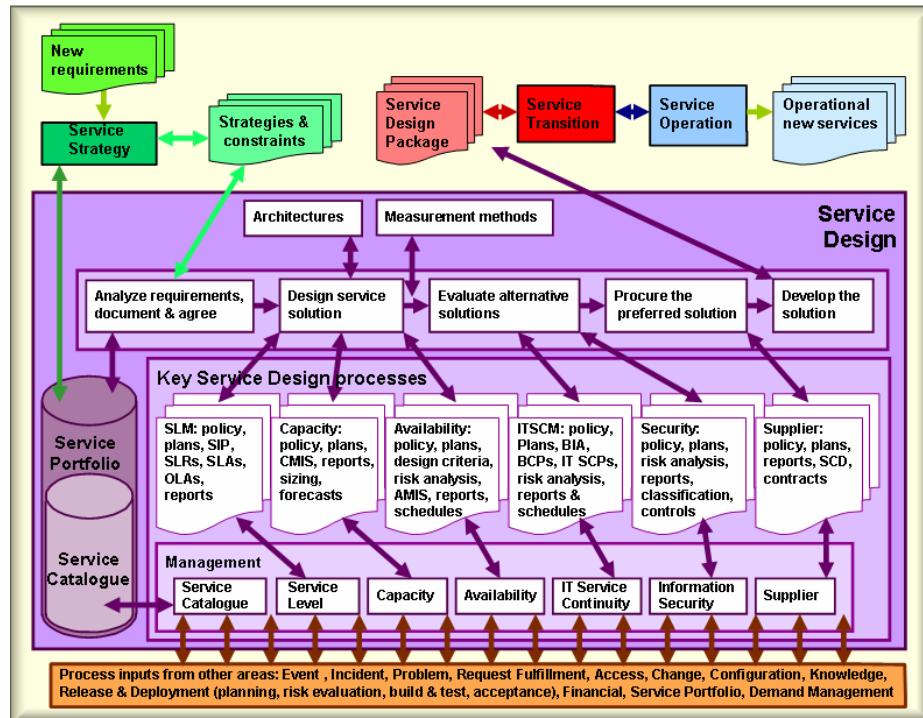


Figure: 3-6

Figure 3-6 shows that when designing solutions, input from many different areas needs to be considered within the various activities involved in designing the service solution, from identifying and analyzing requirements through to building a solution and SDP to hand over to Service Transition.

In order to develop effective and efficient service solutions that meet and continue to meet the requirements of the business and the needs of IT all of the inputs and needs of all other areas and processes needs to be considered to ensure that all service solutions are consistent and compatible with existing solutions and will meet the expectations of the customers and users.

(SCD: *Supplier and Contract Database*)

3.3.3. Sourcing approaches & options



Although the readiness assessment determines the gap between the current and desired capabilities, an IT organization should not necessarily try to bridge that gap by itself. There are many different delivery strategies that can be used. Each one has its own set of advantages and disadvantages, but all require some level of adaptation and customization for the situation at hand.

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Service Provider types (ITIL® 2011)

- Type I - Internal
- Type II - Shared
- Type III - External

Delivery Model Options

- **In-sourcing:**
Utilize internal organizational resources in the design, develop, transition, maintain, operate, and/or support of a new, changed or revised services or data centre operations
- **Outsourcing:**
Utilizes the resources of an external organization or organizations in a formal arrangement to provide a well-defined portion of a service's design, development, maintenance, operations, and/or support.
- **Co-sourcing:**
 - Combination of in-sourcing and outsourcing, using a number of outsourcing organizations working together to co-source key elements within the lifecycle.
 - This generally will involve using a number of external organizations working together to design, develop, transition, maintain, operate, and/or support a portion of a service's
- **Partnership or multi-sourcing:**
Formal arrangements between two or more organizations to work together to design, develop, transition, maintain, operate, and/or support IT service(s).
- **Business Process Outsourcing (BPO):**
The increasing trend of relocating entire business functions using formal arrangements between organizations where one organization provides and manages the other organization's entire business process(es) or function(s) in a low cost location.
- **Application Service Provision:**
Involves formal arrangements with an Application Service Provider (ASP) organization that will provide shared computer based services to customer organizations over a network.
- **Knowledge Process Outsourcing (KPO):**
KPO organizations provide domain based processes and business expertise rather than just process expertise and requires advanced analytical and specialized skills from the outsourcing organization.

Sourcing situations

- **On-shore**
Based within the same country /continent.
- **Off-shore**
Organizations are in different countries / continents.

Very complex sourcing arrangements exist within the IT industry and it is impossible to cover all combinations and their implications here.

3.3.4. Design and Constraints



There are considerable constraints that apply and which should be considered during the Service Design.

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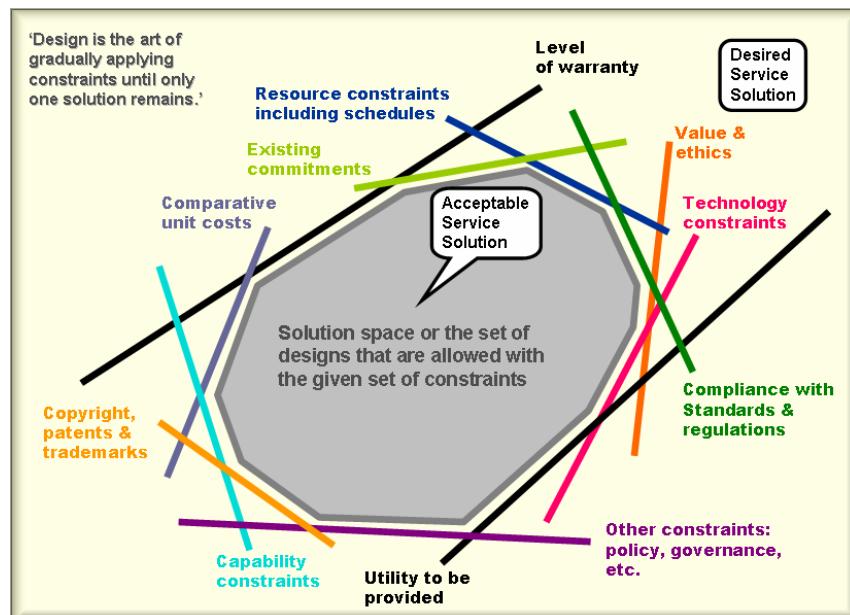


Figure: 3-7

Figure 3-7 illustrates the effect of these constraints in determining an acceptable solution space.

3.4. Service Design Processes

3.4.1. Service Level Management



Objectives:

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- To ensure clear understanding between customer and IT (*Negotiates, Agree and documents IT Services*)
- To ensure proactive activities to enhance level of services (*Monitor, measure, report and review IT Services*)
- To improve customer satisfaction (*Close relationship & Communication with Customers and Business*)

Scope:

- To develop relationships with business:
 - Negotiate and agree:
 - current requirements (SLA)
 - future requirements (SLR)
 - Develop and manage:
 - Align targets with SLA (OLA)
- Review contracts with Supplier management - to ensure that targets are aligned with SLA targets
- Proactively prevent service failures
- Report and manage services – to limit SLA breaches and weaknesses
- Service Improvement Plan (SIP) - to manage, plan and implement process and service improvements

Basic concepts:

- **Service Level Management (SLM)**
A communication channel & relationship with appropriate customers & business representatives.
- **Service Level Agreement (SLA)**
Written agreement between an IT service provider & the IT customer(s), defining the key service targets and responsibilities of both parties.
- **Operational Level Agreement (OLA)**
Agreement between an IT service provider & another part of the same organization that assists with the provision of services.
- **Underpinning Contract (UC)**
Formal contract between an IT Service Provider & a Third Party.

Service Level Management process activities:

Figure 3-8 illustrates the Service Level Management process activities

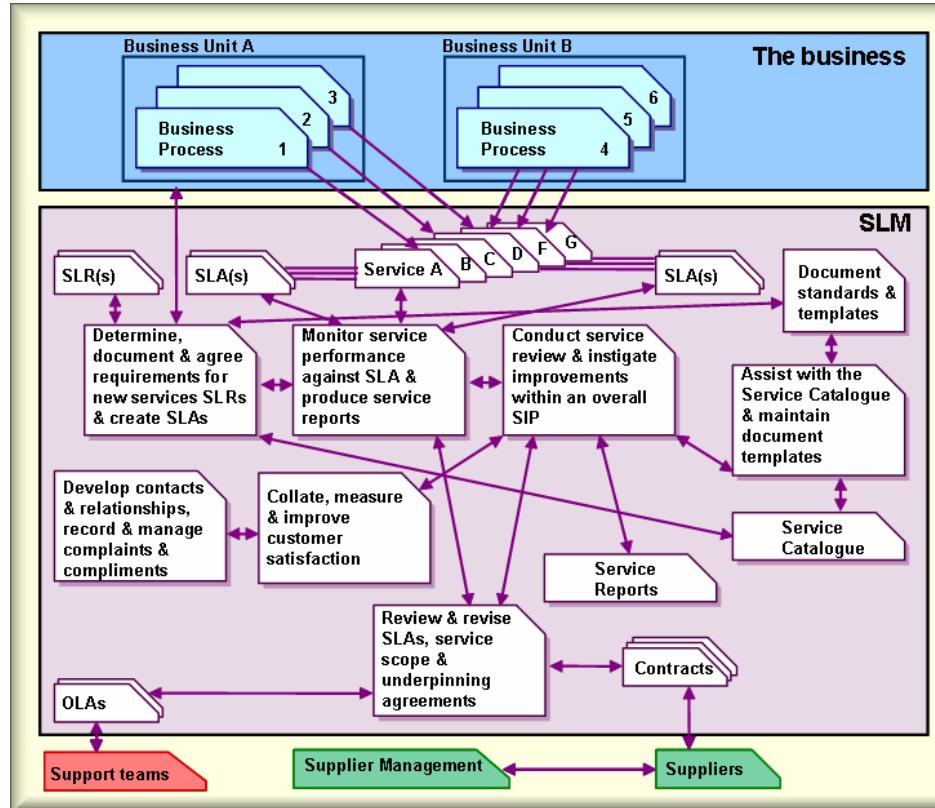


Figure: 3-8

- Service Level Requirements (SLR) - Determine, negotiate, document and agree requirements for new or changed services in SLRs
- Monitor and measure service performance achievements of all operational services against targets within SLAs
- Collate, measure and improve customer satisfaction
- Produce service reports Conduct service review and instigate improvements within an overall Service Improvement Plan (SIP)
- Review and revise SLAs, service scope OLAs, contracts, and any other underpinning agreements
- Develop and document contacts and relationships with the business, customers and stakeholders
- Develop, maintain and operate procedures for logging, actioning and resolving all complaints, and for logging and distributing compliments
- Log and manage all complaints and compliments
- Provide the appropriate management information to aid performance management and demonstrate service achievement
- Make available and maintain up-to-date SLM document templates and standards.

Key Metrics:

- Percentage reduction in:
 - SLA targets missed
 - SLA targets threatened
 - SLA breaches (UC)

- SLA breaches (OLA)
- Percentage increase in:
 - Customer perception & satisfaction of SLA achievements
 - Service reviews
 - Customer Satisfaction Survey responses
- Deliver service as previously agreed at affordable costs:
 - Total number and percentage increase in fully documented SLAs in place
 - Percentage increase in SLAs agreed against operational services being run
 - Percentage reduction in the costs associated with service provision

Challenges

- To become a service provider to the business
- Engaging with business to determine service level requirements
- Identifying internal service portfolios (Planned, developed services)
- Defining a customer-facing Service Catalogue with details of every service and service package offered by IT with options, parameters and pricing
- Defining of IT department relationships; negotiating the terms and responsibilities of the internal relationships, and codifying them with Operational Level Agreements (OLAs)
- Identifying contractual relationships (UCs to meet business requirements)
- Create a Service Improvement Plan (SIP) to monitor and improve levels of service.

3.4.1.1 Roles



Service Level Manager

The responsibilities of the Service Level Manager includes:

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- Awareness of changing business needs
 - Assessing impact of service levels
 - Identify key stakeholders
- Identify, understand & document current/future service requirements
 - Negotiating and agreeing levels of service to the customer through SLAs & SLRs
 - OLAs & Underpinning Contracts
- Production/maintenance of:
 - Service Portfolio
 - Service Catalogue
 - Application Portfolio
- Ensure Underpinning Contract's alignment with SLA & SLR targets
 - Produce Service reports (focus on preventing breach recurrence)
 - Schedule Service performance reviews & actions
 - Improvement initiatives & progress reports



- Review service scope, SLAs, OLAs & other agreements
- Develop relationships & communication with stakeholders, customers & key users
 - Define and agree complaints – resolution
 - Define and agree complaints – communication
- Measurement, recording, analysis and improvement of customer satisfaction

3.4.2. Service Catalogue Management



Objective

- To manage the information within the Service Catalogue
 - Current information is correct
 - Status, interfaces & dependencies of services running in the live environment

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Basic concepts:

- **Service Catalogue**

The Service Catalogue consists of the Business Service Catalogue and the Technical Service Catalogue as depicted in **Figure 3-9**

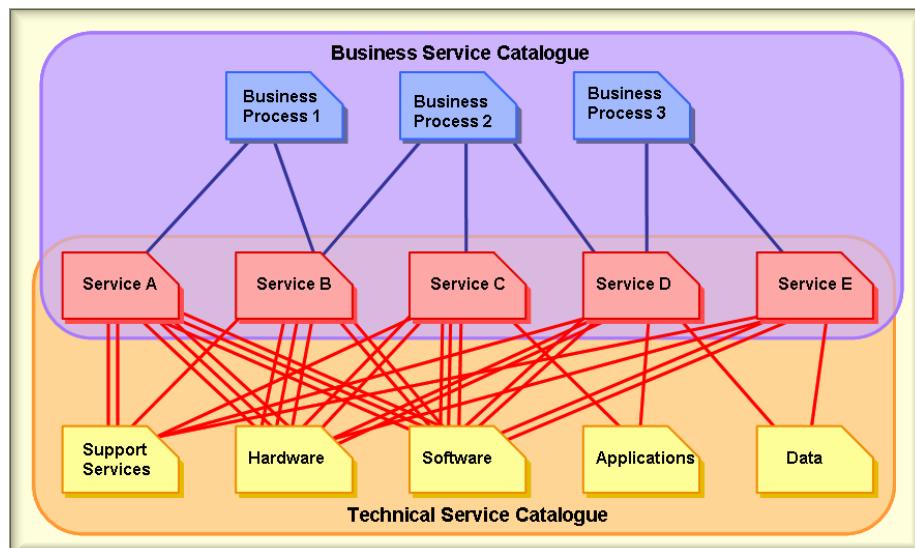


Figure: 3-9

- **Business Service Catalogue**

Interfacing with the business units and business processes and their supporting IT Services

- **Technical Service Catalogue**

Interfacing with support teams, suppliers and configuration management

3.4.2.1 Roles



Service Catalogue Manager

The Service Catalogue Manager is responsible for producing and maintaining the Service Catalogue, including:



- Ensuring that all operational service and all services being prepared for operational running are recorded within the Service Catalogue
- Ensuring that all of the information within the Service Catalogue is accurate and up to date
- Ensuring that all of the information within the Service Catalogue is consistent with the information within the Service Portfolio
- Ensuring that the information within the Service Catalogue is adequately protected and backed-up.

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The key activities within the Service Catalogue Management process should include:

- **Service definition**
Agreeing and documenting services
- **Service Portfolio & Service Catalogue**
 - Interfacing the contents
 - Maintain Service Catalogue
- **Business Service Catalogue**
Interfacing with the business units and business processes and their supporting IT Services.
- **Technical Service Catalogue**
Interfacing with support teams, suppliers and configuration management
- **Business & business process alignment**
Ensure that the information is aligned to the business and business process

3.4.3. Capacity Management



Objectives

- Produce and maintain an appropriate and up to date Capacity Plan, reflecting the current and future needs of the business
- Provide advice and guidance to all other areas of the business and IT on all capacity and performance related issues
- Ensure that service performance achievements meet or exceed all of the agreed targets, by managing the performance and capacity of both services and resources
- Assist with the diagnosis and resolution of performance and capacity related incidents and problems
- Assess the impact of all changes on the Capacity Plan and the performance and capacity of all services and resources
- Ensure that proactive measures are implemented to improve the performance of services, wherever it is cost justifiable to do so

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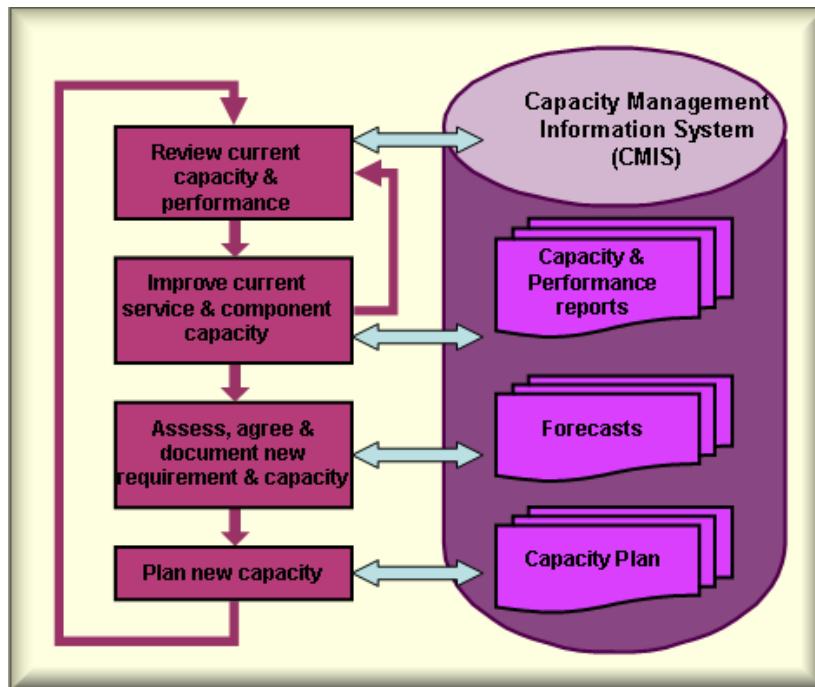


Figure:3-10

Figure 3-10 shows the high-level process for Capacity Management

Basic Concepts

- **Balancing Act**

The capacity and performance of the IT services and systems should matches the evolving agreed demands of the business in the most cost-effective and timely manner (**Figure 3-11 – next page**).

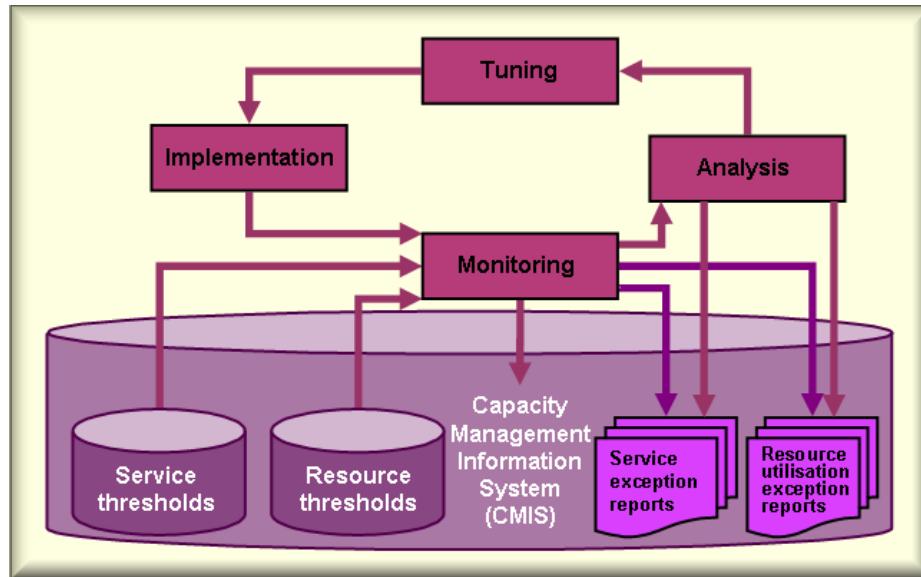


Figure:3-11

- **Balancing costs against resources needed:** to ensure processing Capacity is not only cost justifiable in terms of business need, but also the need to make the most efficient use of those resources
- **Balancing supply against demand:** to ensure that available supply of IT processing power matches the demands made on it by the business, both now and in the future; it may also be necessary to manage or influence the demand for a particular resource
- **Business Capacity Management**
Business Capacity Management is focused on the current and future business requirements; it translates business needs and plans into requirements for service and IT infrastructure, ensuring that its quantified, designed, planned and implemented in a timely fashion. Future requirements come from the service strategy and service portfolio detailing new processes and service requirements, changes, improvements and also the growth in the already existing services.
- **Service Capacity Management**
Service Capacity Management is focused on the delivery of the existing services that support the business; the management, control and prediction of the end-to-end performance and capacity of the live, operational IT services usage and workloads:
 - Monitor and measure
 - Analyze and report
 - Instigate action (proactive and reactive)
- **Component Capacity Management**
Component Capacity Management is focused on the IT infrastructure that underpins service provision; the management, control and prediction of the performance, utilization and capacity of individual IT technology components.
 - Monitor and measure
 - Analyze and report
 - Instigate cost effective actions to reduce or avoid potential impact

Figure 3-12 shows the relationship between Business Capacity Management, Service Capacity Management and Component Capacity Management.

