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Best Management Practice
Portfolio Product

An Introductory Overview of ITIL® 2011

BEST MANAGEMENT PRACTICE PRODUCT

ITIL® OFFICIAL PUBLISHER

Aligned to the 2011 editions

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An Introductory Overview
of ITIL® 2011

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Acknowledgements

About this guide

ITIL® provides a framework of best-practice guidance for IT service management, and since its creation, ITIL has grown to become the most widely accepted approach to IT service management in the world.

This pocket guide has been designed as an introductory overview for anyone who has an interest in or a need to understand more about the objectives, content and coverage of ITIL. While this guide provides an overview, it is not designed to replace the official guidance, details of which are provided below and in the section headed 'Further guidance'.

This guide describes the key principles of IT service management and provides a high-level overview of each of the core publications and associated lifecycle phases within ITIL:

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

An overview of the qualifications scheme is also included.

The guidance contained within this pocket guide is neither definitive nor prescriptive, but is based on ITIL best practice. The guidance in the ITIL publications is applicable generically and is of benefit to all IT organizations irrespective of their size or the technology in use. It is neither bureaucratic nor unwieldy if utilized sensibly and in full recognition of the business needs of the organization.

1   Introduction

It has become increasingly recognized that information is the most important strategic resource that any organization has to manage. Key to the collection, analysis, production and distribution of information within an organization is the quality of the IT services provided to the business. It is essential that we recognize that IT services are crucial, strategic, organizational assets. Therefore organizations must invest appropriate levels of resource in the support, delivery and management of these critical IT services and the IT systems that underpin them. However, these aspects of IT are often overlooked or only superficially addressed within many organizations.

Key issues facing many of today's senior business managers and IT managers are:

- Planning IT and business strategy
- Integrating and aligning IT and business goals
- Implementing continual improvement
- Measuring the IT organization's effectiveness and efficiency
- Optimizing costs and the total cost of ownership
- Achieving and demonstrating return on investment
- Demonstrating the business value of IT
- Developing partnerships and relationships between business and IT
- Improving project delivery success
- Outsourcing, insourcing and smart sourcing
- Using IT to gain competitive advantage
- Delivering the business-justified IT services (i.e. what is required, when required and at an agreed cost)
- Managing constant business and IT change
- Demonstrating appropriate IT governance.

2   Introduction

The challenges for IT managers are to coordinate and work in partnership with the business to deliver high-quality IT services. This has to be achieved while adopting a more business- and customer-oriented approach to the delivery of services and cost optimization.

The primary objective of service management is to ensure that IT services aligned with the business needs and actively support them. It is imperative that IT services underpin the business processes, but it is also increasingly important that IT acts as an agent for change to facilitate business transformation.

All organizations that use IT depend on IT to be successful. If IT processes and IT services are implemented, managed and supported in the appropriate way, the business will be more successful, suffer less disruption and loss of productive hours, reduce costs, increase revenue, improve public relations and achieve its business objectives.

ITIL provides guidance throughout the service lifecycle to help senior business managers and IT managers achieve the objectives of service management and address the key issues they face in a systematic way.

ITIL guidance is structured in five lifecycle phases. Each phase is described in one of the core ITIL publications, and is presented in each key chapter of this guide, as follows:

- **Chapter 4** outlines service strategy. The achievement of strategic goals or objectives requires the use of strategic assets. The guidance shows how to transform service management into a strategic asset.
- **Chapter 5** outlines service design. The chapter contains guidance on designing IT services, along with the governing IT practices, processes and policies, to realize the strategy and

facilitate the introduction of services into the live environment, ensuring quality service delivery, customer satisfaction and cost-effective service provision.

- **Chapter 6** outlines service transition. It comprises guidance for transitioning new and changed services into operation, ensuring the requirements of service strategy, encoded in service design, are effectively realized in service operation while controlling the risks of failure and disruption.

- **Chapter 7** outlines service operation. The chapter gives guidance on achieving effectiveness and efficiency in the delivery and support of services to ensure value for the customer and the service provider. Strategic objectives are ultimately realized through service operation.

- **Chapter 8** outlines continual service improvement. It gives guidance for creating and maintaining value for customers through the better design, introduction and operation of services, linking improvement efforts and outcomes with service strategy, service design, service transition and service operation.