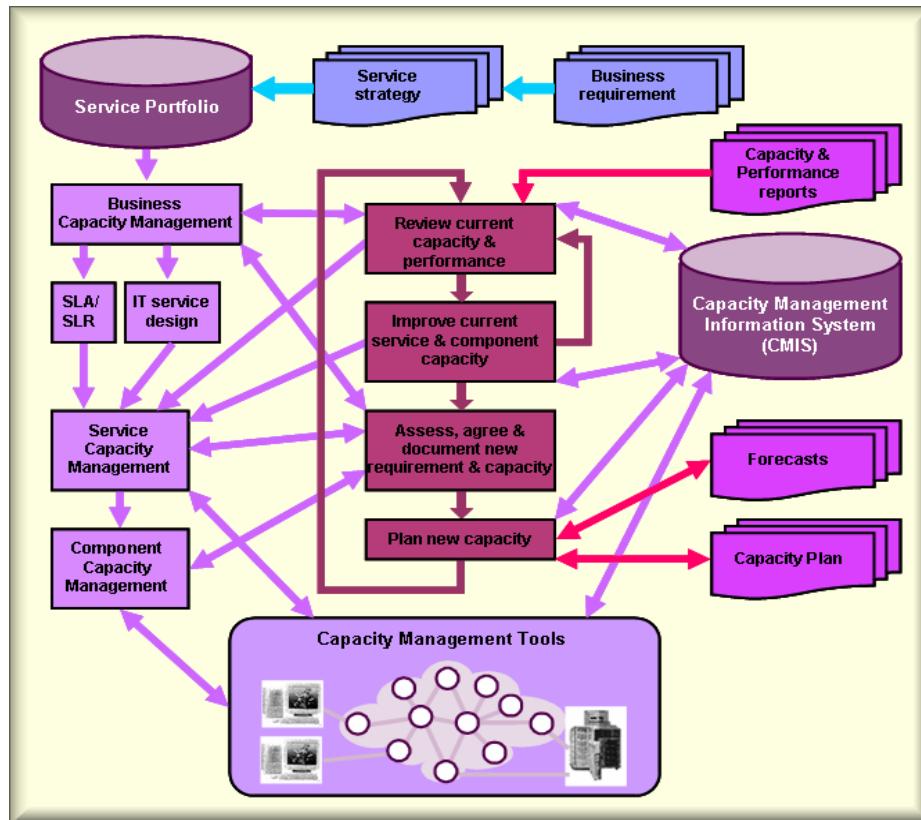


Figure: 3-12

3.4.3.1 Roles



Capacity Manager

The role of the Capacity Manager encompasses the following:

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- Ensure adequate IT Capacity:
 - Understand capacity requirements, usage and capacity
 - Sizing new services & systems (future requirements)
 - Production, review & revision of the Capacity Plan
- Aligning capacity & demand correctly
- Optimizing existing capacity
- Setting appropriate monitoring levels through
 - Performance analysis & reporting
 - Incident & problem resolution
 - Performance & resource optimization
 - Performance & cost assessment
 - Assessment of future demand
 - Impact assessment – changes
- Sizing of new services and systems:
 - Assessment of new techniques, hardware and software
 - Performance testing
 - SLA Reporting (effects of demand on performance service levels)
 - Determine cost justified, maintainable performance service levels
 - Optimization recommendations

- Focal point for capacity & performance issues, including management reports on current usage, trends and forecasts.

3.4.4. Availability Management



Availability Management should:

- Ensure the agreed level of availability is provided.
- Measure and monitor to ensure availability levels are being met consistently.
- Continually optimize and proactively improve the availability of the IT Infrastructure, the services and the supporting organization.

Objectives

The objectives of Availability Management are:

- Produce and maintain an appropriate and up to date Availability Plan that reflects the current and future needs of the business
- Provide advice and guidance to all other areas on availability related issues
- Ensure that service availability achievements meet or exceed the agreed targets, by managing services and resources related availability performance
- Assist with diagnosis and resolution of availability related incidents and problems
- Assess the impact of all changes on the Availability Plan and the performance and capacity of services and resources
- Ensure that proactive measures are implemented to improve the availability of services wherever it is cost justifiable

Basic Concepts

- **ELEMENTS**

- **Reactive activities:** Involves monitoring, measuring, analysis and management of all events, incidents and problems involving unavailability.
- **Proactive activities:** Involves the proactive planning, design and improvement of availability.

- **INTER-CONNECTED LEVELS**

- **Service availability:** Involves all aspects of service availability and unavailability and the impact of component availability, or the potential impact of component unavailability on service availability
- **Component availability:** Involves all aspects of component availability and unavailability

- **4 ASPECTS:**

- **Availability:** The ability of a service, component or CI to perform its agreed function when required.
- **Reliability:** The measure of how long a service, component or CI can perform its agreed function without interruption.
- **Maintainability:** The measure of how quickly and effectively a service, component or CI can be restored to normal working after a failure.
- **Serviceability:** The ability of a third party supplier to meet the terms of their contract. Often this contract will include agreed levels of availability, reliability and / or maintainability for a supporting service or component.

Figure 3-13 illustrates these aspects and their interrelationships

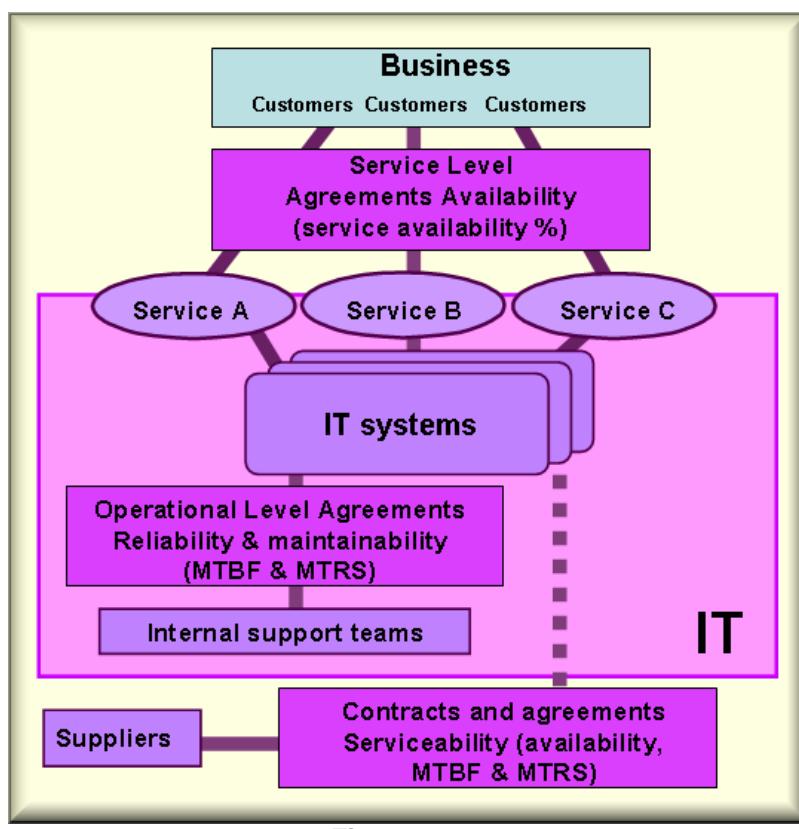


Figure: 3-13

3.4.4.1 Roles



Availability Manager

An Availability Manager has responsibility for ensuring that the aims of Availability Management are met and includes responsibilities such as:

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- **Participate** in the IT infrastructure design, which includes the specification of availability requirements for hardware and software:
 - All new services should deliver the required availability levels - validate the final design to meet the minimum levels as agreed
 - Enhanced event management systems - automatic monitoring of



- IT component availability
 - Specification of the reliability, maintainability and serviceability requirements for components - internal and external suppliers
 - Creation of availability and recovery design criteria for each design
 - **Monitor** actual IT availability achieved - on an ongoing basis and provide the required reports
 - Ensure delivery against agreed SLA levels
 - Assist with the investigation and diagnosis of all incidents and problems that is availability related
 - Proactively improve/optimize service availability and deliver cost effective improvements/benefits to the business
 - **Responsible** to ensure that the process, including its techniques and methods, are regularly reviewed, audited, and subjected to continual improvement to remain fit for purpose
 - Create, maintain and review an AMIT and a forward looking Availability Plan - ensure that existing and future business availability requirements can be met
 - Complete and maintain an availability testing schedule for all mechanisms
 - Test availability tests and plans after every major business change
 - **Assess** change impact on all aspects of availability including overall service availability and the Availability Plan
 - Attend CAB meetings when appropriate
 - **Ensure** that the levels of IT availability required are cost justified - with Financial Management
 - **Assessment** and management of risk by assisting Security and IT Service Continuity Management

3.4.5. Service Continuity Management



Objectives

- Maintain a set of IT Service Continuity Plans and IT recovery plans that support the overall Business Continuity Plans (BCPs)
- Complete regular Business Impact Analysis (BIA) exercises to support continuity plans in respect of business changes
- Conduct regular risk assessment and management exercises with business, Availability Management and Security Management
- Provide advice and guidance to all other areas on continuity and recovery related issues
- Establish appropriate continuity and recovery mechanisms to meet or exceed the agreed business continuity targets
- Assess the impact of all changes on the IT Service Continuity Plans and IT recovery plans
- Implement cost justifiable measures to improve the availability of services
- Negotiate and agree required contracts for the provision of necessary recovery capability with the Supplier Management process

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Basic concepts (Figure 3-14)

- Initiation
- Requirements & strategy
- Implementation
- Operation

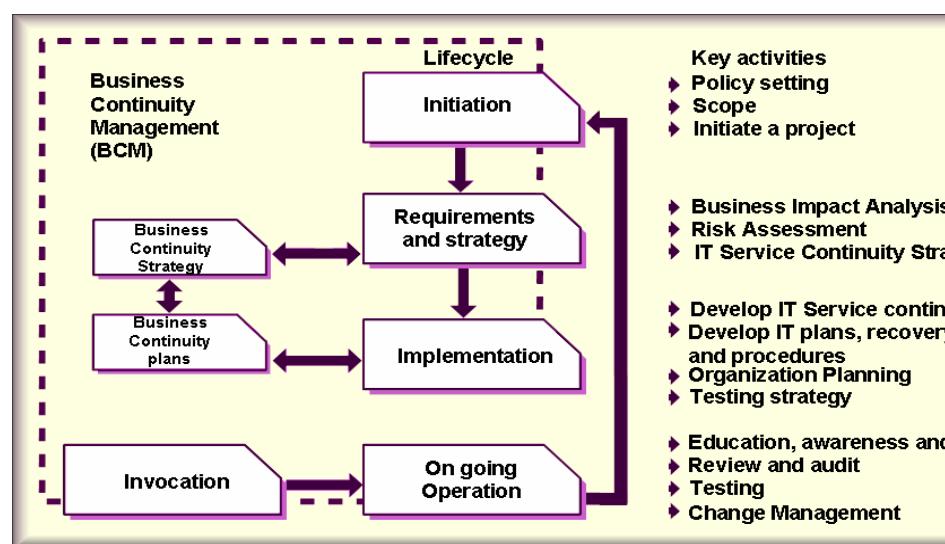


Figure: 3-14

3.4.5.1 Roles



Service Continuity Manager

The Service Continuity Manager must ensure that the aims of Service Continuity Management are met, which includes:



- **Implement and maintain** the ITSCM process in accordance with the overall requirements of the organization's Business Continuity Management process
 - Ensure that all ITSCM plans, risks and activities underpin and align with all BCM plans, risks and activities and are capable of meeting the agreed targets
 - Perform Business Impact Analyses for all existing and new services
 - Perform risk assessment and management to prevent disasters where cost justifiable and practical
 - Communicate and maintain awareness of ITSCM objectives within supported business areas
- **Develop and maintain** the organization's continuity strategy
 - Assess potential service continuity issues and invoking the Service Continuity Plan if necessary
 - Manage the Service Continuity Plan while in operation - including fail-over to a secondary location and restoration to the primary location
 - Develop and manage the ITSCM plans to ensure that the recovery objectives of the business can be achieved at all times
 - Ensure that all IT service areas are prepared and able to respond when continuity plans are invoked
 - Negotiate and manage contracts with third party recovery service providers
- Maintain a comprehensive **IT testing schedule** of all continuity plans in line with business requirements AND after every major business change.
 - Undertake quality reviews of all procedures and ensure their incorporation into the testing schedule
 - Undertake regular reviews (at least annual) of the Continuity plans with business to ensure that it reflect the business needs accurately
 - Performing post mortem reviews of service continuity tests and invocations - instigating corrective actions where required
- **Assess** changes for their impact on service continuity and Continuity Plans - attend CAB meetings when appropriate

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3.4.6. Information Security Management



Objective

For most organizations, the security objective is met through:



- **Confidentiality** – information can only be accessed by those authorized
- **Integrity** – information is complete, accurate and protected against unauthorized modification
- **Availability** – information is available and can be used when required
- **Authenticity & non-repudiation** – information exchanges between parties can be trusted

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Basic Concepts

• **Security Framework**

The Information Security Management process and framework will generally consist of:

- Information Security Policy (ITP) and specific security policies that address each aspect of strategy, controls and regulation
- Information Security Management System (ISMS), containing the standards, management procedures and guidelines supporting the information security policies
- Comprehensive security strategy closely linked to the business objectives, strategies and plans
- Effective security organizational structure
- Set of security controls to support the ITP
- Management of security risks
- Monitoring processes to ensure compliance and provide feedback on effectiveness
- Communications strategy and plan for security
- Training and awareness strategy and plan

• **Information Security Policy**

Information Security Management activities should focus on the overall Information Security Policy (ITP) and a set of underpinning specific security policies.

- Policies should be widely available to all customers and users and their compliance should be referred to in all SLRs, SLAs, contracts and agreements.
- Policies should be authorized by top executive management (business and IT) and compliance should be endorsed regularly – reviewed/revised annually.

- The ITP should be appropriate, meet the needs of the business and cover all areas of security:
 - *use and misuse of IT assets policy*

- *an access control policy*
- *a password control policy*
- *an email policy*
- *an Internet policy*
- *an anti-virus policy*
- *an information classification policy*
- *a document classification policy*
- *a remote access policy*
- *a policy with regard to supplier access of IT service, information and components*
- *an asset disposal policy*

• Information Security Management System (ISMS)

The ISMS provide a basis of the development of a cost effective information security program to support the business objectives. It will involve the four Ps (People, Process, Products/ technology & Partners/ suppliers) to ensure high levels of security.

• ISO 27001 (Framework for managing security)

The formal standard against which organizations can obtain independent certification of their ISMS (Frameworks to design, implement, manage, maintain and enforce information security processes and controls, systematically and consistently). The ISMS shows a widely used approach, also included in ISO 27001.

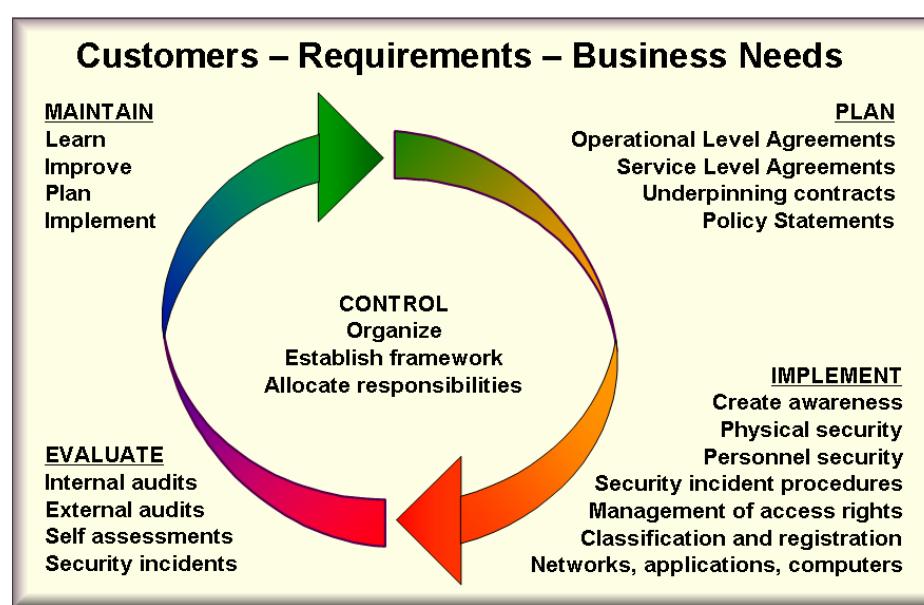


Figure: 3-15

The five elements, as depicted in **Figure 3-15**, are:

- **Control:**
 - *Establish a management framework to initiate and manage information security in the organization*
 - *Establish an organization structure to prepare, approve and*

- *implement the information security policy*
 - *Allocate responsibilities*
 - *Establish and control documentation*
 - **Plan:**

Devise and recommend the appropriate security measures, based on the requirements of the organization.

 - *Requirements will address business and service risk, plans and strategies, SLAs and OLAs, and the legal, moral and ethical responsibilities for information security.*
 - *Factors such as the amount of funding available, and the prevailing organization culture and attitudes to security must be considered.*
 - **Implement:**

Ensure appropriate procedures, tools and controls are in place to underpin the Information Security Policy, such as:

 - *Accountability for assets – Configuration Management and the CMS are invaluable here*
 - *Information classification – information and repositories should be classified according to the sensitivity and the impact of disclosure*
 - **Evaluation:**
 - *Supervise and check compliance with the security policy and security requirements in SLAs and OLAs*
 - *Carry out regular audits of the technical security of IT systems*
 - *Provide information to external auditors and regulators, if required*
 - **Maintain:**
 - *Improve security agreements specified in SLAs, OLAs and contracts*
 - *Improve the implementation of security measures and controls*
 - **Security governance**

Information security governance, when properly implemented, should provide six basic outcomes:

 - Strategic alignment
 - Value Delivery
 - Risk management
 - Performance management
 - Resource management
 - Business process assurance

3.4.6.1 Roles



Security Manager

The responsibilities of the Security Manager includes:

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- Develop and maintain the Information Security Policy and a supporting policies, ensure appropriate authorization, commitment and endorsement from IT and business management
 - Communicate and publish the Information Security Policy to all appropriate parties
 - Ensuring that the Information Security Policy is enforced and adhered to
 - Promote education and awareness of security
- Design security controls and develop security plans
 - Develop and document procedures for operating and maintaining security controls
 - Maintain, review and audit all security controls and procedures regularly
- Assist with Business Impact Analyses
 - Identify and classify IT and information assets (Configuration Items) and the level of control and protection required
 - Perform security risk analysis and management - with Availability and IT Service Continuity Management
 - Perform security tests
- Monitor and manage all security breaches - take remedial action to prevent recurrence wherever possible (see **Figure 3-16**).
 - Reporting, analysis and reduction of the impact and volumes of all security incidents - with Problem Management
 - Participate in security reviews arising from security breaches



Figure: 3-16

- Ensure confidentiality, integrity and availability of the services at the levels agreed in the SLAs and conform to all relevant statutory requirements

- Assess impact of all changes on security aspects, Information Security Policy and security controls - attend CAB meetings when appropriate
- Ensure that access to services by external partners and suppliers is subject to contractual agreements and responsibilities
- Act as a focal point for all security issues

3.4.7. Supplier Management



Objective

- Obtain value for money from supplier and contracts
- Ensure that underpinning contracts/agreements with suppliers are aligned to business needs and targets in SLRs and SLAs - with SLM
- Manage relationships with suppliers and their performance
- Negotiate and agree contracts with suppliers and manage them through their lifecycle
- Maintain a supplier policy and a supporting Supplier and Contract Database (SCD)

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Basic concepts

Supplier Management process activity should be driven by a supplier strategy and policy from Service Strategy.

Figure 3-17 (next page) illustrates why a Supplier and Contracts Database (SCD) should be established to achieve consistency and effectiveness in the implementation of the policy, roles and responsibilities:

- **SD:** Supplier categorization and maintenance of the Supplier and Contracts Database (SCD)
- **SD:** Evaluation and set up of new suppliers and contracts
- **ST:** Establish new suppliers

- **SO:** Supplier and contract, management and performance
- **SO:** Contract renewal and termination

(The first two are covered in the Service Design stage, the third is part of Service Transition and the last two are part of the Service Operation stage.)