2   What is service management?

To understand what service management is, we need to understand what services are, and how service management can help service providers to deliver and manage these services.

> **Definition: service**
>
> A means of delivering value to customers by facilitating outcomes customers want to achieve without the ownership of specific costs and risks.

A simple example of a customer outcome that could be facilitated by an IT service might be: 'Sales people spending more time interacting with customers' facilitated by 'a remote access service that enables reliable access to corporate sales systems from sales people's laptops'.

The outcomes that customers want to achieve are the reason why they purchase or use the service. The value of the service to the customer is directly dependent on how well it facilitates these outcomes.

Service management is what enables a service provider to understand the services it is providing, to ensure that the services really do facilitate the outcomes its customers want to achieve, to understand the value of the services to its customers, and to understand and manage all of the costs and risks associated with those services.

Definition: service management

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

These 'specialized organizational capabilities' are described in this pocket guide. They include all of the processes, methods, functions, roles and activities that a service provider uses to enable it to deliver services to its customers.

Service management is concerned with more than just delivering services. Each service, process or infrastructure component has a lifecycle, and service management considers the entire lifecycle from strategy through design and transition to operation and continual improvement.

The inputs to service management are the resources and capabilities that represent the assets of the service provider. The outputs are the services that provide value to the customers.

Effective service management is itself a strategic asset of the service provider, enabling it to carry out its core business of providing services that deliver value to customers by facilitating the outcomes customers want to achieve.

Adopting best practice can help a service provider to create an effective service management system. Best practice is simply doing things that have been shown to work and to be effective. Best practice can come from many different sources, including public frameworks (such as ITIL, COBIT and CMMI), standards (such as ISO/IEC 20000 and ISO 9000), and proprietary knowledge of people and organizations.

3   What is ITIL?

ITIL is a public framework that describes best practice in IT service management. It provides a framework for the governance of IT, and the management and control of IT services. It focuses on the continual measurement and improvement of the quality of IT service delivered, from both a business and a customer perspective. This focus is a major factor in ITIL's worldwide success and has contributed to its prolific usage and to the key benefits obtained by those organizations deploying the techniques and processes throughout their organizations. Some of these benefits include:

- Increased user and customer satisfaction with IT services
- Improved service availability, directly leading to increased business profits and revenue
- Financial savings from reduced rework or lost time and from improved resource management and usage
- Improved time to market for new products and services
- Improved decision-making and reduced risk.

ITIL was first published between 1989 and 1995 by Her Majesty's Stationery Office (HMSO) in the UK on behalf of the Central Communications and Telecommunications Agency (CCTA). Its early use was principally confined to the UK and The Netherlands.

The initial version of ITIL consisted of a library of 31 associated books covering all aspects of IT service provision. Between 2000 and 2004 this initial version was revised and replaced by ITIL V2; this consisted of seven more closely connected and consistent books consolidated within an overall framework. Following a major 'refresh' ITIL V3 was published in 2007, consisting of five core publications covering the service lifecycle. In 2011, the ITIL 2011 editions were published to address feedback, improve

clarity and consistency across the five ITIL core publications, and introduce some minor additions to stay current and meet industry demand.

Each of the five core publications covers a stage of the service lifecycle (see Figure 3.1), from the initial definition and analysis of business requirements in *ITIL Service Strategy* and *ITIL Service Design*, through migration into the live environment within *ITIL Service Transition*, to live operation and improvement in *ITIL Service Operation* and *ITIL Continual Service Improvement*.

Figure 3.1 The ITIL service lifecycle
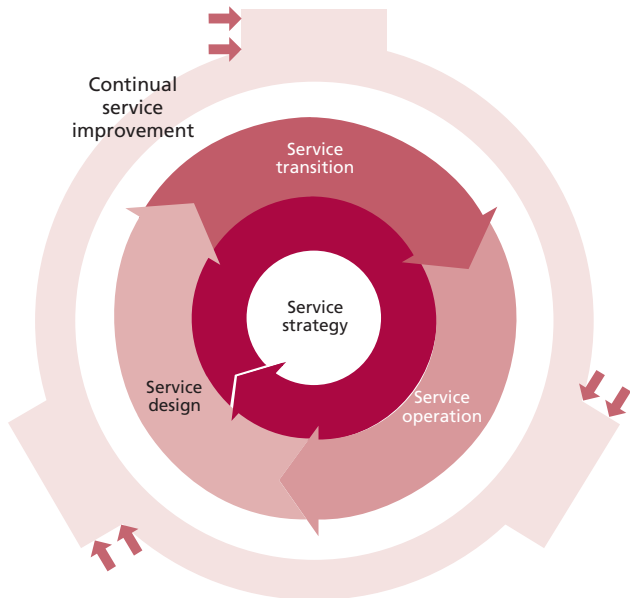
The core publications are, however, just the starting point for ITIL. The core is complemented by a wide range of additional publications and information sources, including content derived directly from the core guidance (such as the key element guides, *Introduction to the ITIL Service Lifecycle* and *Passing your ITIL Foundation Exam*) and other complementary materials, including the *ITIL Foundation Handbook* and the ITIL intermediate capability handbooks (a range of pocket guides widely used by students revising for their ITIL qualifications).

A key principle within ITIL and across the service lifecycle stages is alignment of IT with the business(es) it supports. Therefore, all service solutions and delivery should be driven by business needs and requirements, while reflecting the strategies and policies of the service provider organization, as indicated in Figure 3.2.

Figure 3.2 illustrates how the service lifecycle is initiated from a change in requirements in the business. These requirements are identified and agreed within the service strategy stage within a change proposal and service charter.

This passes to the service design stage, where a service solution is produced together with a service design package (SDP) containing everything necessary to take this service through the remaining stages of the lifecycle.

The SDP passes to the service transition stage, where the service is evaluated, tested and validated, the service knowledge management system (SKMS) is updated, and the service is transitioned into the live environment, where it enters the service operation stage.

Wherever possible, continual service improvement identifies opportunities for the improvement of weaknesses or failures anywhere within any of the lifecycle stages, across all processes.

Figure 3.2 Integration across the service lifecycle
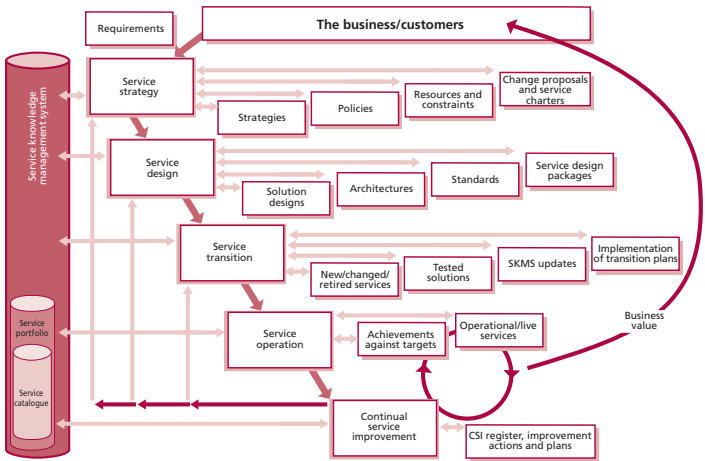
Definition: process

A structured set of activities designed to accomplish a specific objective. A process takes one or more defined inputs and turns them into defined outputs.

To undertake the processes and activities involved in each lifecycle stage, ITIL recognizes that an organization needs to clearly define the roles and responsibilities required. These roles are assigned to individuals within an organization structure of teams, groups or functions.

> **Definition: function**
>
> A team or group of people and the tools or other resources
> they use to carry out one or more processes or activities.

There are both generic roles and specific roles involved within
any lifecycle stage or process. Key generic roles are described
below, while key specific roles are covered in the relevant
lifecycle chapters of the core ITIL publications and identified in
this pocket guide. Generic roles are thus:

- **Process owner** Accountable for ensuring that a process is fit
  for purpose, i.e. that it is capable of meeting its objectives;
  that it is performed according to the agreed and documented
  standard; and that it meets the aims of the process definition
- **Process manager** Accountable for operational management
  of a process. There may be several process managers for one
  process and the process manager role is often assigned to the
  same person carrying out the process owner role
- **Process practitioner** Responsible for carrying out one or
  more process activities. The process practitioner role may be
  combined with the process manager role, if appropriate
- **Service owner** Responsible to the customer for the initiation,
  transition, and ongoing maintenance and support of a
  particular service; and accountable to the IT director or
  service management director for the delivery of a specific IT
  service. Service ownership is critical to service management
  and a single person may fulfil the service owner role for more
  than one service.