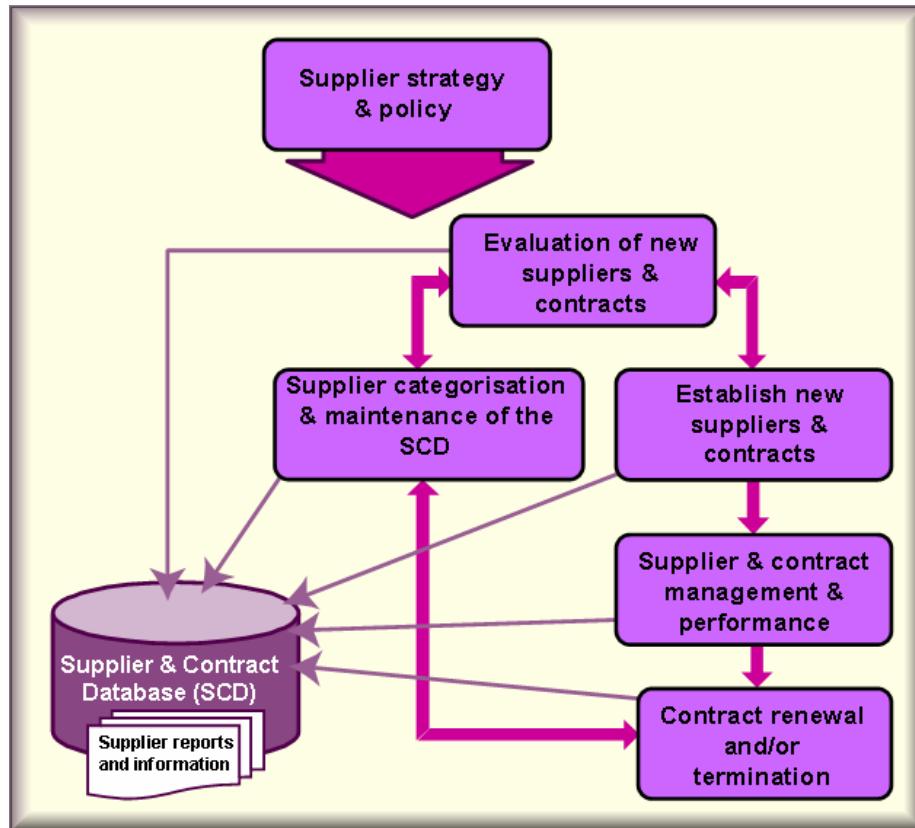


Figure: 3-17

3.4.7.1 Roles



Supplier Manager

The Supplier Manager responsibilities includes:

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- **SLAs, contracts, agreements, etc.**

Providing assistance in the development and review of SLAs, contracts, agreements or any other documents for third party suppliers

- Ensure that underpinning contracts, agreements or SLAs are aligned with the business
- Ensure that supporting services are scoped and documented and that interfaces/dependencies between suppliers, supporting services and supplier processes are agreed and documented
- Ensure that roles and relationships between lead and sub-contracted suppliers are documented, maintained and contractually agreed
- Co-ordinate and support of all individual IT supplier and contract managers - ensure that each has a nominated owner



- **Supplier & Contracts Database (SCD)**

Maintain and review a Supplier and Contracts Database (SCD)

- Update contracts/SLAs when required, according to the Change Management process

- Ensure changes are assessed for their impact on suppliers, supporting services and contracts - attend CAB meetings when appropriate
- **Review & risk assessment**
Regular review and risk assessment of all suppliers and contracts
 - Review lead suppliers processes to ensure that sub-contracted suppliers meet their contractual obligations
 - Perform contract/SLA reviews to ensure consistency with requirements, standard terms and conditions
 - Ensure that value for money is obtained from all IT suppliers and contracts
 - Ensure that all IT supplier processes are consistent and interface to all corporate supplier strategies, processes and standard terms and conditions
- **Disputes**
Maintain a process for dealing with contractual disputes - ensure that any disputes are dealt with efficiently and effectively
 - Maintain a process for dealing with the expected end, early end or transfer of a service
 - Monitor, report and review supplier performance against targets - identify appropriate improvement actions and ensure their implementation

**“It is not the strongest of the species that survives, not
the most intelligent, but the one that is most
responsive to change. Your ability to transform in
itself will be a key driver of competitive advantage.”**

(Anonymous)

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4. Service Transition

4.1. Service Transition in the Service Lifecycle

4.1.1. Goal



'The management & co-ordination of processes, systems & functions to package, build, test and deploy a release into production & establish the service specified in the requirements'

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The Goals of Service Transition:

- Set customer expectations on how the performance and use of a new or changed service can enable business change
- Enable release integration of business processes and services
- Reduce variations in the predicted and actual performance of transitioned services
- Reduce known errors and minimize risks from transitioning new or changed services into production
- Ensure that the service can be used in according to the requirements and constraints specified

4.1.2. Objectives



The Objectives of Service Transition:

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- Plan and manage the resources to successfully establish a new or changed service into production within the predicted cost, quality and time estimates.
- Ensure minimal unpredicted impact on the production services, operations and support organization.
- Increase the customer, user and service management staff satisfaction with the service transition practices of the new or changed service (deployment, communications, release documentation, training, and knowledge transfer).
- Increase proper use of the services and underlying applications and technology solutions.
- Provide clear and comprehensive plans that enable the customer and business change projects to align their activities with the service transition plans.

4.1.3. Business Value



Business value of Service Transition:

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- Ability to adapt quickly to new requirements and market developments ('competitive edge')
- Transition management facilitates management of mergers, de-mergers, acquisitions and transfer of services
- Increase success rate of changes and releases for the business
- Improve the predictions of service levels and warranties for new and changed services
- Confidence in the degree of compliance with business and governance requirements during change
- Decrease in variation of actual against estimated and approved resource plans / budgets
- Increase the productivity of business and Customer staff - better planning and use of new and changed services
- Timely cancellation or changes to maintenance contracts when components are disposed or de-commissioned - both hardware and software
- Better understanding of the level of risk during and after change e.g. service outage, disruption, re-work.

4.2. Generic Concepts and Definitions

4.2.1. Configuration Item (CI)



A configuration item is an asset, service component or other item which is, or will be, under the control of configuration management.

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4.2.2. Configuration Management System (CMS)



The Configuration Management System holds all the information for CIs within the designated scope. Some of these items will have related specifications or files that contain the contents of the item e.g. software, document, photograph. For example, a Service CI will include the details such as:

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- Supplier
- Cost
- purchase date
- renewal date for licenses
- maintenance contracts
- related documentation (SLAs and underpinning contracts)

Figure 4-1 illustrates the type of information the CMS holds for CIs within scope.

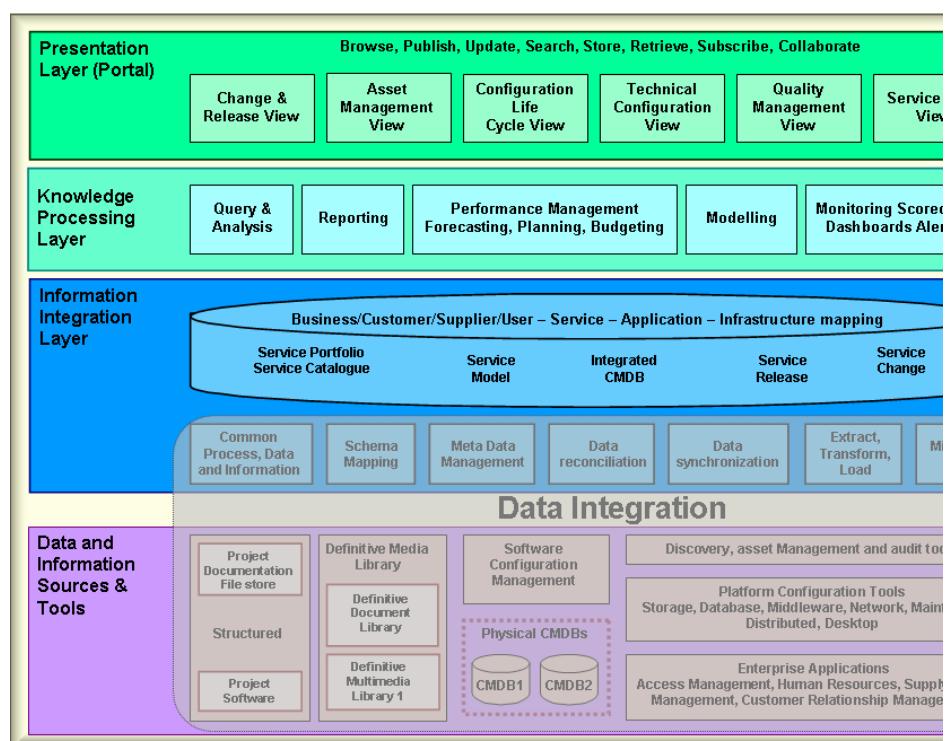


Figure 4-1

4.2.3. Definitive Media Library



The Definitive Media Library (DML) is the secure library in which the definitive authorized versions of all media CIs are stored and protected.

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- It stores master copies of versions that have passed quality assurance checks and may consist of one or more software libraries/file-storage areas, separate from development, test or live file-store areas.
- It contains the master copies of all controlled software in an organization, including definitive copies of purchased software (with license documents/information), as well as software developed on site.
- Master copies of controlled documentation for a system are also stored in the DML in electronic form.

4.2.4. Service Change



The addition, modification or removal of authorized, planned or supported service or service component and its associated documentation.

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- Changes to a Service will be brought in via Service Design, Continual Service Improvement and the Service Level Management process.
- Corrective change, resolving errors detected in services, will be initiated from Service Operations, and may route via support or external suppliers into a formal RFC.

4.2.5. Change types



- **NORMAL**
Any service change that is not pre-approved.
- **STANDARD (Pre-Authorized)**
A standard Change is a change to a service or infrastructure for which the approach is pre-authorized by change management that has an accepted and established procedure to provide a specific change requirement.
- **EMERGENCY**
Emergency change is reserved for changes intended to repair an error in an IT service that is negatively impacting the business to a high degree.
 - Changes intended to introduce immediately required business improvements are handled as normal changes, assessed as having the highest urgency.
 - Emergency Changes are sometimes required and should be designed carefully and tested before use or the impact of the emergency change may be greater than the original incident.
 - The number of emergency Changes proposed should be kept to an absolute minimum, because they are generally more disruptive and prone to failure.
 - Emergency changes may document some details retrospectively.

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4.2.6. Release Unit



A 'Release unit' describes the portion of a service or IT infrastructure that is normally released together according to the organization's release policy. The unit may vary, depending on the type(s) or item(s) of service asset or service component such as software and hardware.

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Figure 4-2 depicts a simplified example showing an IT service made up of systems and service assets, which are in turn made up of service components.

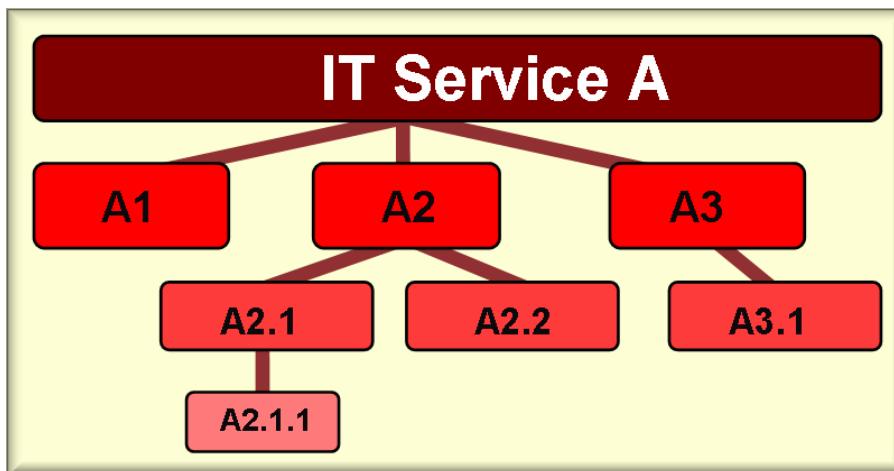


Figure 4-2

4.2.7. The 7 R's of Change Management



The following questions must be answered for all changes. Without this information, the impact assessment cannot be completed, and the balance of risk and benefit to the live service will not be understood which could result in the change not delivering all the possible/expected business benefits or of it having a detrimental/unexpected effect on the live service:

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- Who **RAISED** the change?
- What is the **REASON** for the change?
- What is the **RETURN** required from the change?
- What are the **RISKS** involved in the change?
- What resources are **REQUIRED** to deliver the change?
- Who is **RESPONSIBLE** for the build, test and implementation of the change?
- What is the **RELATIONSHIP** between this change and other changes?

4.3. Key Principles and Models

4.3.1. The Service-V Model



According to the Service-V Model, service validation and acceptance test planning should start with the definition of the service requirements - customers that sign off the agreed service requirements will also sign off the service acceptance criteria and test plan.)

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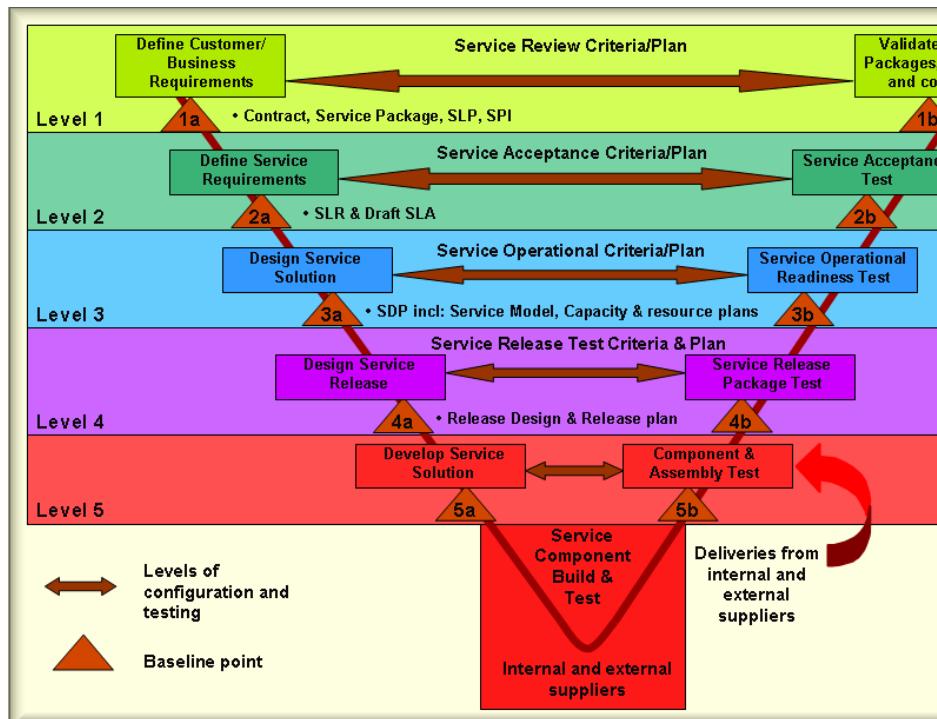


Figure 4-3

The V-model approach **Figure 4-3** is traditionally associated with the waterfall lifecycle, but is, in fact, just as applicable to other lifecycles, including iterative lifecycles, such as prototyping, RAD approaches.

- Left-hand side: The specification of the service requirements down to the detailed service design.
- Right-hand side: Focuses on the validation activities that are performed against the specifications defined on the left-hand side.
- At each stage on the left, there is direct involvement by the equivalent party on the right.

Within each cycle of the iterative development, the V-model concepts of establishing acceptance requirements against the requirements and design can apply, with each iterative design being considered for the degree of integrity and competence that would justify release to the customer for trial and assessment.

Acronyms used in Figure 4-3

- **SLP - Service Level Package:** (Service Strategy) A defined level of Utility and Warranty for a particular Service Package. Each SLP is

designed to meet the needs of a particular Pattern of Business Activity (PBA)

- **SDP - Service Design Package:** *(Service Design) Document(s) defining all aspects of an IT Service and its Requirements through each stage of its Lifecycle. A Service Design Package is produced for each new IT Service, major Change, or IT Service Retirement.*
- **SPI - Service Provider Interface:** *(Service Strategy) An interface between the IT Service Provider and a User, Customer, Business Process, or a Supplier. Analysis of Service Provider Interfaces helps to coordinate end-to end management of IT Services.*
- **SLR - Service Level Requirement:** *(Service Design & Continual Service Improvement) A Customer Requirement for an aspect of an IT Service. SLRs are based on Business Objectives and are used to negotiate agreed Service Level Targets.*

4.4. Service Transition Processes

4.4.1. Change Management



Objectives

To ensure that changes are recorded, evaluated, authorized, prioritized, planned, tested, implemented, documented and reviewed in a controlled manner.

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Scope

The scope of Change Management covers changes to baseline service assets (Service Portfolio) and configuration items across the whole Service Life Cycle. The organization should define the changes that lie outside the scope of their service change process, such as:

- Changes with wider impacts than service changes (departmental organization, policies, business operations) – would produce RFC's to generate consequential service changes
- Changes at an operational level such as repair to printers or other routine service components.

Figure 4-3 illustrates a typical scope for the service change management process for an IT department and interfaces with business and suppliers at strategic, tactical and operational levels.

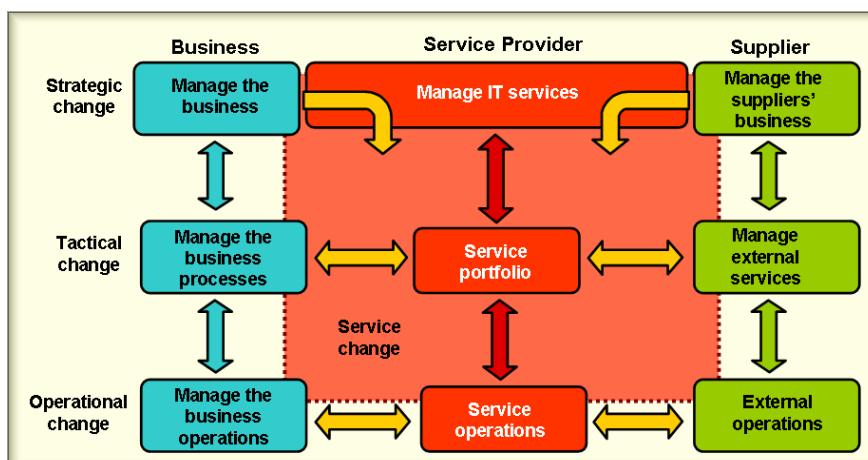


Figure 4-3

Basic Concepts

- **Policies and standards**
To define to internal and external providers what must be done, including the consequence of non-adherence to policy, change windows, performance standards, etc. Rules that provide a culture and environment that support the process.
- **Statutory compliance requirements**
Adherence to relevant country and local legislation, industry codes of practice, standards and organizational practices.
- **Eliminate unauthorized change**
For effectiveness and efficiency, but also legal reasons

- **Change naming/numbering conventions**
Defining the identification and classification criteria in respect of:
 - Change document identifiers
 - Change document types, change documentation templates and expected content
 - Impact, urgency, priorities
- **Organization, roles and responsibilities**
 - Accountability and responsibility of all stakeholders
 - Approach to independent testing and post evaluation of change
 - Change authorization - levels of authorization and rules that govern decision making, actions & escalation
 - Composition of change advisory boards (CAB, Emergency CAB)
- **Stakeholders**
 - Change and release plans to enable stakeholders to do their own preparation and planning
 - Communicate changes, Change Schedule and release plans
- **Grouping of related changes**
 - Into a release, build or baseline
 - By linking several child RFC's to a master RFC
- **Procedures**
 - Change authorization (policies, rules and procedures)
 - Raising an RFC (preparation and submission of change proposal)
 - How change requests are tracked and managed (change records)
 - How change requests are impact assessed and evaluated
 - Identifying dependencies and incompatibilities between changes
 - Verifying the implementation of a change
 - Overseeing and evaluating deliverables from change and release implementation
 - Review changes regularly to identify trends and improvements e.g. in the success or failure of changes and releases
- **Change related incidents**
 - Keep Service Desk advised of changes (via the Change Schedule)
 - Interfacing change, release and configuration management with the problem and incident management processes to measure and reduce Change related incidents.

Note: Forward Schedule of Change (v2) is same as Change Schedule (2011)

- **Configuration management interfaces**
 - To provide quality information for impact assessment and reporting (Compare As-Is to As-Planned configuration)
 - To identify high-risk, high-impact CIs
 - To capture CIs, configuration baselines and releases
 - To capture related deliverables (acceptance criteria, test and evaluation reports)

Process Activities (Overall)

Overall change management activities include:

- Planning and controlling changes
- Change and release scheduling
- Communications

- Change decision making and change authorization
- Ensuring there are remediation plans
- Measurement and control
- Management reporting
- Understanding the impact of change
- Continual improvement

Process Activities (Individual changes)

Typical activities in managing individual changes are illustrated in **Figure 4-4**

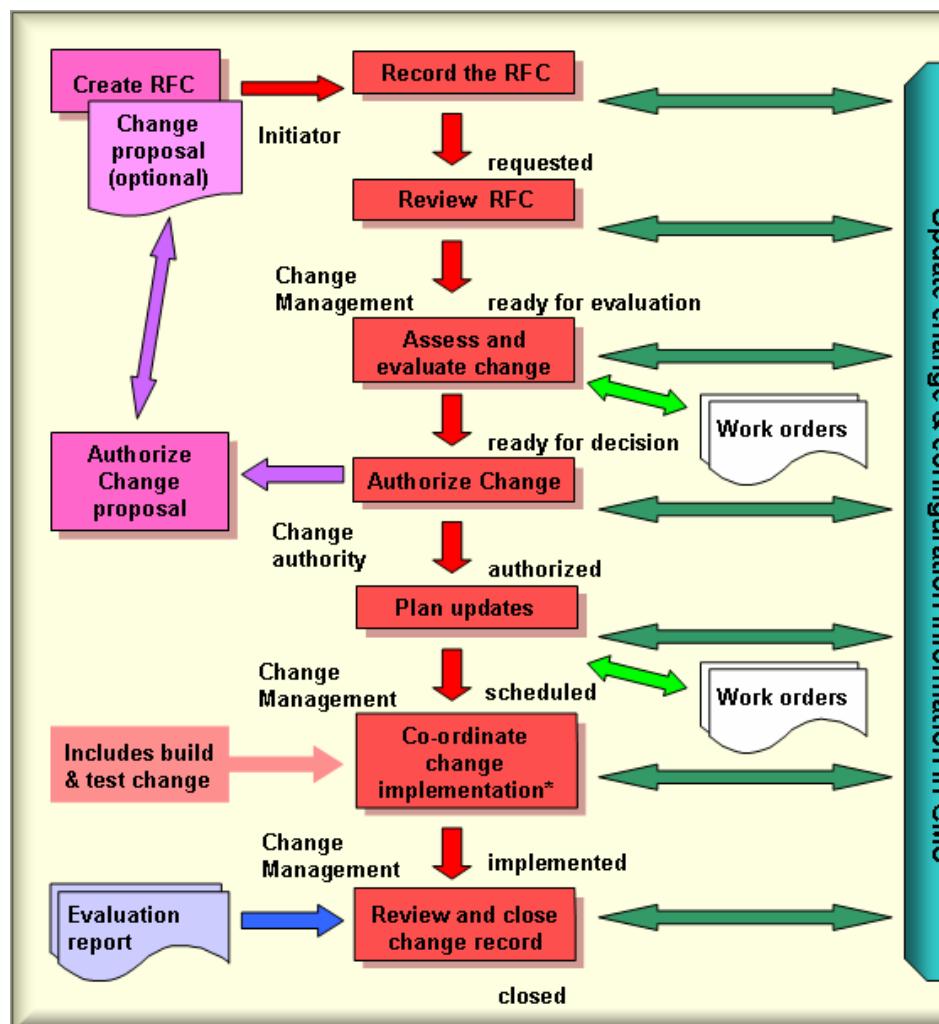


Figure 4-4

The steps are as follows:

- Create and recording Changes
- Review RFC and change proposal
- Filtering changes (e.g. incomplete, wrongly routed)
- Assess and evaluate the change
 - Establish appropriate level of change authority
 - Establish relevant areas of interest (who should be involved in CAB)
 - Assess and evaluate the business justification, impact, cost, benefits and risk of Changes

- Request independent evaluation of a change (if required)
- Authorize the change
 - Obtaining authorization/rejection
 - Communicate the decision with all stakeholders, including the initiator of the RFC
- Plan updates
- Co-ordinate Change implementation
- Review and Close change
 - Collating the change documentation (e.g. baselines and evaluation reports)
 - Review the change and change documentation
 - Close the Change when all actions are completed

Key Metrics

Most of the following metrics/measures can be broken down by category, organizational division, geography, supplier etc.

- **Output Measures**
 - Number of disruptions, incidents, problems/errors caused by unsuccessful changes and releases
 - Inaccurate change specifications (technical, customer, business) and incomplete impact assessment
 - Unauthorized business/customer change by business/IT/customer/user asset or configuration item type e.g. application data
 - Percentage reduction in unauthorized changes or time, effort and cost to make changes and releases (by service, change type, asset type)
 - Percentage improvement in predictions for time, quality, cost, risk, resource and commercial impact
 - Service or application rework caused by inadequate change specification
- **Workloads**
 - Frequency of change (by service, business area, etc.)
 - Volume of change.
- **Process measures**
 - People's satisfaction with the speed, clarity, ease of use
 - Number and percent of changes that follow formal change management procedures
 - Ratio of planned v. unplanned changes (urgent, emergency)
 - Ration of accepted to rejects change requests
 - Number of changes recorded and tracked using automated tools
 - Time to execute a change (from initiation through each stage in the Life Cycle of a change, ending in completion)
 - By life cycle stage
 - By service
 - By infrastructure platform
 - Staff utilization
 - Cost against budget

Challenges

- Almost every business process and service is IT enabled, resulting in a large Customer and stakeholder group that is involved/impacted by Service Transition
- There are many contact interfaces/relationships to manage through

Service Transition (Customers, Users, Programs, Projects, Suppliers and Partners)

- There is little integration of processes and disciplines that impact service transition (finance, engineering, human resource management)
- The inherent differences and unknown dependencies among legacy systems, new technology and human elements can increase the risk to change
- Achieving a balance between maintaining a stable production environment and being responsive to the business needs for changing the services
- Achieving a balance between pragmatism and bureaucracy
- Creating an environment that fosters standardization, simplification and knowledge sharing
- Being an enabler of business change and is, therefore, an integral component of the business change programs.
- Establishing leaders to champion the changes and improvements
- Establishing “who is doing what, when and where” and “who should be doing what, when and where”
- Developing a Culture that encourages people to collaborate and work effectively together (an atmosphere that fosters the cultural shifts required to get buy-in from people)
- Developing standard performance measures and measurement methods across projects and suppliers
- Ensuring that the quality of delivery and support matches the business use of new technology
- Ensuring that the service transition time and budget is not impacted by events earlier in the service life cycle (e.g. budget cuts)
- Understanding the different stakeholder perspectives that underpin effective risk management within an organization
- Understanding and assess the balance between managing risk and taking risks in affecting the overall strategy of the organization (potential mismatch between project and business risk)

Evaluating the effectiveness of reporting in relation to risk management and corporate governance

4.4.1.1 Roles



Change Manager

The main duties of the Change Manager, some of which may be delegated, are listed below:



- Receive, log and allocate a priority, in collaboration with the initiator, to all RFC's and reject any that are totally impractical
- Table all RFC's for a CAB meeting, issue an agenda and circulate all RFC's to CAB members in advance of meetings to allow prior consideration
- Decide which people will come to which meetings, who gets specific RFC's depending on the nature of the RFC, what is to be changed, and people's areas of expertise
- Convene urgent CAB or ECAB meetings for all urgent RFC's
- Chair all CAB and ECAB meetings

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- After consideration of the advice given by the CAB or ECAB, authorize acceptable Changes
- Issue Change Schedules, via the Service Desk
- Liaise with all necessary parties to coordinate Change building, testing and implementation, in accordance with schedules
- Update the Change log with all progress that occurs, including any actions to correct problems and/or to take opportunities to improve service quality
- Review all implemented Changes to ensure that they have met their objectives. Refer back any that have been backed out or have failed
- Review all outstanding RFC's awaiting consideration or awaiting action
- Analyze Change records to determine any trends or apparent problems that occur. Seek rectification with relevant parties
- Close RFC's
- Produce regular and accurate management reports

Change Authority

Formal authorization is obtained for each change from a change authority (role, person or group)

- Levels of authorization should be judged by the type, size or risk of the change
- Delegated authority may exist within an authorization level, e.g. delegating authority to a Change Manager according to pre-set parameters relating to:
 - Anticipated business risk
 - Financial implications
 - Scope of the change

Figure 4-5 illustrates an example of authorization hierarchy (Change Authorization Model)

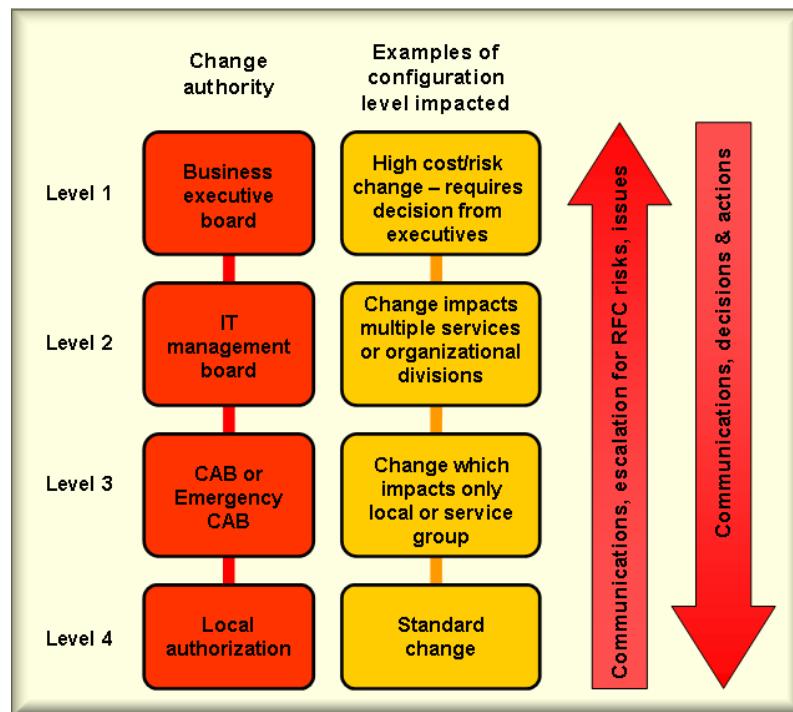


Figure 4-5

Change Advisory Board

A CAB is an advisory body and requires appropriate terms of reference (meeting regularity, scope of influence, and links to program management)

It is important to emphasize that the CAB:

- Will be composed according to the Changes being considered and may vary considerably in make-up even across the range of a single meeting
- Should involve suppliers when that would be useful
- Should reflect both user and Customer views
- Is likely to include the following:
 - Problem Manager
 - Service Level Manager
 - Customer Relations staff

4.4.2. Service Asset & Configuration Management



Objective

To define and control the components of services and infrastructure and maintain accurate configuration records.



This enables an organization to:

- Comply with corporate governance requirements
- Control its asset base
- Optimize its costs
- Manage change and releases effectively
- Resolve incidents and problems faster

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Basic Concepts

The Logical Model

Configuration management delivers a required logical model of the services, assets and the infrastructure by recording the relationships between configuration items (see **Figure 4-6**)

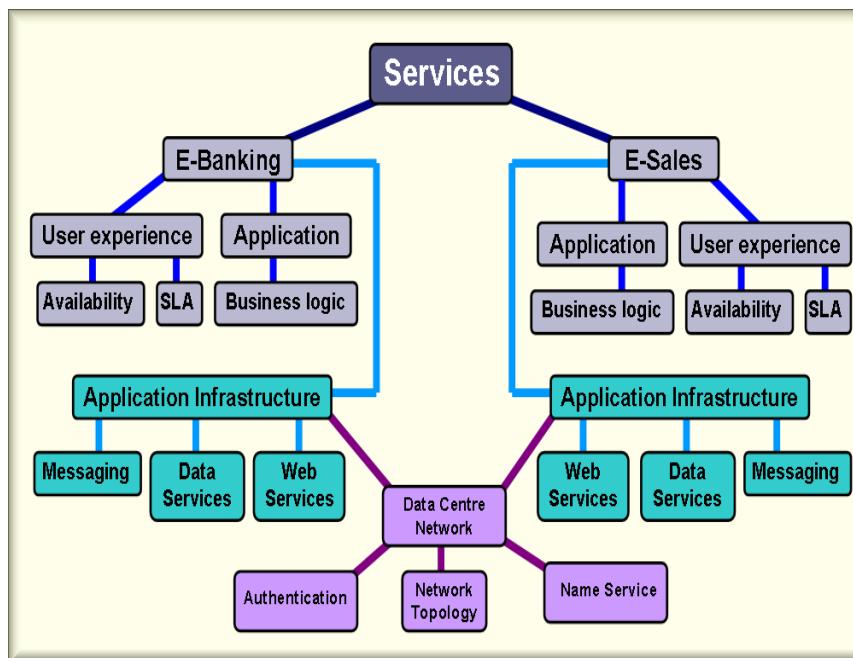


Figure 4-6

The power of the logical model is that it is **THE** model – a single common representation used by all parts of IT Service management, and beyond.

- **CI Categories**

Some documentation will define the characteristics of a CI whereas other documentation will be a CI in its own right that needs to be controlled. There will be a variety of CIs; the following is examples:

- **Service Life Cycle CIs** provide a picture of the service provider's services, how these services will be delivered, what benefits are expected, at what cost, and when they will be realized and include the Business case, Service Management plans, Service Life Cycle plans, Service Design Package, Change and Release plans, Test plans.
- **Service CIs** such as:
 - Service capability assets: management, organization, processes, knowledge, people
 - Service resource assets: financial capital, systems, applications, information, data, infrastructure and facilities, financial capital, people
 - Service Model
 - Service Package
 - Release Package
 - Service Acceptance Criteria
- **Organization CIs** such as the organization's business strategy, other internal policies (independent of the service provider), regulatory or statutory requirements applicable.
- **Internal CIs** delivered by individual projects, including tangible (data centre) and intangible assets (software) required to deliver and maintain the service and infrastructure.
- **External CIs** such as external customer requirements, agreements, releases from suppliers or sub-contractors and external services.

- **Configuration Management System (CMS)**

The Configuration Management System holds all the information for CIs within the designated scope

*(Previously discussed in paragraph 1.4.8 – See **Figure 4-7** as reminder)*

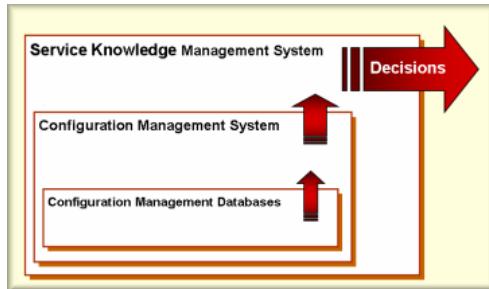


Figure 4-7

Some of these items will have related specifications or files that contain the contents of the item e.g. software, document, photograph (**Figure 4-8** simply illustrates these relationships).

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- ◆ For example, a Service CI will include the details such as supplier, cost, purchase date and renewal date for licenses and maintenance contracts and the related documentation such as SLA's and underpinning contracts.

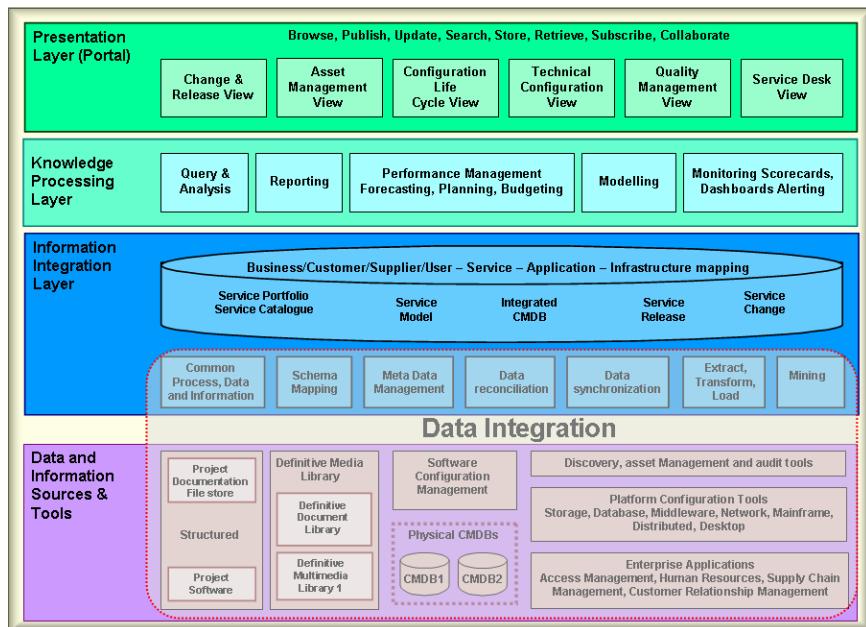


Figure 4-8

- **Secure Libraries**
A collection of software, electronic or document CIs of known type and status used for controlling and releasing components throughout the Service Life Cycle (design, build, test, deploy and operate). Access to a secure library is restricted.
- **Secure Stores**
A location that warehouses IT assets and play an important role in the provision of security and continuity (maintain reliable access to equipment of known quality)
- **Definitive Media Library**
Secure library in which the definitive authorized versions of all media CIs are stored and protected
- **Definitive Spares**
Secure storage of hardware spares (components and assemblies, maintained at the same level as the comparative systems in the live environment)
- **Configuration Baseline**
The configuration of a service, product or infrastructure that has been formally reviewed and agreed upon, that serves as the basis for further activities, that can only be changed through formal change procedures.
- **Snapshot**
The current state of a configuration item or an environment (e.g. from a discovery tool), recorded in the CMS as a fixed historical record - also referred to as a footprint

Figure 4-9 illustrates the Definitive Media Library (DML) and Configuration Management Database (CMDB) concepts.

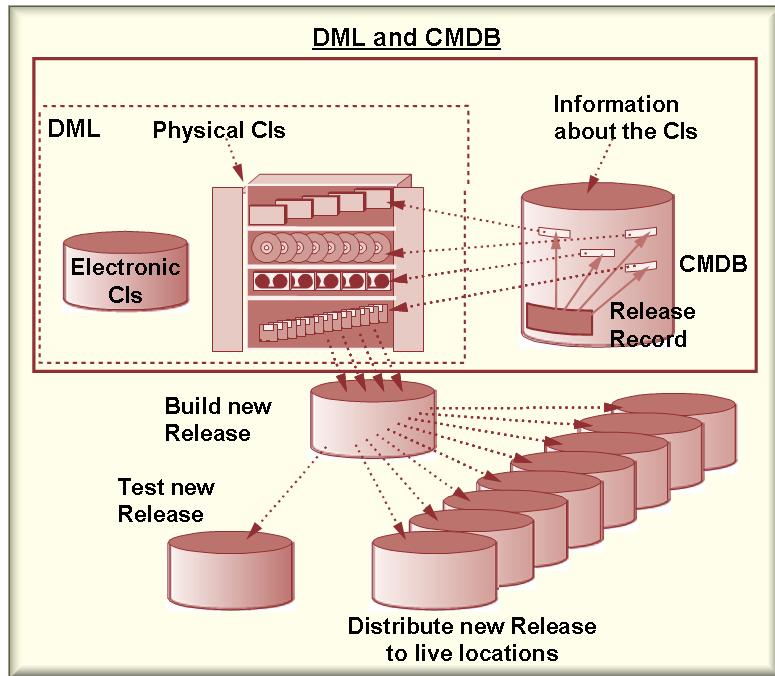


Figure 4-9

4.4.2.1 Roles



Service Asset Manager

Works to the overall objectives agreed with the IT Services Manager; implements the organization's Service Asset Management policy and standards, which includes:

- **Asset Management systems** - Evaluate existing and design, implement and manage new/improved systems for efficiency and effectiveness – including estimating and planning the work and resources involved, and monitoring and reporting on progress against plan
- **Asset Management processes, standards, plans and procedures** - Agrees scope, function, items to be controlled, and the information that is to be recorded.
- **Awareness** - Campaign to win support for new procedures, ensuring that changes to the methods and processes are properly approved and communicated to staff before being implemented (Plans, publicizes and oversees implementation of new Asset Management systems)
- **Staffing** - Arranges recruitment and training of staff
- **Asset Management tools** - Evaluation of proprietary tools and recommendation of those that best meet the budget, resource, timescale and technical requirements
- Manages the **Asset Management plan, principles and processes** and their implementation
- Agrees assets (**Clis**) to be uniquely identified with **naming conventions**, ensures compliance with identification standards for object types, environments, processes, life cycles, documentation, versions, formats, baselines, Releases and templates
- Proposes and/or agrees **interfaces** with Change Management, Problem Management, Network Management, Release Management, computer operations, logistics, finance and administration functions
- Plans population of the **Asset DB**. Manages the Asset DB, central libraries and tools, ensuring regular housekeeping
- Provides **reports**, including management reports (indicating

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- suggested action to deal with current or foreseen shortcomings), impact analysis reports and Asset status reports
- To cope with **growth and change** - Initiates actions needed to secure funds to enhance the infrastructure and staffing levels
- Assists auditors to audit the activities of the Asset Management team for compliance with laid-down procedures, ensuring that corrective action is carried out

Configuration Manager

Works to the overall objectives agreed with the IT Services Manager; implements the organization's Configuration Management policy and standards, including:

- Evaluates existing **Configuration Management systems** and the design, implementation and management of new/improved systems for efficiency and effectiveness – including estimating and planning the work and resources involved, and monitoring and reporting on progress against plan
- Agrees scope of the **Configuration Management processes**, function, the items that are to be controlled, and the information that is to be recorded. Develops Configuration Management standards, Configuration Management plans and procedures
- Mounts an awareness campaign to win support for new **Configuration Management procedures**. Ensures that changes to the Configuration Management methods and processes are properly approved and communicated to staff before being implemented. Plans, publicizes and oversees implementation of new Configuration Management systems
- **Staffing** - Arranges recruitment and training of staff
- Manages the evaluation of proprietary **Configuration Management tools** and recommends those that best meet the organization's budget, resource, timescale and technical requirements
- Manages the **Configuration Management plan, principles and processes** and their implementation
- Agrees **CIs** to be uniquely identified with **naming conventions**. Ensures that staff comply with identification standards for object types, environments, processes, life-cycles, documentation, versions, formats, baselines, Releases and templates
- Proposes and/or agrees **interfaces** with Change Management, Problem Management, Network Management, Release Management, computer operations, logistics, finance and administration functions
- Plans population of the CMS. Manages **CMS, central libraries, tools, common codes and data**. Regular housekeeping of the CMS
- Provides **reports**, including management reports (indicating suggested action to deal with current or foreseen shortcomings), impact analysis reports and configuration status reports
- Initiates actions needed to secure funds to enhance the infrastructure and staffing levels in order to cope with **growth and change**
- Assists **auditors** to audit the activities of the Configuration Management team for compliance with laid-down procedures. Ensures corrective action is carried out.

Configuration Analyst

- **Proposes scope** of the Asset and Configuration Management processes, function, the items that are to be controlled, and the

information that is to be recorded. Develops Asset and Configuration Management standards, plans and procedures

- **Trains** Asset and Configuration Management specialists and other staff in Asset and Configuration Management principles, processes and procedures
- Supports the creation of the Asset and Configuration Management **plans and principles and their implementation**
- Creates Asset and Configuration Management **processes and procedures**. This includes CI registration procedures; access controls and privileges. Ensures that the correct roles and responsibilities are defined in the Asset and Configuration Management plans and procedures
- Proposes and agrees with the Asset and Configuration Manager **CIs** to be uniquely identified with naming conventions. Ensures that developers and configuration system users comply with identification standards for object types, environments, processes, life cycles, documentation, versions, formats, baselines, Releases and templates
- Liaises with the Configuration Administrator / Librarian on population of the Asset and CMS. **Manages Asset and CMS, central libraries, common codes and data**. Ensures regular housekeeping of the Asset and CMS
- Uses or provides the Asset and CMS to facilitate **impact assessment for RFCs** and to ensure that implemented Changes are as authorized. Creates Change records, configuration baselines, and package Release records in order to specify the effect on CIs of an authorized Change. Ensures any changes to Change authorization records are themselves subject to Change Management procedures. Ensures that the Asset and CMS is updated when a Change is implemented
- Uses the Asset and CMS to help **identify other CIs affected** by a fault that is affecting a CI
- Performs **configuration audits** to check that the physical IT inventory is consistent with the Asset and CMS and initiates any necessary corrective action
- **Creates and populates project libraries and CM system**. Checks items and groups of items into the CM tools
- **Baselines:**
 - Accepts baselined products from third parties and distributes products
 - Builds system baselines for promotion and release
- Maintains **project status** information and status accounting records and reports
- **Monitors problems** (test incidents) and maintains database for collections and reporting of metrics.