Note: 'Service manager' can be a generic term for any manager within the service provider, e.g. a business relationship manager, a process manager or a senior manager with responsibility for IT services overall.

Roles are accountable or responsible for an activity. However, as services, processes and their component activities run through an entire organization, each activity must be clearly mapped to defined roles. To support this, the RACI model or 'authority matrix' can be used to define the roles and responsibilities in relation to processes and activities.

4 Service strategy

4.1 PURPOSE

Strategic thinking aims to define a plan that, using a clear set of principles, will provide a solution to a business problem in a particular situation. It is focused on the value to the customer and identifies strategic assets that will be used for competitive advantage.

Achieving an understanding of customer needs, in terms of what these needs are, and when and why they occur, also requires a clear understanding of exactly who is an existing or potential customer of that service provider. Value is defined by the customer and the value of a service is determined by what it enables the customer to do. Creating value also depends on customer perceptions and preferences.

A service strategy cannot be created or exist in isolation of the overarching strategy and culture of the service provider's own organization. The service provider may exist within an organization solely to deliver service to one specific business unit, or to service multiple business units, or may operate as an external service provider serving multiple external businesses. The strategy adopted must fulfil the service provider's strategic purpose.

Irrespective of the context in which the service provider operates, its service strategy must also be based upon a clear recognition of the existence of competition, awareness that each side has choices, and a view of how that service provider will differentiate itself from the competition. All service providers need a service strategy.

ITIL Service Strategy sits at the core of the ITIL lifecycle. It sets out guidance to all IT service providers and their customers, to help them operate and thrive in the long term by building a clear service strategy, with a precise understanding of:

- What services should be offered
- To whom the services should be offered
- How the internal and external marketplaces for their services should be developed
- The existing and potential competition in these marketplaces, and the objectives that will differentiate the value of what the service provider does or how it is provided
- How the customer(s) and stakeholders will perceive and measure value, and how this value will be created
- How service sourcing decisions can be made with respect to use of different types of service providers
- How visibility and control over value creation will be achieved through financial management
- How robust business cases will be created to secure strategic investment in service assets and service management capabilities
- How the allocation of available resources will be tuned to optimal effect across the portfolio of services
- How service performance will be measured.

4.2   KEY CONCEPTS

ITIL Service Strategy defines some key ITIL concepts.

4.2.1   The four Ps of strategy

- **Perspective** The distinctive vision and direction
- **Position** The basis on which the provider will compete
- **Plan** How the provider will achieve its vision

■ **Pattern** The fundamental way of doing things – distinctive patterns in decisions and actions over time.

4.2.2 Define services

All service providers need to:

■ Define the market that they will operate in, identifying and understanding their customers
■ Explore the opportunities and constraints, quantify the outcomes and classify services.

All service providers and customers operate in one or more internal or external market spaces and seek to align delivery with customer expectations.

4.2.3 Service value

This is defined in terms of the customers' perceived business outcomes and described in terms of the combination of two components:

■ **Service utility** What the customer gets in terms of outcomes supported and/or constraints removed
■ **Service warranty** How the service is delivered and its fitness for use, in terms of availability, capacity, continuity and security.

Service value also includes the associated concepts of services as assets, value networks, value creation and value capture.

4.2.4 Service provider types

■ **Type I** Exists within an organization solely to deliver service to one specific business unit
■ **Type II** Services multiple business units in the same organization
■ **Type III** Operates as an external service provider serving multiple external customers.

4.2.5   Service management as a strategic asset

ITIL is used to transform service management capabilities into strategic assets, by using service management to provide the basis for core competency, distinctive performance and durable advantage, and to increase the service provider's potential from its:

- **Capabilities** The provider's ability (in terms of management, organization, processes, knowledge and people) to coordinate, control and deploy resources
- **Resources** The direct inputs for the production of services, e.g. financial, capital, infrastructure, applications, information and people.

4.2.6   Critical success factors

Critical success factors (CSFs) are identified, measured and reviewed periodically in order to determine the service assets required to successfully implement the desired service strategy.

4.2.7   Service economics

Financial management, demand management and the service portfolio are used to understand the balance between the cost of providing the service, the value of the outcome achieved and the return on investment.

4.2.8   Service delivery strategies

The various models that may be selected by customers or used by service providers to source and deliver services, and the financial management impacts of sourcing variants, are categorized and analysed:

- **Insource, outsource and co-source** Delivery of some or all of the service lifecycle is provided by internal resources, external resources or a combination of both
- **Business process outsource and knowledge process outsource** Strategic provisioning of business services based on process or knowledge expertise
- **On-demand or cloud-based** Services are provided on the basis of how much is required by each customer, how often, and at the times the customer needs them.

4.2.9 Organization design and development

The service provider's organization needs to achieve an ongoing shape and structure that enables the service strategy. Considerations include:

- **Organizational development stages** Delivering services through network direction, delegation, coordination or collaboration, depending on the evolutionary state of the organization
- **Sourcing strategy** Making informed decisions on service sourcing in terms of internal services, shared services, full service outsourcing, prime consortium or selective outsourcing
- **Service analytics** Using technology to help achieve an understanding of the performance of a service through analysis
- **Service interfaces** The mechanisms by which users and other processes interact with each service
- **Risk management** Mapping and managing the portfolio of risks underlying a service portfolio.

4.3 KEY PROCESSES AND ACTIVITIES

4.3.1 Strategy management for IT services

Strategy management for IT services produces and maintains all strategy plans and ensures they are translated into tactical and operational plans. It also takes into account any changes in the business environment to ensure the service strategy remains relevant.

The purpose of a service strategy is to articulate how a service provider will enable an organization to achieve its business outcomes and the most effective and efficient way to manage these services. The purpose of the strategy management for IT services process is to ensure that the strategy is defined and achieves its purpose.

4.3.2 Service portfolio management

The purpose of service portfolio management is to ensure that the service provider has the right mix of services to balance the investment in IT with the ability to meet business outcomes.

Definition: service portfolio

The complete set of services that is managed by a service provider. The service portfolio is used to manage the entire lifecycle of all services, and includes three categories: service pipeline (proposed or in development), service catalogue (live or available for deployment), and retired services.

Service portfolio management involves proactive management of the investment across the service lifecycle.

It is an ongoing process, which includes the following steps:

- **Define** Make an inventory of services, ensure business cases exist, and validate portfolio data
- **Analyse** Maximize portfolio value, align and prioritize, and balance supply and demand
- **Approve** Finalize proposed portfolio, and authorize services and resources
- **Charter** Communicate decisions, allocate resources and charter services.

4.3.3 Financial management for IT services

Financial management covers the function and processes responsible for managing an IT service provider's budgeting, accounting and charging requirements. It provides the business and IT with the quantification, in financial terms, of the value of IT services, the value of the assets underlying the provisioning of those services, and the qualification of operational forecasting.

The purpose of financial management for IT services is to secure the appropriate level of funding to design, develop and deliver services that meet the strategy of the organization.

IT financial management responsibilities and activities do not exist solely within the IT finance and accounting domain. Many parts of the organization interact to generate and use IT financial information, by aggregating, sharing and maintaining the financial data they need, and by enabling the dissemination of information to feed critical decisions and activities.

4.3.4   Demand management

Demand management is a critical aspect of service management. Poorly managed demand is a source of risk for service providers because of uncertainty in demand. Excess capacity generates cost without creating value that provides a basis for cost recovery.

The purpose of demand management is to understand and influence customer demand for services and the provision of capacity to meet those demands. At a strategic level this can involve analysis of patterns of business activity and user profiles. At a tactical level it can involve use of differential charging to encourage customers to use IT services at less busy times.

A service level package defines the level of utility and warranty for a service package and is designed to meet the needs of a pattern of business activity.

4.3.5   Business relationship management

The purpose of the business relationship management process is twofold:

- Establishing and maintaining a business relationship between the service provider and the customer based on understanding the customer and its business needs
- Identifying customer needs and ensuring that the service provider is able to meet those needs as business needs change.