Configuration Administrator/Librarian

The Configuration Administrator/Librarian is the custodian and guardian of all master copies of software, Assets and documentation CIs registered with Asset and Configuration Management. The major tasks of this role are:

- to control the receipt, identification, storage, and withdrawal of all supported CIs
- to provide information on the status of CIs
- to number, record, store and distribute Asset and Configuration Management issues

CMS / Tools Administrator

- Evaluates proprietary Asset and Configuration Management tools and recommends those that best meet the organization's budget, resource, timescale and technical requirements. Directly or indirectly customizes proprietary tools to produce effective Asset and Configuration Management environments in terms of databases and software libraries, workflows and report generation.
- Monitors the performance and capacity of existing Asset and Configuration Management systems and recommends improvement opportunities and undertakes standard housekeeping and fine tuning under change control
- Liaises with the Configuration Analyst and Administrator / Librarian on population of the Asset and CMS. Provides technical administration and support for Asset and CMS, central libraries, Tools common codes and data. Undertakes regular technical housekeeping of the Asset and CMS
- Ensures the integrity and operational performance of the CM systems.

Configuration Control Board

The Configuration Control Board is required to ensure that the overarching intention and policies of Configuration Management are employed throughout the Service Management Lifecycle and with specific consideration for every aspect of the complete service. The board will have the following responsibilities:

- Defining the Service Baseline in terms of applications, information, Service, technical, infrastructure, core and support services ensuring that they meet the requirements established in the Service Design
- Reviewing changes in the service configuration for compliance with contractual and internal requirements
- Originating requirement changes for Service configuration to comply with contract change requests.

4.4.3. Release & Deployment Management



Objectives

Establish clear and comprehensive release and deployment plans that enable the customer and business change projects to align their activities with these plans.



- Enable a release package to be built, installed, tested and deployed efficiently to a deployment group or target environment successfully and on schedule.
- That a new or changed service and its enabling systems, technology and organization are capable of delivering the agreed service requirements (utilities, warranties & service levels)
- Ensure that there is knowledge transfer to enable the customers and users to optimize their use of the service to support their business activities.

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- Ensure that skills and knowledge are transferred to operations and support staff to enable them to effectively and efficiently deliver, support and maintain the service according to required warranties and service levels.
- Minimize unpredicted impact on the production services, operations and support organization.
- That customers, users and service management staff are satisfied with the service transition practices and outputs e.g. user documentation and training.

Basic Concepts

- **Big Bang vs. Phased**
 - **Big-bang** option – the new or changed service is deployed to all user areas in one operation, when consistency of service across the organization is considered important
 - **Phased** approach – the service is deployed to a part of the user base initially, and then this operation is repeated for subsequent parts of the user base via a scheduled roll out plan (**Figure 4-10**)

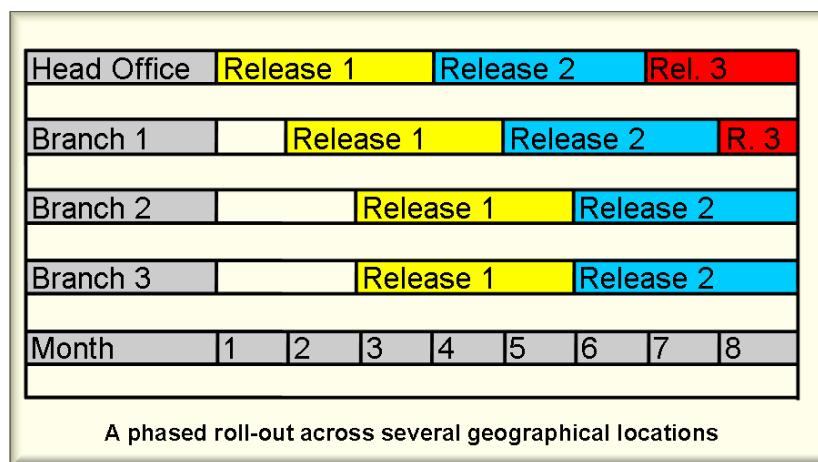


Figure 4-10

- **Push and Pull**

In order to deploy via ‘push’ approach, the data on all user locations must be available. Pull approaches do not rest so heavily on accurate configuration data and they can trigger an update to user records. As some users will never ‘Pull’ a Release it may be appropriate to allow a “Pull” within a specified time limit and if this is exceeded a Push will be forced e.g. for an anti-virus update.

- A **Push** approach is used where the service component is deployed from the centre and pushed out to the target locations. In terms of service deployment, delivering updated service components to all users – either in big-bang or phased form – constitutes ‘push’, since the new or changed service is delivered into the users environment at a time not of their choosing.

- A **Pull** approach is used for software releases where the software is made available in a central location but users are free to pull the software down to their own location at a time of their choosing or when a user workstation restarts. The use of 'pull' updating a release over the internet has made this concept significantly more pervasive. A good example is virus signature updates, which are typically pulled down to update PCs and Servers when it best suits the customer, however at times of extreme virus risk this may be overridden by a release that is pushed to all known users.
- **Automation vs. Manual**
Whether by automation or other means, the mechanisms to release and deploy the service components are correctly configured should be established in the release design phase and tested in the build and test stages of the new or changed service.
 - **Automation** will help to ensure repeatability and consistency. The time required to provide a well designed and efficient automated mechanism may not always be available or viable.
 - If a **Manual** mechanism is used it is important to monitor and measure the impact of many repeated manual activities as they are likely to be inefficient and error prone. Too many manual activities will slow down the release team and create resource/capacity issues that affect the service levels.
- **Testing: Release & Release Packages**
 - **Figure 4-11** shows that you start the build and release from the Infrastructure architecture, through Application architecture, then Service Architecture to Business architecture levels
(This is logic – dependencies)

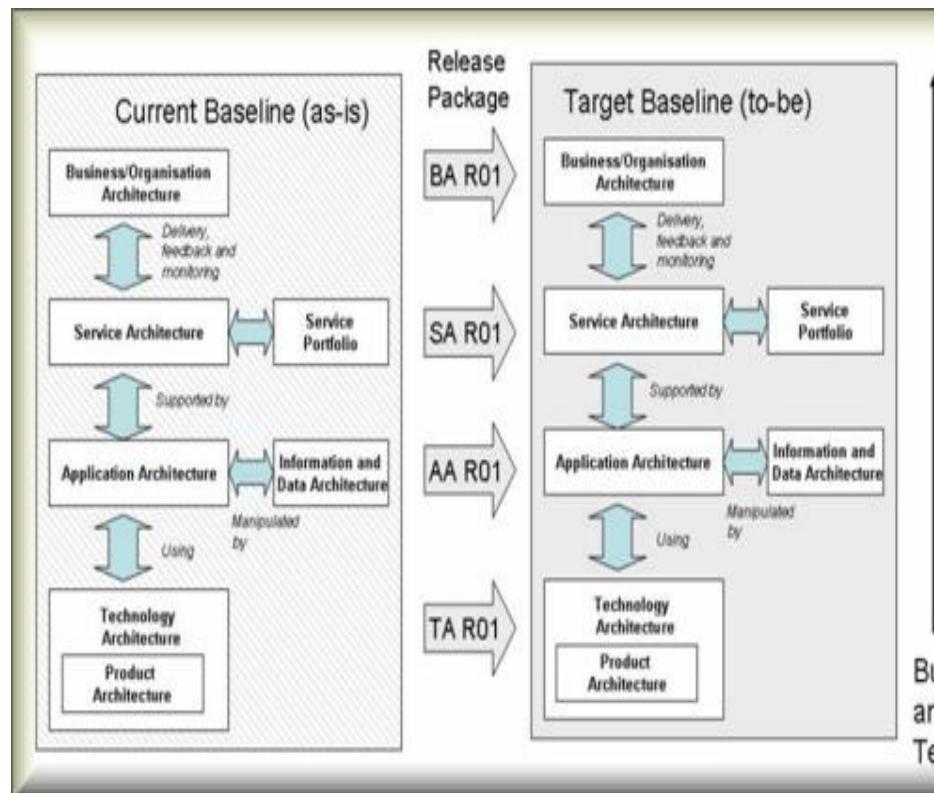


Figure 4-11

- **Figure 4-12** illustrates where the 'LAB'/Test phase fits into the high-level flow

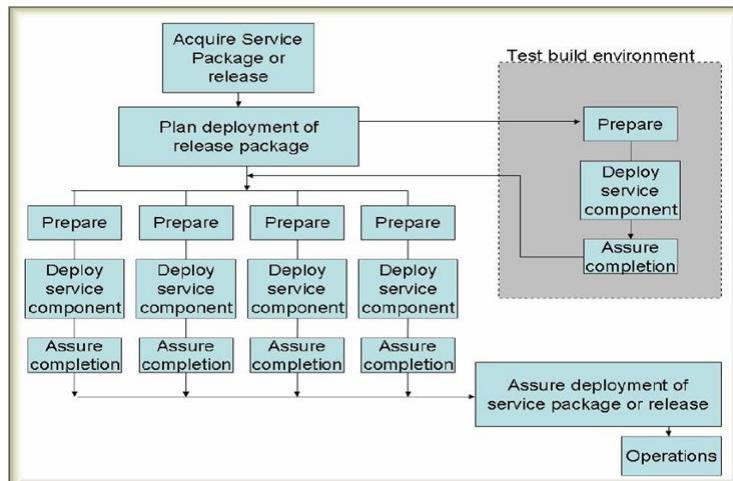


Figure 4-12

4.4.3.1 Roles

Release and Deployment Manager

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Responsible for managing all aspects of the end-to-end release process. The Release and Deployment Manager will report to the Service Transition Manager as will the Service Test Manager; however these roles should always be undertaken by separate people, i.e. never combined, to ensure that there is always independent testing and test verification.



The Release and Deployment manager is responsible for the planning, design, build, configuration and testing of all software and hardware to create the Release package for the delivery of, or changes to, the designated Service.

The overall responsibilities are:

- Managing all aspects of the end-to-end release process
- Updating the S-KMS and SACM
- Ensuring co-ordination of build ,test environment team and release teams
- Provides management reports on release progress
 - Service Release and Deployment policy and planning
 - Release package design, build and configuration
 - Release package acceptance including business sign-off
 - Service rollout planning including method of deployment
 - Release package testing to predefined acceptance criteria
 - Sign-off of the release package for implementation
 - Communication, preparation and training
 - Audits of hardware and software prior to and following the implementation of release package changes
 - Installation of new or upgraded hardware

- Storage and traceability / audit ability of controlled software in both centralized and distributed systems
- Release, distribution and the installation of packaged software.

Release Packaging and Build Management

Release Packaging and Build management is the flow of work (establish requirements, design, build, test, deploy, operate and optimize) to deliver applications and infrastructure that meet the Service Design requirements.

The main duties of the Release Packaging and Build Manager are:

- Responsibility for establishing the final release configuration (e.g. knowledge, information, hardware, software and infrastructure)
- Builds the final release delivery
- Tests the final delivery prior to independent testing
- Establishes and reports outstanding known errors and workarounds
- Provides input to the final implementation sign-off process.

Deployment

Deployment is responsible for the following activities:

- Responsible for the final physical delivery of the service implementation
- Co-ordinates release documentation and communications, including training and customer, service management and technical release notes
- Plans the deployment in conjunction with Change and SKMS and SACM
- Provides technical and application guidance and support throughout the release process, including known errors and workarounds
- Provides feedback on the effectiveness of the release
- Records metrics for deployment to ensure within agreed SLA's.

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**“Think as you work, for in the final analysis, your worth to
your company comes not only in solving problems, but
also in anticipating them.”**

(Harold Ross)

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5. Service Operation

5.1. Service Operation in the Service Lifecycle

5.1.1. Goals



Definition

Assists Service Operation practitioners to achieve a balance between:

- the business to meet its objectives
 - the effective functioning of components that support services
- to focus on effectively managing the day-to-day aspects while maintaining a perspective of the greater context.

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Service Operation Goals

- Responsive, stable services
- Robust end to end operations practices
- Redesigned incident and problem processes
- New functions and processes
- Event, technology and request fulfillment
- Influencing strategy, design, transition and improvement
- SOA, virtualization, adaptive and agile service operation models

5.1.2. Objectives



- Manage services at agreed levels through coordination and perform activities to deliver processes
- Manage the technology that is used to deliver and support service
- Conducts, manages and controls day-to-day operation of processes (using Service Design and Service Transition)
- Enable Continual Service Improvement through monitoring performance, assess metrics and gather data

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5.1.3. Business Value



- The only value that matters, is that perceived by the customer - Service Operation is where the value is delivered & judged.
- Service Strategy
- Where service value is modeled
- Service Design & Service Transition
- Where cost of services is designed, predicted & validated
- Continual Service Improvement
- Where measures for optimization are identified

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5.2. Generic Concepts & Definitions

5.2.1. Impact, Urgency and Priority



Impact:

Impact is based on how Service Levels will be affected and measures the effect of an Incident, Problem or Change on Business Processes

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Urgency:

How quick a solution is required; a high Impact Incident may have low Urgency, if the Impact will not affect the Business until the end of the financial year.

Priority:

Time required for actions to be taken; SLA may state that Priority2 Incidents must be resolved within 12 hours.

Priority is a function of Impact & Urgency

Figure 5-1 is an example – Each of the Impact, Urgency and Priority Level should be clearly defined.

		URGENCY			
		Critical	High	Medium	Low
IMPACT	Major	Emergency	Urgent	Urgent	Normal
	Significant	Urgent	Urgent	Normal	Normal
	Minor	Normal	Normal	Normal	Normal
	Standard	Standard	Standard	Standard	Standard

Figure 5-1

5.2.2. Categories of Calls



- Service Request**

User requesting information for a change or access to an IT Service

- o Reset a password provide standard IT Services for a new User.
- o Handled by a Service Desk, nor RFC necessary

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- Event**

Notification created by a service, CI or monitoring tool. Caused by deviation to the performance of the infrastructure or the delivery of the service and will regularly require Incidents to be logged.

- Alert**

Warning or notice about threshold, change or failure that has occurred. Created and controlled by System Management tools and the Event Management Process.

- Incident**

Unexpected interruption or reduction in quality of an IT service. A failure of a CI that has not yet impacted service is also an Incident.

- **Problem**

A cause of one or more Incidents. Usually known at the time a Problem Record is created, and the Problem Management Process is responsible for further investigation.

5.2.3. Workaround and Error



- **Workaround**

Temporary means to resolve issues or difficulties e.g. by restarting a failed Configuration Item.

- Workarounds for Incidents that do not have associated Problem Records are documented in the Incident Record.
- Workarounds for Problems are documented in Known Error Records.

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- **Known Error**

A Problem that has a documented Root Cause & a Workaround. Known Errors are created and managed throughout their Lifecycle by Problem Management.

- **Known Error Database**

Storage for previous knowledge on requests and known errors

5.2.4. Role of Communication



Please note that there is no definitive medium for communication, nor is there a fixed location or frequency. There should therefore be a policy around communication within each team or department and for each process. Although this should be formal, the policy should not be cumbersome or complex.

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Properly established communication channels can assist in preventing or mitigating issues. A Communication Policy must therefore indicate the intended purpose or resultant action, as well as a clear audience, involved in determining the need for communication. Types of communication include:

- Meetings
- Email
- SMS/Pagers
- VOIP

Document sharing utilities

5.3. Key Principles and Models

5.3.1. IT Services vs. Technology Components



Organizations should focus on both business requirements and how they will deliver it as well as what services they support on internal systems to deliver value. Differences/ imbalances stem from the Management culture and leads to low maturity

- **IT Services**

How customers/users experience services. Customers/Users don't worry about the details of what technology is used to manage services, but are only concerned that the services are delivered as required and agreed.

- **Technology Components**

How IT components and systems are managed to deliver the services. Different teams or departments manage technology, thus each should focus on achieving good performance and availability of 'its' systems.

Figure 5-2 illustrates IT Services vs. Technology Components

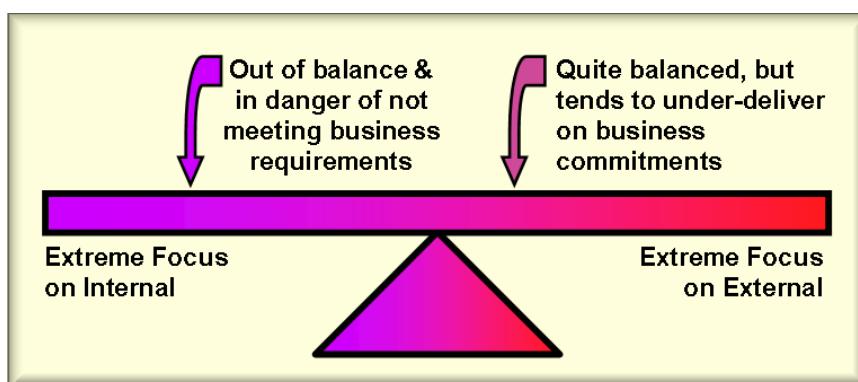


Figure 5-2

5.3.2. Stability vs. Responsiveness



- **Stability**

- Develop & refine standard IT management techniques & processes
- Service components needs to be available & perform consistently

- **Responsiveness**

- Ability to respond to changes without impact to other services
- Take care when agreeing to required changes - Consider ALL requirements and impact of delivering change

Figure 5-3 illustrates Stability vs. Responsiveness

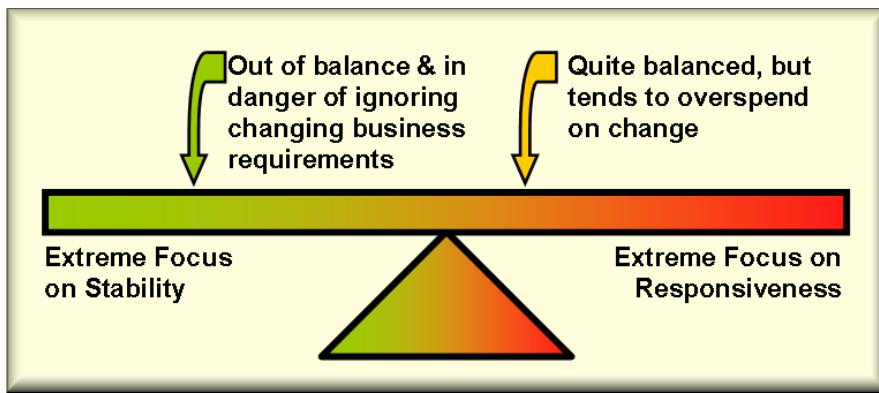


Figure 5-3

For example: a Business Unit requires additional IT Services, more capacity and faster response times.

- To respond to this type of change without impacting other services is a significant challenge.
- Many IT organizations are unable to achieve this balance and tend to focus on either the stability of the IT Infrastructure or the ability to respond to changes quickly.

5.3.3. Quality of Service vs. Cost of Service



Achieving balance between Quality and Cost assist in consistency when delivering at agreed levels while keeping costs & resource utilization at an optimal level. Service Level Requirements can be used to deliver service at appropriate cost and avoid “over sizing” or “under sizing”.

- Too much focus on quality – deliver more than necessary at higher cost
- Too much focus on cost – deliver on or under budget, risk due to sub-standard services

Figure 5-4 illustrates Quality of Services vs. Cost of Service

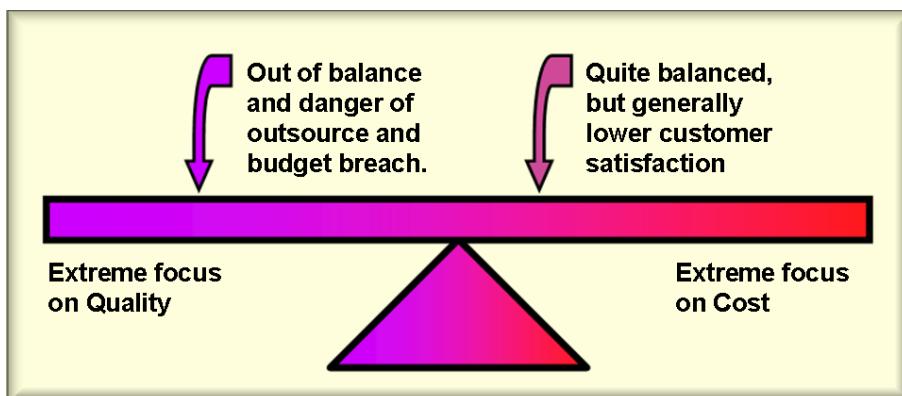


Figure 5-4

Achieving a balance will ensure delivery of the level of service necessary to meet Business requirements at an optimal cost as illustrated in **Figure 5-5**

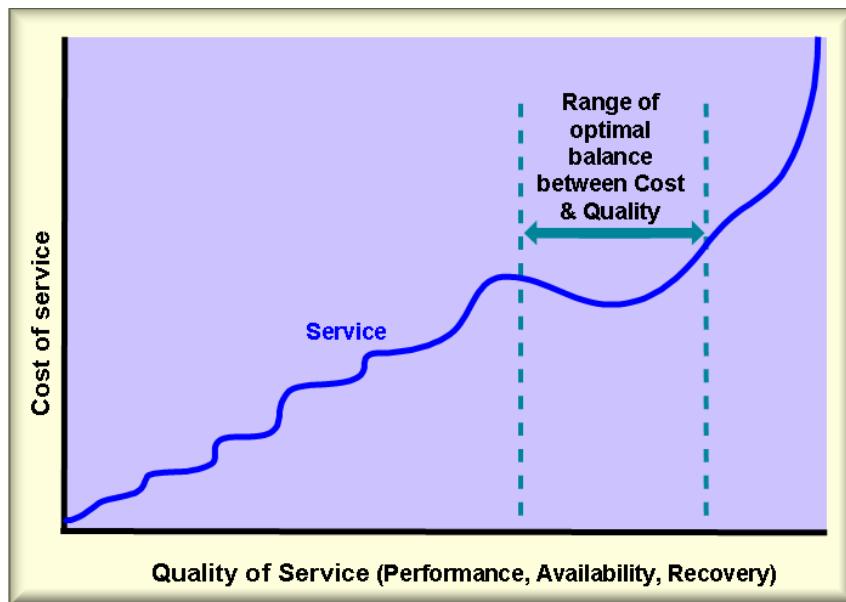


Figure 5-5

5.3.4. Reactive vs. Proactive



- **Reactive**
No action occurs unless prompted by external driver
- **Proactive**
Always seeking ways to improve current situation
 - Continually scan, looking for potentially impacting changes
 - Seen as positive behavior
 - Can be expensive
 - Better to manage proactively

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Proactive achievement depends on:

- Maturity
- Culture
- Role of IT, influence on strategy and tactics
- Level of Integration of processes and tools
- Maturity and scope of Knowledge Management

Achieving Balance

Achieving balance between reactive and proactive, requires:

- Formal, Integrated Problem and Incident Management processes
- Ability to prioritize technical faults and demands - needs to be done during Service Operation, but the mechanisms need to be put in place during Service Strategy and Design.
- Data from Configuration and Asset Management - provides data where required, saving projects time and making decisions more precise
- Ongoing involvement from Service Level Management in Service Operations

5.4. Service Operation Processes

5.4.1. Incident Management



Objectives

- To Restore normal service operation as quickly as possible
- Minimize the impact on business operation
- Maintain optimal levels of service quality & availability

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Scope

- Any event which disrupts, or could disrupt a service:
 - Includes Events communicated directly by users or tools or technical staff
- Not all Events are Incidents.
- Many classes of Events are not related to disruptions at all, but are indicators of normal operation or are simply informational

Figure 5-6 illustrates where Incident Management fits into (Orange Arrows)

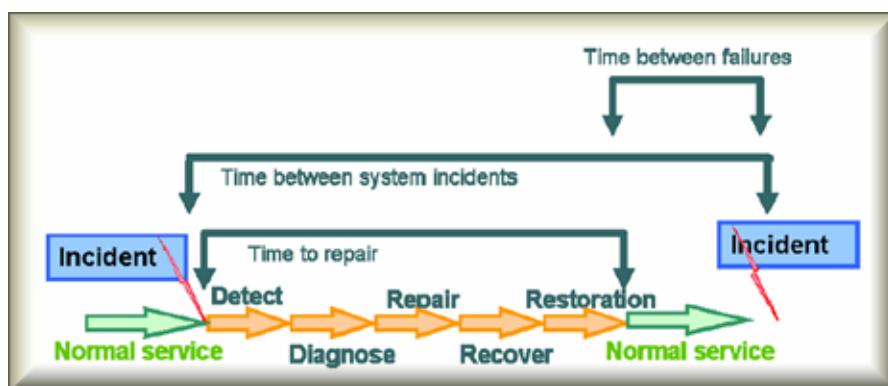


Figure 5-6

Basic Concepts

- **Incident Models**
 - Agreed method of predicting steps to handle a process
 - Ensures 'standard' incidents handled in pre-defined path
 - Evidence preservation activities
 - Timescales & thresholds
 - Escalation Procedures
 - Responsibilities
- **Timescales**
 - Must be agreed for all handling stages
 - Based on response and resolution targets in SLA and OLA
 - Tools should be used to automate timescales and escalate
 - Support groups must be informed
- **Major Incidents**
 - Shorter timescales and greater urgency
 - Incident with higher impact or priority – potential business impact

Process Activities

The typical activities involved in Incident Management are illustrated in Figure 5-7 (a basic Incident flow).

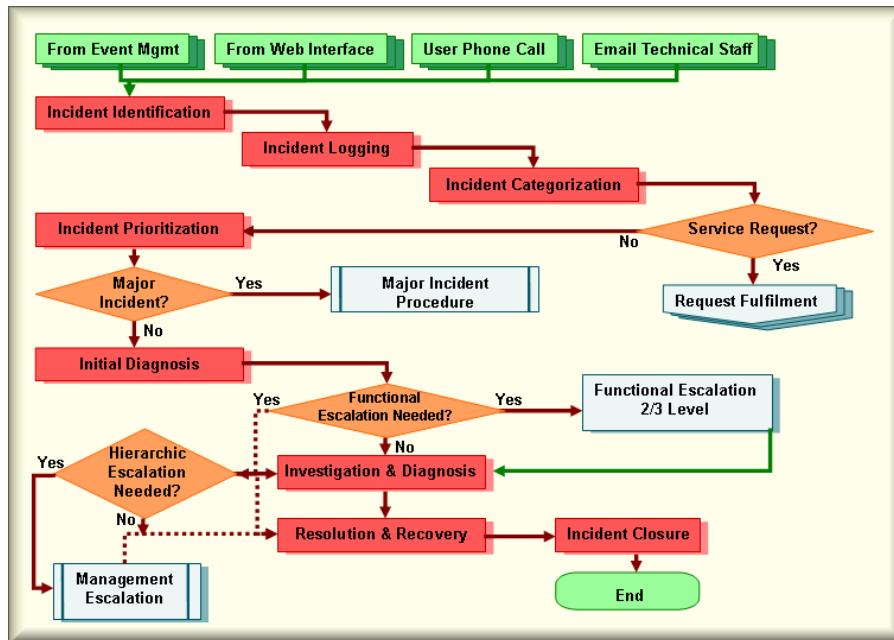


Figure 5-7

- **Incident Identification**
 - Work cannot begin until incident is known
- **Logging**
 - All incidents fully logged, date/time stamped
 - Relevant information recorded
- **Categorization**
 - Record correct type of call
 - Establish trends for Problem Management, Supplier Management
 - Organizations are Unique – difficult to give generic guidance
- **Prioritization**
 - Agree and allocate appropriate prioritization codes
 - Determined by impact and urgency
 - Clear guidance for all support staff to determine correct urgency and impact levels
- **Initial Diagnosis**
 - Carried out by the Service Desk
 - Attempt to discover full symptoms and exactly what went wrong
 - Diagnostics scripts and known error information can be used
- **Escalation**
 - Unable to resolve incident within agreed service hours
 - High priority – notification to managers
 - Functional Escalation – Escalate to the second level support
 - Hierarchic Escalation – “investigation”, “recovery & resolution” steps take too long – Escalates to IT Managers, normally Priority 1 Incidents
 - Exact levels to be agreed, based on SLA targets, embedded in tools
- **Investigation & Diagnosis**
 - Determine the nature of request
 - Support groups to determine what's gone wrong, all activities documented in record to maintain historical information
 - Actions include:
 - Establish what has gone wrong

- Understand order of events
 - Confirm impact, and number of users
 - Identify triggering events
 - Knowledge searches of previous occurrences
- **Resolution & Recovery**
 - Identify resolution – apply and test
 - Specific actions involved:
 - Ask user to do directed activities
 - Service Desk implement centrally or remotely
 - Support groups implement specific recovery actions
 - Third-party supplier / maintainer resolve fault
 - Sufficient testing must be performed – ensure recovery action is complete
 - Incident record must be updated with relevant information and details
 - **Closure**
 - Service Desk check incident fully resolved, users satisfied, agreed to close
 - Service Desk also to:
 - Closure Categorization
 - User Satisfaction Survey
 - Incident Documentation
 - Ongoing or recurring Problem?
 - Formal Closure
 - Rules for re-opening

Key Metrics

Monitor and report to determine effectiveness & efficiency

- total numbers of Incidents
- breakdown of incidents at each stage
- size of current incident backlog
- number and percentage of major incidents
- average cost per Incident etc

Challenges

- Ability to detect incidents early
- Ensuring all incidents are logged
- Availability of information: Problems & Known Errors
- Integration:
 - Assist Incident Management to correctly assess the impact and priority of Incidents and relationships between CI's & history
 - SLM: to correctly assess impact and priority and use defined escalation procedures

5.4.1.1 Roles



Incident Manager

The main duties of the Incident Manager are listed below:



- Drive efficiency & effectiveness
- Produce management information
- Manage work of Incident support staff (1st & 2nd line)

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- Monitor effectiveness of process & recommend improvement
- Develop & maintain Incident Management systems
- Manage Major Incidents
- Develop & maintain the process & procedures

5.4.2. Event Management



Objectives

- To detect and analyze events – make sense of events
- To determine appropriate control action – basis for Operational Monitoring and Control
- To automate Operations Management activities – communicate operational information:
 - Warnings
 - Exceptions
- To provide entry point for execution of processes and activities
- To compare actual performance and behavior against design standards and SLA's

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Basic Concepts

Events can be categorized according to the following symptoms:

- **Indicate regular operation**
 - Notify when scheduled workload has completed
 - User logged into application
 - Email reached intended recipient
- **Indicate an exception**
 - User attempts login with incorrect password
 - Device CPU above utilization threshold
 - PC scan indicated unauthorized software
- **Indicate unusual, but not exceptional, operation**
 - Situation may require close monitoring

5.4.2.1 Roles



Event Manager

It is deemed unnecessary to appoint an Event Manager as events tend to occur in multiple contexts and for many different reasons.

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Event Management activities are delegated to the Service Desk or IT Operations Management.

Technical and Application Management must ensure that the staff are adequately trained and that they have access to the appropriate tools to enable them to perform these tasks.

- **Service Desk**
 - Communicating information - about the type of incident to the relevant Technical or Application Management team and, where appropriate, the user.
 - Investigation and resolution of events - Service Desk escalates to the appropriate Service Operation team(s)
- **Service Design**

Classify events, update correlation engines and ensure that any auto responses are defined
- **Service Transition**

Ensure that events are properly generated and that the defined responses are appropriate
- **Service Operation**

Perform Event Management for the systems under their control. It is unusual for teams to have a dedicated person to manage Event Management, but each manager or team leader will ensure that the appropriate procedures are defined and executed according to the process and policy requirements
- **Technical and Application Management**

Will also be involved in dealing with incidents and problems related to events

5.4.3. Request Fulfilment



Objectives

- Provide channel to request & receive standard services
- Provide information about availability & obtaining services
- Source & deliver components of requested services
- Assist with general information

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Basic Concepts

- Service Requests will frequently recur, so a predefined process flow (a model) can be devised to include the stages needed to fulfil the request,
- Service Requests will usually be satisfied by implementing a Standard Change

5.4.3.1 Roles



The ownership of Service Requests resides with the Service Desk, which monitors, escalates, dispatches and often fulfils the user request.

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- Service Desk & Incident Management staff handles Service requests
- Eventual fulfilment of requests will be undertaken by appropriate Service Operation team(s) or departments and/or by external suppliers, as appropriate

5.4.4. Problem Management



Objectives

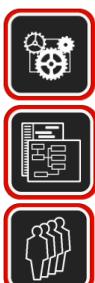
- Manage the lifecycle of all problems
- Prevent problems & resulting incidents
- Eliminate recurring incidents
- Minimize impact of incidents that cannot be prevented

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Basic Concepts

- **Problem Models**
 - Incidents may re-occur because of dormant or underlying problems
 - Creating Known Error record in the KEDB – ensure quicker diagnosis
 - Similar to Incident Models
- **Known Error (Previous discussion)**
Understanding the root cause of an issue/failure, not necessarily having the solution, and recording it for future reference to aid in restoring services more efficiently
- **Known Error Database (Previous discussion)**
Storage for previous knowledge on requests and known errors, and how they were resolved to allow quicker diagnosis if they occur

5.4.4.1 Roles



Problem Manager

- Liaison with all problem resolution groups to ensure swift resolution of problems within SLA targets
- Liaison with suppliers, contractors etc to ensure that third parties fulfill their contractual obligations, especially with regards to resolving problems and providing problem-related information and data
- Ownership & protection of the Known Error Database
- Gatekeeper for the inclusion of all Known Errors
- Formal closure of all Problem records
- Arrange, conduct, document & follow-up all review activities

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5.4.5. Access Management



Objectives

- Provide user rights to enable use of a service or group of services
- Enable the execution of policies and actions

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Basic Concepts

- **Access**
 - Level & extent of functionality or data that a user can use
- **Identity**
 - Unique distinguishing information of an individual, verifies status

- **Rights**
 - Actual settings to allow access (privileges)
- **Services of Service Groups**
 - Access to set of services or group of users, not individual access to separate services
- **Directory Services**
 - Tool to manage access & rights

5.4.5.1 Roles



Access Management is an overlap of Security Management and Availability Management. It is unlikely that an “Access Manager” needs to be appointed, but the policies, practices and procedures must be defined and communicated to other groups and individuals.



- **Service Desk**

The Service Desk acts as an initial filter for access management. It will check validity against authority tables and if passed the Service Desk can then actually grant accesses for simple, lower levels; but will escalate to specific functional groups any access to critical systems or sensitive areas within the company infrastructure.



- **Technical & Applications Management**

Technical and Applications Management play different parts for Access Management throughout the Service Lifecycle.

 - **Service Design** – ensure simplified controls are built in and define abuse counter-measures
 - **Service Transition** – test the designed controls
 - **Service Operations** - carry out access management for systems within their control area and deal with access related Incidents and Problems
- **IT Operations Management**

The IT Operations manager must ensure that Standard Operations Procedures (SOPs) cater for access management issues. They will also collate access data for reporting purposes (including actual access and rejected requests)

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5.5. Functions

5.5.1. Service Desk

5.5.1.1 Role



The Helpdesk is a functional unit that serves as a single-point-of-contact (SPOC) for IT users on a day-by-day basis. It is made up of staff dealing with service events, via telephone calls, web interface, or automatically reported infrastructure events.

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Increase:

- accessibility -> single point of contact for users
- quality and turnaround times of requests

Improve:

- customer service, perception and satisfaction
- teamwork and communications

Reduce negative business impact

Provide more meaningful management information

5.5.1.2 Objectives



- **To quickly restore normal services**
 - SD will do anything to allow the user to return to work satisfactorily

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06-1



- **To log all relevant requests**
 - categorization and prioritization codes will be allocated to the call
- **To provide first-line support**
 - Proper investigation and diagnosis
- **To escalate**
 - Requests unable to resolve
- **To resolve incidents**
- **To keep users informed**
- **To close all resolved requests**

5.5.1.3 Organizational Structures



Local Service Desk

Figure 5-8 illustrates a Local Service Desk

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06-1

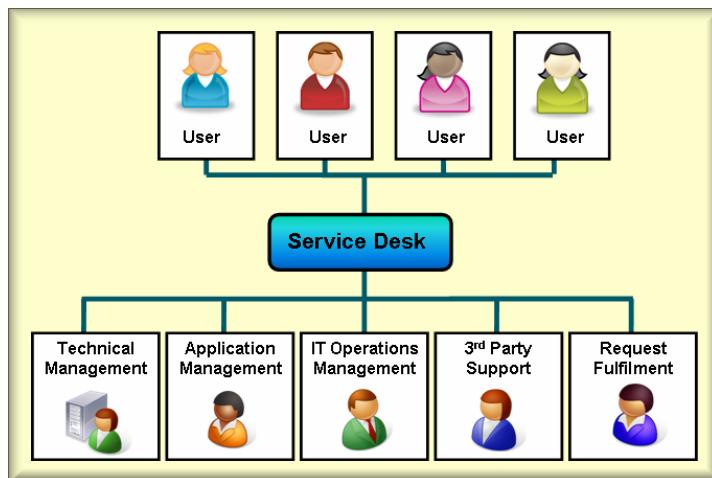


Figure 5-8

- **Characteristics:**
 - Co-located in/around user community
 - Aids communication, clearly visible
 - Can be inefficient and expensive if staff waits to deal with incidents
- **Disadvantages:**
 - Language and cultural / political differences
 - Time Zones
 - Specialized groups
 - Specialized services exist needing specialists
 - Status of users (VIP)

Centralized Service Desk

Figure 5-9 illustrates a Centralized Service Desk

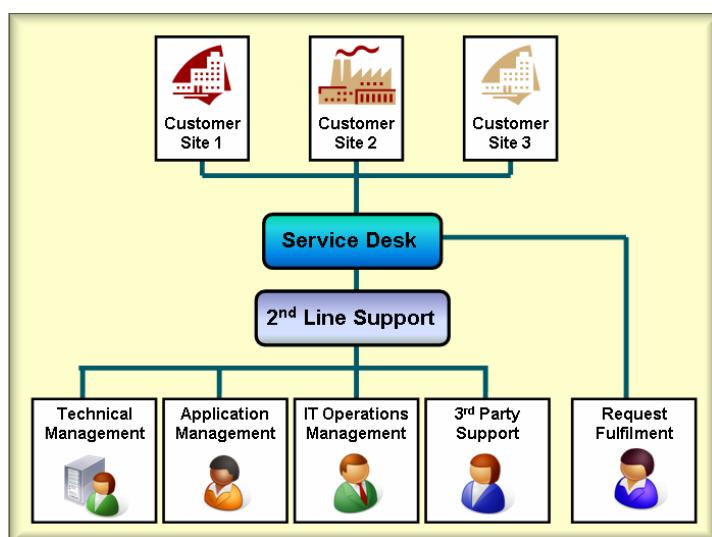


Figure 5-9

- **Characteristics:**
 - Reduce number of service desk by merging into one location
 - More efficient and cost effective – fewer overall staff for higher

- volumes
- Lead to higher skills levels – frequency on occurrence of events
- Need to maintain some ‘local presence’ – physical support

Virtual Service Desk

Figure 5-10 illustrates a Virtual Service Desk

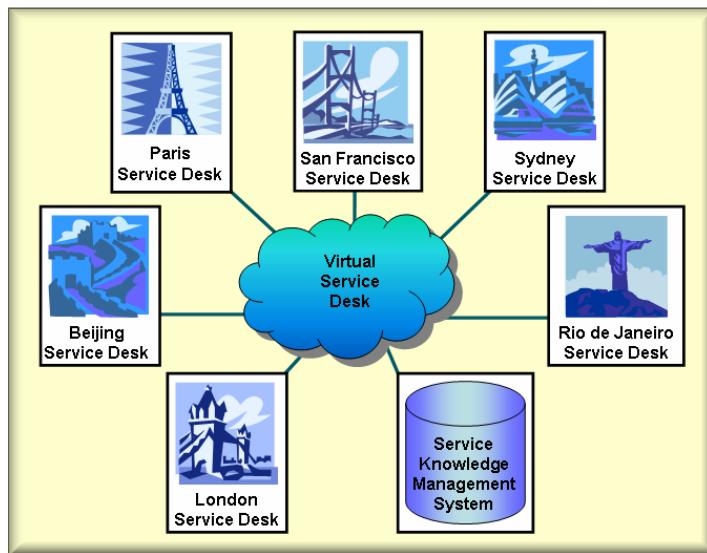


Figure 5-10

- **Characteristics:**
 - Personnel spread or located in a number of geographical or structural locations
 - Technologies and corporate support tools
 - Meet user demand through:
 - Home working
 - Secondary support groups
 - Off-shoring
 - Outsourcing
 - Safeguards required to ensure consistency and uniformity in service quality

Follow the Sun

This is a combination of geographically dispersed service desks, providing a 24hr service at relatively lower cost. It also handles its own incidents during normal work times. Safeguards must be addressed, namely:

- Common processes
- Tools
- Shared databases
- Culture

For example, a Service Desk in Asia-Pacific handles calls during office hours and at the end of this period they hand over responsibility for any open incidents to a European based desk. That desk will handle these calls alongside its own incidents during its standard day and then hand over to a USA based desk – which finally hands back responsibility to the Asia-Pacific desk to complete the cycle.

Specialized groups

- Specific requests can be directly routed to a specialized group
- Faster resolution - greater familiarity and specialist training

Environment

The environment of where the SD is makes a big difference on the staffs morality and effectiveness of resolving incidents.

- Sufficient natural light and overall space
- Adequate acoustic control
- Pleasant surroundings
- Separate rest facilities

5.5.1.4 Staffing



Staffing Levels

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06-1

Ensure correct number of staff to match demand levels. The following factors should be considered:



- Customer service expectations
- Business requirements
- Size, relative age, design and complexity of the service catalogue and infrastructure
- Number of customers and users to support
- Requests Types
- Period of support cover required
- Type of response
- Level of training
- Processes and procedures
- Existing skill levels
- Support technologies

Skill Levels

Ensure correct level and range of skills:

- Basic (high handling, low resolution rate)
- Technical (Low handling, high resolution rate)
- Skill levels are driven by:
 - Target resolution times
 - Complexity of support systems Cost
 - Level of customization or specialization of supported services

Training

Ensure staff's knowledge is current and that they are adequately trained as they are the interface to organization. Introduce a formal induction program for new staff. An ongoing training program can be complimented by having experienced staff 'shadow' others as mentors

Retention

Significant staff turnover (loss) can be disruptive and lead to inconsistency of service. Guard against the Service Desk being used as a stepping stone. Managers should be considerate of their staff's feelings in this high stress environment.

Super Users

Appoint or designate Super Users to act as liaison between IT in general and the Service Desk. These users require additional training and awareness, but could assist in filtering requests and issues. They become an important communication channel that can cascade information from the Service Desk outwards to communities. They can also assist with training, providing support and be involved in release roll-outs

5.5.1.5 Metrics



- Evaluate performance of SD on regular intervals
- Assess health, maturity, efficiency and effectiveness
- Analysis and detailed metrics such as:
 - First-line resolution rate
 - Average time to resolve an incident
 - Average time to escalate an incident
 - Average time to review and close a resolved call
 - The number of calls broken down by time of day and day of week,
 - Percentage of customer or user updates conducted within target times
- Customer Satisfaction Survey

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For example, the total number of calls received by the Service Desk is not in itself an indication of either good or bad performance – and may in fact be caused by events completely outside the control of the Service Desk – for example a particularly busy period for the organization, or the release of a new version of a major corporate system.

5.5.2. Technical Management



Role

Technical Management plays a **dual** role:

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06-2

- **Custodian of technical knowledge and expertise:** Ensures knowledge required to design, test, manage and improve services is identified, developed and refined
- **Provides actual resources to support Service Management Lifecycle:** Ensures resources are effectively trained and developed to design, build, transition, operate and improve technology to deliver services

Objectives

Assists with the planning, implementation and maintenance of a stable infrastructure through:

- Well designed and highly resilient, cost-effective technical topology
- Use of adequate technical skills **to maintain the technical infrastructure**
- Swift use of technical skills **to speedily diagnose and resolve any technical failures**

5.5.3. Application Management



Role

Technical Management plays a **dual** role:

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- **Custodian of technical knowledge and expertise:** Ensures knowledge required to design, test, manage and improve services is identified, developed and refined
- **Provides actual resources to support Service Management Lifecycle:** Ensures resources are effectively trained and developed to design, build, transition, operate and improve technology to deliver

services

Objectives

Assists with the planning, implementation and maintenance of a stable infrastructure through:

- Well designed and highly resilient, cost-effective technical topology
- Use of adequate technical skills **to maintain the technical infrastructure**
- Swift use of technical skills **to speedily diagnose and resolve any technical failures**

5.5.4. IT Operations Management



Role

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- Perform ongoing activities and procedures required:
 - To manage and maintain the IT infrastructure
 - To deliver and support Services at the agreed levels.
- Operations Control – overseas execution and monitoring
 - Console Management - defines central observation and monitoring to exercise monitoring and control activities
 - Job Scheduling - management of routine batch jobs or scripts
 - Backup and Restore – for Technical and Application Management teams or users
 - Print and Output management - collation and distribution of all centralized printing or electronic output
 - Performance of maintenance activities – for Technical or Application Management teams or departments
- Facilities Management
 - Managing physical IT environment,
 - Coordinates large scale consolidation projects
- Executes activities and performance standards
 - Stability of infrastructure and consistency is primary concern
- Part of the process of adding value to the different lines of business and to support the value network

Objectives

- To maintain ‘Status Quo’ to achieve stability
- To regularly scrutinize and improve services
- The swift application of operational skills to diagnose and resolve failures

5.5.5. Functions – Organizational Overlap



The functions illustrated in **Figure 5-11** are necessary to manage the ‘steady state’ operational IT environment.

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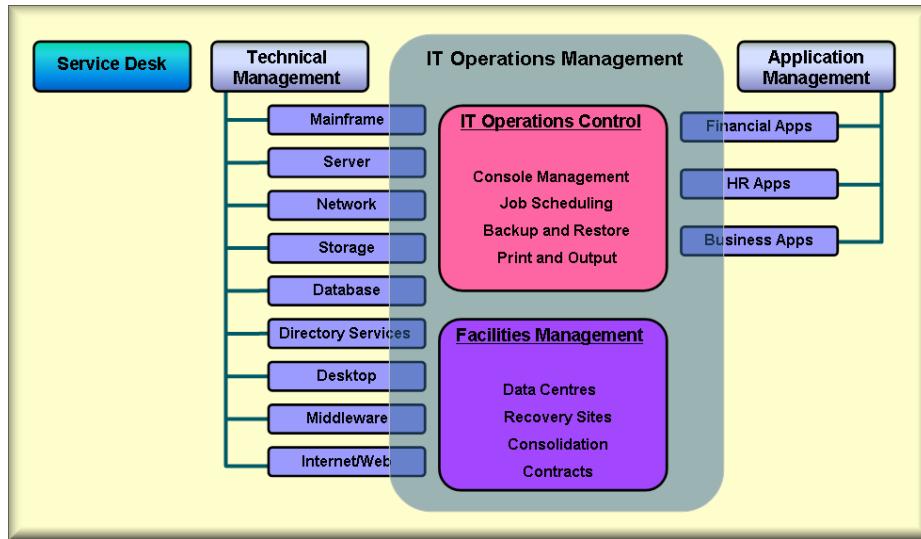


Figure 5-11

Service Desk

- primary point of contact for users
- separate from the other Service Operation functions because it will utilise the functions of say technical management or application management depending on the type of call

Technical Management

- provides detailed technical skills and resources to support the ongoing operation of the IT Infrastructure
- Even if activities are part of Technical Management, the staff who performs these activities are logically part of IT Operations

IT Operations Management

Overlaps with Technical and application management

- **IT Operations Control** - Ensures that routine operational tasks are carried out.
- **Facilities Management** - Manage the physical IT environment

Application Management

- Managing applications throughout their lifecycle.
- Even if activities are part of Application Management, the staff who performs these activities are logically part of IT Operations

**“Mere change is not growth. Growth is the synthesis of
change and continuity, and where there is no
continuity there is no growth.”**

(C. S. Lewis)

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6. Continual Service Improvement

6.1. Continual Service Improvement in the Service Lifecycle

6.1.1. Goal



To continually align & re-align IT services to changing business needs by identifying & implementing improvements to IT Services that support Business Processes.

*ITILFND02
02-10*

CSI is about looking for ways to improve:

- process effectiveness
- efficiency
- cost effectiveness

Consider the following saying about measurements and management:

- You cannot manage what you cannot control.
- You cannot control what you cannot measure.
- You cannot measure what you cannot define.

THUS: Define → Measure → Control → Manage!!!

If ITSM processes are not implemented, managed and supported using clearly defined goals, objectives, and relevant measurements that lead to actionable improvements, the business will suffer. Depending upon the criticality of a specific IT Service to the business, the organization could lose productive hours, experience higher costs, loss of reputation or, perhaps, even a business failure.

That is why it is critically important to understand what to measure, why it is being measured and carefully define the successful outcome.

6.1.2. Objectives



To review, analyze & make recommendations on improvement opportunities in each lifecycle phase: Service Strategy, Service Design, Service Transition and Service Operations.

*ITILFND02
02-10*

- Review and analyze Service Level Achievement results
- Identify and implement individual activities to improve IT Service quality and improve the efficiency and effectiveness of enabling ITSM processes
- Improve cost effectiveness of delivering IT Services without sacrificing customer satisfaction
- Ensure applicable quality management methods are used to support continual improvement activities

6.1.3. Business Value



- Increased organizational competency
- Integration between people & processes
- Reduction of redundancy increases business throughput
- Minimize lost opportunities
- Assure regulatory compliance which minimize costs & reduce risk
- Ability to react to change rapidly

*ITILFND03
03-10*

6.2. Generic Concepts & Definitions

6.2.1. The role of IT Governance across the Service Lifecycle



"IT is a service business"

ITILFND03
03-5

Existing internal IT organizations must transform themselves into effective and efficient IT service providers or they will cease to be relevant to the business and, soon after, cease to exist. This continual and unceasing drive toward greater business value with greater internal efficiency is at the heart of CSI.

- **Enterprise governance:**
Considers the whole picture - ensure that strategic goals are aligned & good management is achieved
- **Corporate governance:**
Promoting corporate fairness, transparency and accountability
- **IT governance:**
Responsibility of the board of directors and executive management
 - "Integral part of enterprise governance and consists of the leadership, organizational structures and processes that ensure that the organization's IT sustains and extends the organization's strategies and objectives"
- **Governance Models:**
 - Basel II – Governance for Banking
 - SOX – Sarbanes Oxley – Corporate Governance (USA)
 - CLERP 9 –Corporate Governance (Australia)*
 - King Report – Corporate Governance (South Africa)

*CLERP: Corporate Law Economic Reform Program

6.3. Key Principles & Models

6.3.1. PDCA Model



Figure 6-1 shows the four key stages of the Deming Cycle, which are 'Plan, Do, Check, Act' after which a phase of consolidation prevents the 'Circle' from 'rolling back down the hill'. The CSI goal in using the Deming Cycle is steady, ongoing improvement.

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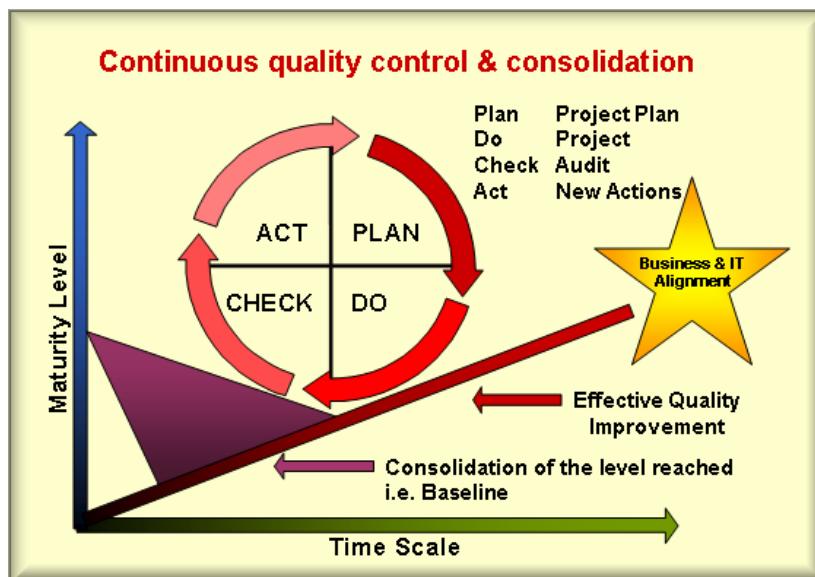


Figure: 6-1

The Deming Cycle is critical at two points in CSI:

- **Implementation** of CSI initiatives and for the **application** of CSI to services and service management processes.
 - At **implementation**, all four stages of the Deming Cycle (Plan, Do, Check, Act) are used.
 - With **ongoing improvement**, CSI draws on the Check and Act stages to monitor, measure, review and implement initiatives.

The cycle is underpinned by a process-led approach to management where defined processes are in place, the activities are measured for compliance to expected values and outputs are audited to validate and improve the process.

Planning for Improvement Initiatives (Plan)

Establishes goals for improvement : Perform a 'Gap Analysis', then define the action steps to close any gaps. Establish and implement measures to assure that the gaps have been closed and benefits achieved

Implementation of Improvement Initiative (Do)

Development & implementation of a project: Close the identified gaps by implementing the improvements to Service Management processes. Monitor, measure and review services

Management Processes (Check) –

Compare implemented improvements to the measures of success: Monitor, measure and review that the CSI objectives and plans are being

achieved

Improvement (Act)

This stage requires implementing the actual Service and Service Management process improvements. A decision to keep the status quo, close the gap or adding necessary resources needs to be made to determine if further work is required to close remaining gaps, allocation of resources necessary to support another round of improvement. Project decisions at this stage are the input for the next round of the PDCA cycle, closing the loop as input in the next Plan stage.

Too many people and too many organizations are looking for the “big-bang” approach to improvements. It is important to understand that a succession or series of small planned increments of improvements will not stress the infrastructure as much and will eventually amount to a large amount of improvement over time.

6.3.2. CSI Model



The improvement process can be summarized in six steps, as illustrated in Figure 6-2:

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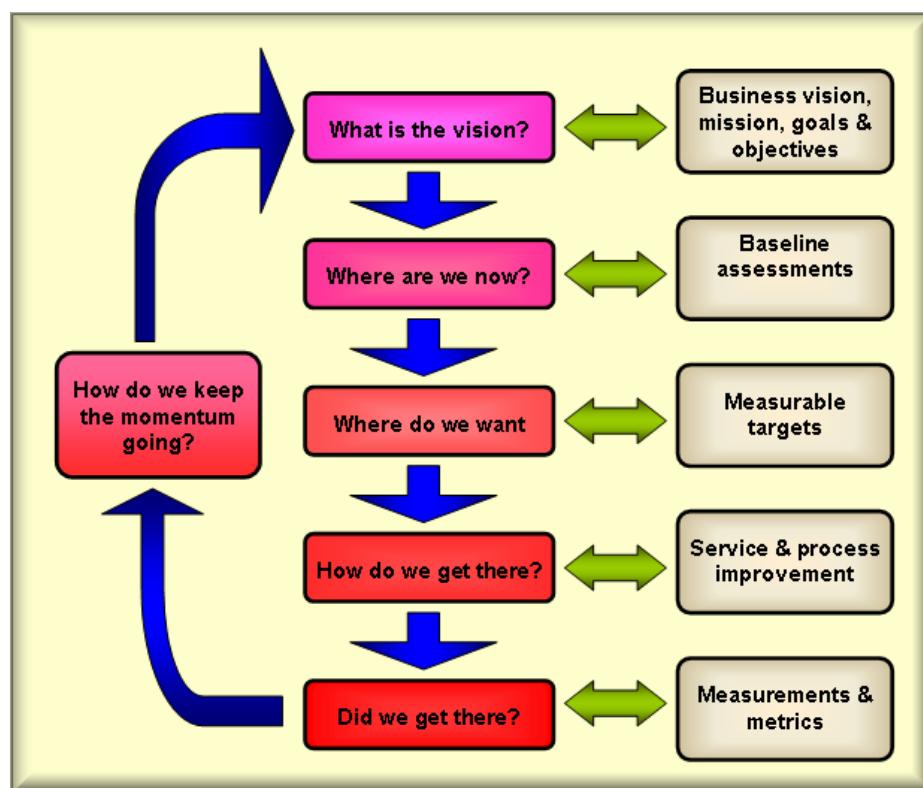


Figure: 6-2

Embrace vision

The vision should align the business and IT strategies.

Assess current situation

This baseline assessment (snapshot of where the organization is right now) is an analysis of the current position in terms of the business,

organization, people, process and technology.

Understand & agree on improvement priorities

The full vision may be years away but this step provides specific goals and a manageable timeframe.

Detail CSI plan to achieve higher quality

Detailing the CSI plan to achieve higher quality Service provision by implementing ITSM processes and developing

Verify that measurements & metrics are in place

Verify that measurements and metrics are in place to ensure that milestones were achieved, processes compliance is high, and business objectives and priorities were met by the level of service.

Ensure that the momentum for quality improvement is maintained

Assuring that changes become embedded in the organization.

CSI Elements

Business Value

- **Role of measurement for Continual Service Improvement**
Service Measurement is a key process of CSI, responsible for measurement, analysis and reporting on IT Services and ITSM results.
- **Why Measure?**
 - **To validate** - monitoring and measuring to validate previous decisions
 - **To direct** - monitoring and measuring to set direction for activities in order to meet set targets. It is the most prevalent reason for monitoring and measuring
 - **To justify** - monitoring and measuring to justify, with factual evidence or proof, that a course of action is required
 - **To intervene** - monitoring and measuring to identify a point of intervention including subsequent changes and corrective actions
- **3 Questions**
The four basic reasons (**Figure 6-3**) to monitor and measure lead to three key questions:
 - “Why are we monitoring and measuring?”
 - “When do we stop?”
 - “Is anyone using the data?”

To answer these questions, it is important to identify which of the above reasons is driving the measurement effort. Too often, we continue to measure long after the need has passed. Every time you produce a report you should ask, “Do we still need this?”

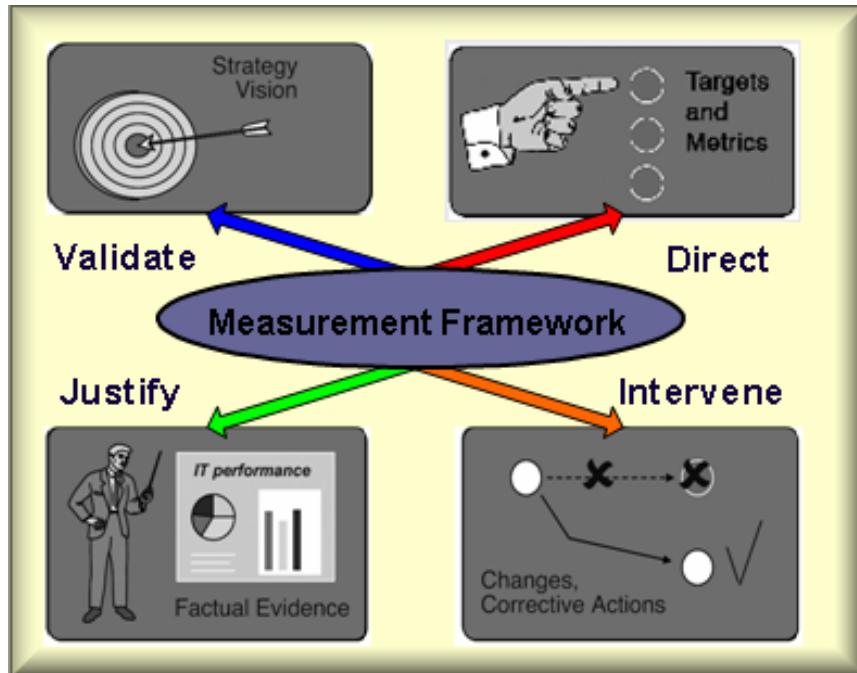


Figure: 6-3

Baselines

An important beginning point for highlighting improvement is to establish baselines as markers or starting points for later comparison. Baselines are also used to establish an initial data point to determine if a Service or process needs to be improved.

It must be established at each level:

- strategic goals and objectives,
- tactical process maturity
- operational metrics and
- KPIs

If it is not initially established the first measurement efforts will become the baseline.

That is why it is essential to collect data at the outset (**Figure 6-4**), even if the integrity of the data is in question. It is better to have data to questions than to have no data at all.

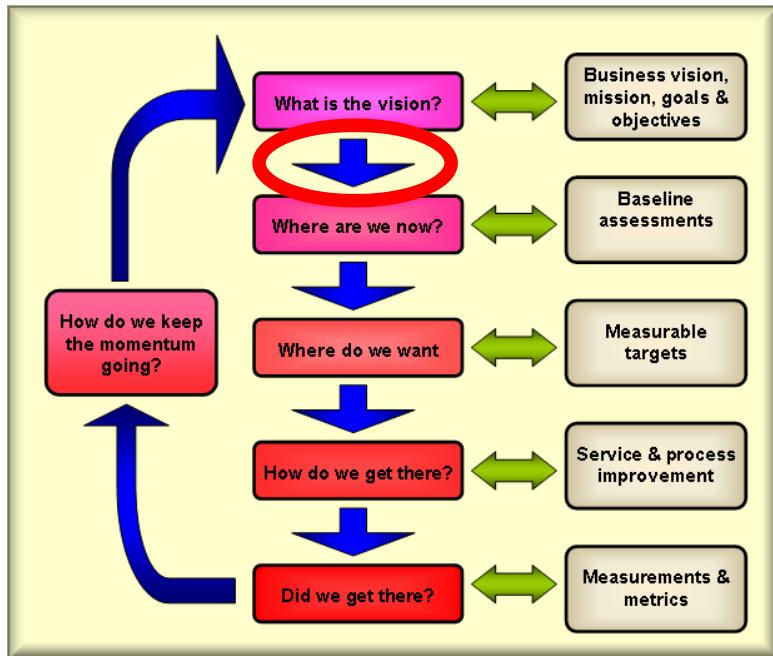


Figure: 6-4

Metrics

There are three types of CSI metrics:

- **Technology metrics** – these metrics are often associated with component and application based metrics such as performance, availability etc.
- **Process metrics** – these metrics are captured in the form of CSF's, KPI's and activity metrics for the Service Management processes. These metrics can help determine the overall health of a process.
- **Service Metrics** – these metrics are the results of the end-to-end service. Component metrics are used to compute the Service Metrics.

KPI's answers quality, performance, value and compliance of following the process.

CSI would use these metrics as input in identifying improvement opportunities for each process.

6.4. Continual Service Improvement Processes

6.4.1. 7 Step Improvement Process



Figure 6-5 illustrates the 7 Step Improvement Process.

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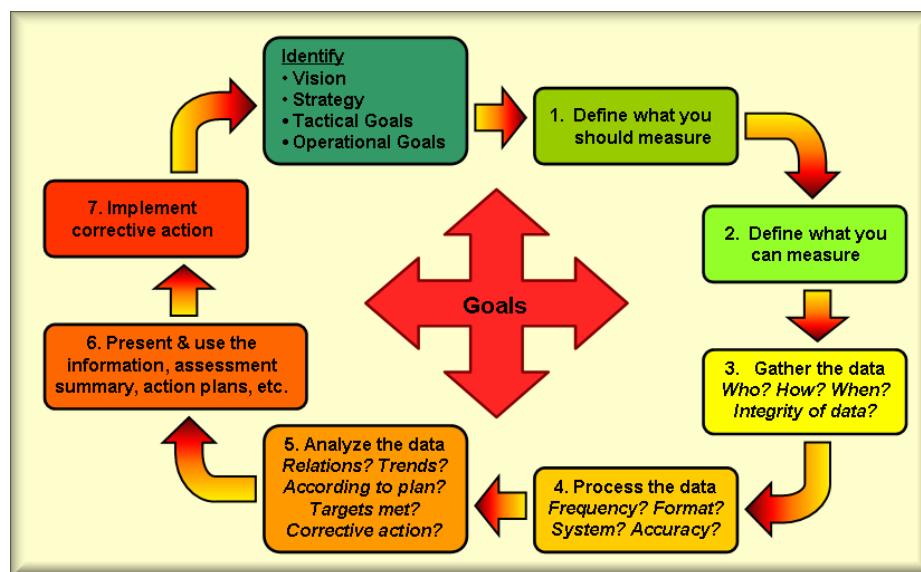


Figure: 6-5

Steps 1 and 2:

Strategic, tactical and operational goals to support measuring and CSI activities:

- Defines service management processes
- Defines existing technology and capability
- iterative during the rest of the activities

Steps 3, 4 and 5:

Relates to gathering data, processing the data into the required format and analyzing the results to look for answers to questions

Steps 6

Takes the knowledge and present it, turn it into wisdom by utilizing reports, monitors, action plans, reviews, evaluations and opportunities

Steps 7

Use the knowledge gained to optimize, improve and correct services.

6.4.1.1 Step 1 - Define What You Should Measure



Define What You Should Measure

Talk to the business, the customers and to IT management. Utilize the service catalogue as your starting point as well as the service level requirements of the different customers. This is the place where you start with the end in mind. In a perfect world, what should you measure? What is important to the business?

Compile a list of what you should measure.

What is important to the business?

- At the onset of the Service lifecycle, Service Strategy and Service Design should have identified this information.

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- CSI can then start its cycle all over again at “Where Are We Now?”
- This identifies the ideal situation for both the Business and IT.

Inputs:

- Service level requirements and targets
- Service Catalog
- Vision and mission statements
- Corporate, divisional and departmental goals and objectives
- Legislative requirements
- Governance requirements
- Budget cycle
- Balanced Scorecard

Roles:

Individuals involved with decision making from IT and the business who understand the internal and external factors that influence the necessary elements that should be measured to support the business, governance and, possibly, regulatory legislation (**Figure 6-6**).

Nature of Activities	Skills
Higher management level	Managerial skills
High variation	Communication skills
Action oriented	Ability to create, use (high level) concepts
Communicative	Ability to handle complex/uncertain situations
Focused on future	Education and experience

Figure: 6-6

6.4.1.2 Step 2 - Define What You Can Measure



“Where Do We Want To Be?”

By identifying the new Service level requirements of the business, the IT capabilities (identified thru Service Design and implemented via Service Transition) and the available budgets, CSI can conduct a gap analysis to identify the opportunities for improvement as well as answering the question “How Will We Get There?” Perform a gap analysis between the two lists and report findings to the business, customers & IT Management.

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Typical tools will include:

- service management tools
- monitoring tools
- reporting tools
- investigation tools
- others

It is possible that new tools are required or that configuration or customization is required to be able to measure what is required.



Compile a list of what each tool can currently measure

- Perform a gap analysis between the two lists
- Report findings to the business, customers & IT Management

Where do you actually find the information?

- within each process, procedure and work instruction
- look at existing reports and databases

Inputs:

- List of what you should measure
- Process flows
- Procedures
- Work instructions
- Technical and user manuals from existing tools
- Existing reports

Role:

Individuals involved with providing the Service (internal and external providers) who understand the capabilities of the measuring processes, procedures, tools and staff (**Figure 6-7**).

Nature of Activities	Skills
Intellectual effort	Analytical skills
Investigative	Modelling
Medium to high variation	Inventive attitude
Goal oriented	Education
Specialized staff and business management	Programming experience

Figure: 6-7

6.4.1.3 Step 3 – Gathering the Data



“Did We Get There?”

Data must first be gathered (through Service Operations), processed and analyzed. Data is gathered based on the vision, mission, goals and objectives. Data processing, aligned with CSFs and KPIs takes place before the information is analyzed to identify gaps, trends, along with reasons before it is presented to the business.

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This activity needs to clearly define the following:

- Who is responsible for monitoring and gathering the data?
- How the data will be gathered?
- When and how often is the data gathered?
- Criteria to evaluate the integrity of the data

Gathering data is defined as the act of monitoring and data collection.

Gathering data requires having some form of monitoring in place.

- Monitoring could be executed using technology such as application, system, and component monitoring tools or even be a manual process for certain tasks.
- Monitoring will focus on the effectiveness of a service, process, tool, organization or CI.

Three types of metrics are used in support of CSI and other activities

- **Technology metrics** – these metrics are often associated with component and application based metrics such as performance, availability etc.
- **Process metrics** – these metrics are captured in the form of CSF's, KPI's and activity metrics for the Service Management processes. These metrics can help determine the overall health of a process. Four key questions that KPI's can help answer are around quality, performance, value and compliance of following the process. CSI would use these metrics as input in identifying improvement opportunities for each process.
- **Service Metrics** – these metrics are the results of the end-to-end service. Component / technology metrics are used to compute the Service Metrics. .

What do you actually measure?

- identified data both needed and measurable

Health of Service Management

- **Process compliance** - Are the processes being followed? Process compliance seeks to monitor the compliance of the IT organization to the new or modified Service management processes and also the use of the authorized Service management tool that was implemented
- **Quality** - How well are the processes working? Monitoring of the individual or key activities as they relate to the objectives of the end-to-end process
- **Performance** - How fast or slow? Monitoring of the process efficiency such as throughput or cycle times
- **Value** - Is this making a difference? Monitoring for the effectiveness and perceived value of the process to the stakeholders and the IT staff executing the process activities

Inputs:

- New Business Requirements
- Existing SLAs
- Existing monitoring and data capture capability
- Availability and Capacity Plans
- Service Improvement Programs
- Previous trend analysis reports
- List of what you should measure
- List of what you can measure
- Gap analysis report
- List of what to measure
- Customer satisfaction surveys

Process:

Figure 6-8 illustrates the process of gathering data.

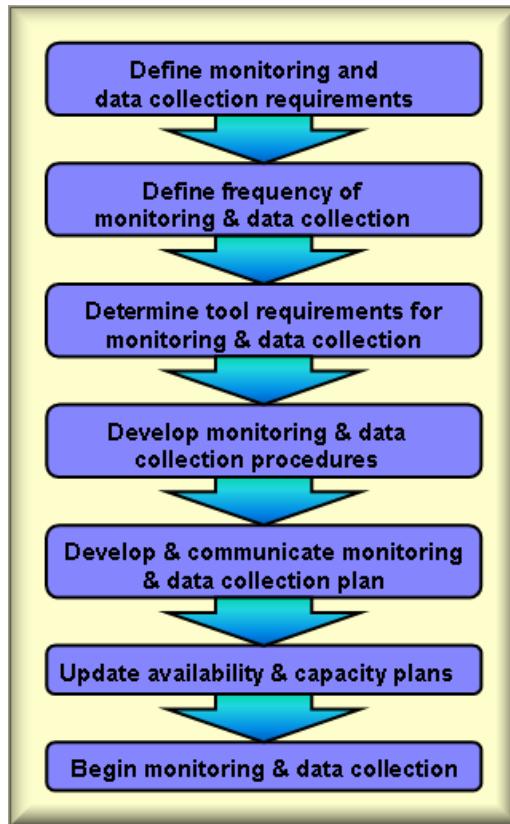


Figure 6-8

Outputs:

- Updated Availability and Capacity Plans
- Monitoring procedures
- Identified tools to use
- Monitoring plan
- Input on IT capability
- Collection of data
- Agreement on the integrity of the data and that it makes sense

Roles:

Individuals involved in day-to-day process activities within the Service Transition and Service Operations lifecycle phases (Figure 6-9).

Nature of Activities	Skills
Procedural	Accuracy
Routine tasks	Precision
Repetitive	Applied training
Automated	Technical experience
Clerical level	
Low variation	
Standardized	

Figure 6-9

6.4.1.4 Step 4 – Processing the Data

Convert the data into the required format and for the required audience. Follow the trail from metric to KPI to CSF, all the way back to the vision if necessary as illustrated in Figure 6-10).

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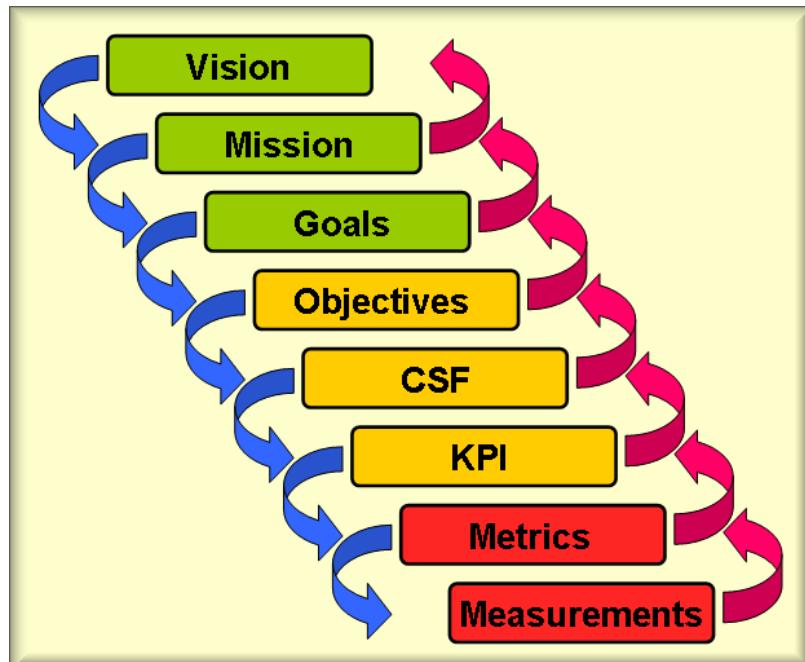


Figure 6-10

“Did We Get There?”

Data must first be gathered (through Service Operations), processed and analyzed. Data is gathered based on the vision, mission, goals and objectives. Data processing, aligned with CSFs and KPIs takes place before the information is analyzed to identify gaps, trends, along with reasons before it is presented to the business.

Key questions to be addressed in the processing activity are:

- **What is the frequency of processing the data?** This could be hourly, daily, weekly, or monthly. When introducing a new Service or Service management processes it is a good idea to monitor and process in shorter intervals than longer intervals. How often analysis and trending activities take place will drive how often the data is processed.
- **What format is required for the output?** This is also be driven by how analysis is done and ultimately how the information is used.
- **What tools and systems can be used for processing the data?**
- Evaluation of the accuracy of the processed data?

There are two aspects to data gathering:

- **Automated:** More accurate
- **Manual:** It is important for staff to properly document their compliance activities, to update logs and records. Common excuses are that people are too busy, that this is not important, or that it is not their job. On going communication about the benefits of performing “administrative” tasks is of utmost importance. Tying these administrative tasks to job performance is one way to alleviate this issue.

Inputs:

- Data collected through monitoring
- Reporting requirements
- SLAs
- OLAs
- Service Catalog
- List of metrics, KPI, CSF, objectives and goals
- Report frequency
- Report template

Process:

Figure 6-8 illustrates the processing of data, flowing from the previous process.

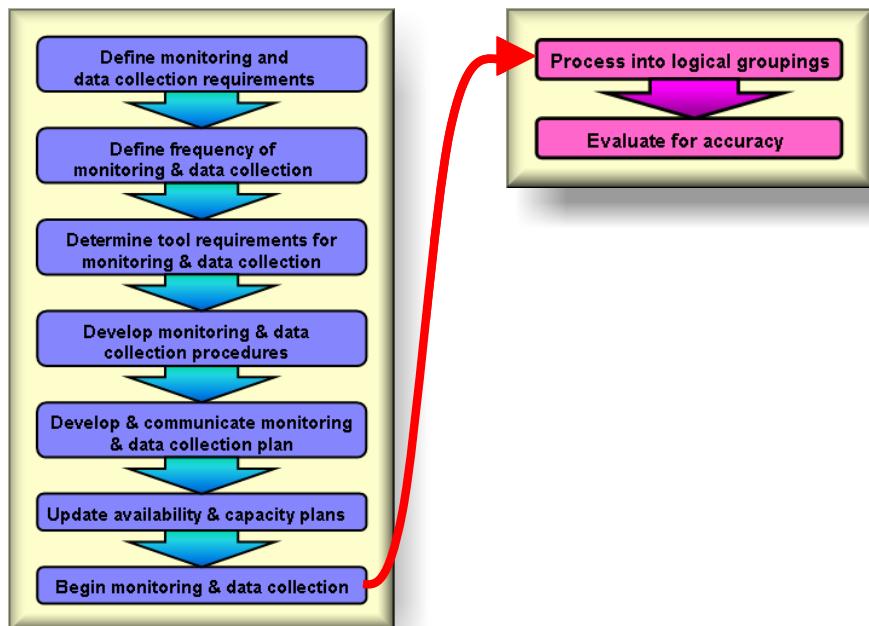


Figure 6-11

Roles:

Individuals involved in day-to-day process activities within the Service transition and Service operations lifecycle phases (**Figure 6-12**).

Nature of Activities	Skills
Automated	Numerical skills
Procedural	Methodical
Structures	Accurate
Mechanistic	Applied training
Medium variation	Programming experience
Specialized staff	Tool experience

Figure 6-12

6.4.1.5 Step 5 – Analyzing the Data



“Did We Get There?”

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Data must first be gathered (through Service Operations), processed and analyzed. Data is gathered based on the vision, mission, goals and objectives. Data processing, aligned with CSFs and KPIs takes place before the information is analyzed to identify gaps, trends, along with reasons before it is presented to the business.

When analyzing data, it is important to seek answers to questions such as:

- Are operations running according to plan? – this could be a project plan, financial plan, availability, capacity or even IT Service Continuity Management plan.
- Are targets defined in SLAs or the Service Catalogue being met?
- Are there underlying structural problems that can be identified?
- Are corrective actions required?
- Are there any trends? – if so then what are the trends showing?
- Are they positive trends or negative trends?
- What is leading to/causing the trends?

Roles

Individuals involved with providing the Service (internal and external providers) who understand the capabilities of the measuring processes, procedures, tools and staff.

Nature of Activities	Skills
Intellectual effort	Analytical skills
Investigative	Modelling
Medium to high variation	Inventive attitude
Goal oriented	Education
Specialized staff and business management	Programming experience

Figure 6-13

6.4.1.6 Step 6 – Presenting & Using the Information



"Did We Get There?"

The information must be formatted and communicated in whatever way necessary to present to the various stakeholders as an accurate picture of the results of the improvement efforts. Knowledge is presented to the business in a form and manner that reflects their needs and assists them in determining the next steps.

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Presenting the knowledge:

The final stage is to take our knowledge and present it; that is, turn it into wisdom by utilizing, reports, monitors, action plans, reviews, evaluations and opportunities. Consider the target audience, make sure that you identify exceptions to the service, benefits that have been revealed, or can be expected. Data gathering occurs at the 4th level of an organization. Format this data into knowledge that all levels can appreciate and use to gain insight into their needs and expectations.



Identify:

- Exceptions to the service
- Benefits that have been revealed (or can be expected)

There are usually three distinct audiences:

- **The Business** - Their real need is to understand whether IT delivered the Service they promised at the levels they promised and if not, what corrective actions are being implemented to improve the situation.
- **Senior (IT) Management** - This group is often focused on the results surrounding CSFs and KPIs such as, customer satisfaction, actual vs. plan, costing and revenue targets. Information provided at this level helps determine strategic and tactical improvements on a larger scale. Senior (IT) Management often wants this type of information provided in the form of a Balanced Scorecard or IT Scorecard format to see the big picture at one glance.
- **Internal IT** - This group is often interested in KPIs and activity metrics that help them plan, coordinate, schedule and identify incremental improvement opportunities.

Roles:

Individuals involved with providing the Service (internal and external providers) who understand the capabilities of the Service and the underpinning processes and possess good communication skills. Key personnel involved with decision making from both IT and the Business (**Figure 6-14, next page**).

Nature of Activities	Skills
Higher management level	Managerial skills
High variation	Communication skills
Action oriented	Ability to create, use (high level) concepts
Communicative	Ability to handle complex/uncertain situations
Focused on future	Education and experience

Figure 6-14

6.4.1.7 Step 7 – Implementing Corrective Action



Use the knowledge gained

To optimize, improve and correct Services. Managers identify issues and present solutions. The corrective actions that need to be taken to improve the Service are communicated and explained to the organization.

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Prioritize improvement activities.

Based on goals, objectives, and types of Service breaches, an organization needs to Improvement initiatives can also be externally driven by regulatory requirements, change in competition, or even political decisions.



Improve Service and/or Service Management process

After a decision to improve a Service and/or Service management process is made, then the Service Lifecycle continues.

Build or modify Service Lifecycle phase

Each Service Lifecycle phase requires resources to build or modify the Services and/or Service management processes:

- potential new technology or modifications to existing technology
- potential changes to KPIs and other metrics and possibly even new or modified OLAs / UCs to support SLAs

Following this step the organization establishes a new baseline and the cycle begins anew. While these seven steps of measurement appear to form a circular set of activities, in fact, they constitute a knowledge spiral. In actual practice, knowledge gathered and wisdom derived from that knowledge at one level of the organization becomes a data input to the next.

Reporting

Understanding the order your intended audience occupies and their drivers helps you present the issues and benefits of your process (**Figure 6-15**).

- **At the highest level** of the organization are the strategic thinkers. Reports need to be short, quick to read and aligned to their drivers.
- **The Second Order** consists of Vice Presidents and Directors. Reports can be more detailed, but need to summarize findings over time. Identifying how processes support the business objectives, early warning around issues that place the business at risk, and alignment to existing measurement frameworks that they use are strong methods you can use to sell the process benefits to them.
- **The Third Order** consists of Managers and High Level Supervisors. Compliance to stated objectives, overall team and process performance, insight into resource constraints and continual improvement initiatives are their drivers. Measurements and reports need to market how these are being supported by the process outputs.
- **Lastly at the Fourth level** of the Hierarchy are the staff members and team leaders. At a personal level, the personal benefits need to be emphasized. Therefore metrics that show their individual performance, provide recognition of their skills (and gaps in skills) identifying training opportunities are essential in getting these people to participate in the processes willingly.

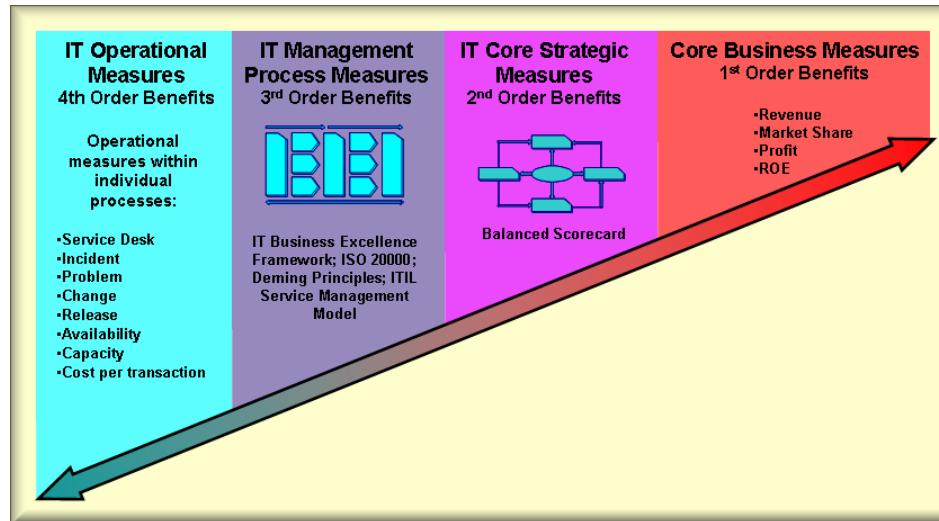


Figure 6-15

Continual Service Improvement is an ongoing activity of:

- monitoring and gathering data
- processing the data into logical groupings
- analyzing the data for meeting targets
- identifying trends
- identifying improvement opportunities

An organization can find improvement opportunities throughout the entire Service Lifecycle.

An IT organization does not need to wait until a Service or Service management process is transitioned into the Operations area to begin identifying improvement opportunities.

Improvements can be incremental in nature but also require a huge commitment to implement a new Service or meet new business requirements.

CSI commitment requires:

- ongoing attention,
- a well thought out plan,
- consistent attention to monitoring,
- analyzing and reporting results with an eye toward improvement

Roles

Individuals involved with providing the Service, both internal and external (Figure 6-16).

Nature of Activities	Skills
Intellectual effort	Analytical skills
Investigative	Modelling
Medium to high variation	Inventive attitude
Goal oriented	Education
Specialized staff and business management	Programming experience

Figure 6-16

“In summary, the best way to learn is to simply jump in and DO something with it.”

(Anonymous)

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7. Conclusion

7.1. Acronyms

AMIS	Availability Management Information System
CI	Configuration Item
CMDB	Configuration Management Database
CMIS	Capacity Management Information System
CMMI	Capability Maturity Model Integration
CMS	Configuration Management System
CSF	Critical Success Factor
CSI	Continual Service Improvement
DIKW	Data, information, knowledge and wisdom
DML	Definitive Media Library
ISO	International Standards Organization
IT	Information Technology
ITIL®	IT Infrastructure Library®
ITSM	IT Service Management
KEDB	Known Error Database
OLA	Operational Level Agreement
ROI	Return on Investment
SACM	Service Asset and Configuration Management
SCM	Service Capacity Management
SD	Service Design
SDP	Service Design Package
SKMS	Service Knowledge Management System
SLA	Service Level Agreement
SLM	Service Level Management
SO	Service Operation
SOA	Service oriented architecture
SS	Service Strategies
ST	Service Transition
TCO	Total Cost of Ownership
VOI	Value on Investment