Business relationship management enables effective links between service providers and customers at both strategic and tactical levels. Working closely with the demand management and service portfolio management processes, it ensures the service provider understands the business requirements and keeps a focus on customer satisfaction. This also includes formal complaint and escalation procedures.

4.4 KEY ROLES

The key specific roles within the service strategy activities and processes include:

- **IT strategy manager** Formulates and communicates the IT strategy and ensures elements are in place for successful execution
- **IT steering group** Responsible for corporate governance of IT and the overall direction of the IT strategy
- **IT director/service management director** Responsible for all IT service management processes and for setting up the service management office
- **Service portfolio manager** Defines services and service packages; manages and maintains the service portfolio including communication to all parties
- **Business relationship manager** Maintains the relationship with one or more customers, understanding the customer's business and its customer outcomes; this role may be combined with the role of service level manager
- **Customer/user** Articulates needs and ensures business outcomes are supported
- **Financial manager** Defines and maintains financial models with information to track the cost and value of IT services
- **Demand manager** Identifies and documents patterns of business activity and user profiles; ensures IT capabilities are geared to meet fluctuating demand
- **Chief sourcing officer** Owns the sourcing strategy within the organization; responsible for leading and directing the sourcing office; develops the sourcing strategy in close conjunction with the Chief Information Officer (CIO).

5 Service design

5.1 PURPOSE

The purpose of service design is to ensure that new or changed services are designed to meet the changing requirements of the business. Service design is the stage in the lifecycle that turns a new requirement from service strategy into a design to realize business objectives.

Key activities within this stage of the lifecycle include the planning and coordination of design activities, ensuring consistent designs of services, service management information systems, architectures, technology, processes, information and metrics, production of service design packages (SDPs), management of interfaces, and improvement of service design activities and processes.

ITIL Service Design provides:

- Guidance for the design and development of services and service management practices
- Design principles and methods for converting strategic objectives into a portfolio of services and service assets.

5.2 KEY PRINCIPLES

Service design starts with a set of business requirements, and ends with the development of a service solution designed to meet documented business requirements and outcomes, and its SDP for handover into service transition.

At its heart, service design involves a delicate balancing act across functionality requirements (service utility), performance requirements (service warranty), resource availability and timescales. Good service design must balance all of the above to ensure an effective end result.

5.2.1   Five aspects of service design

- Service solutions for new or changed services
- Management information systems and tools
- Technology and management architectures
- Processes
- Measurement methods and metrics.

A holistic approach should be adopted in service design to ensure consistency and integration in all IT activities and processes, providing end-to-end business-related functionality and quality.

5.2.2   The four Ps of design

Good service design is dependent upon the effective and efficient use of the four Ps of design:

- **People** The people, skills and competencies involved in the provision of IT services
- **Products** The technology and management systems used in the delivery of IT services
- **Processes** The processes, roles and activities involved in the provision of IT services
- **Partners** The vendors, manufacturers and suppliers used to assist and support IT service provision.

5.2.3 Service design package

The service design package defines all aspects of an IT service and its requirements through each stage of its lifecycle. An SDP is produced for each new IT service, major change, or IT service retirement.

5.3   KEY PROCESSES AND ACTIVITIES

5.3.1 Design coordination

The purpose of design coordination is to ensure the goals and objectives of the design stage are met. It provides a single point of coordination and control for all design activities and processes.

Design coordination activities fall into two categories:

- Activities relating to the overall service design lifecycle stage, which may be performed by design coordination process manager(s)
- Activities relating to each individual design, which may be performed by a project manager or other individual with direct responsibility for the project or change, with assistance and guidance from the design coordination process manager.

5.3.2 Service catalogue management

The service catalogue provides a central source of information on the IT services delivered to the business by the service provider organization, ensuring that business areas can view an accurate, consistent picture of the IT services available, their details and status.

The purpose of service catalogue management (SCM) is to provide a single, consistent source of information on all of the agreed services, and ensure that it is widely available to those who are authorized to access it.

It is recommended that a service provider defines multiple views of the service catalogue. The two most common views are:

■ **Business/customer service catalogue view** Contains details of the IT services delivered to the customers (customer-facing services), links to the business units and the business processes they support and provides the customer view of the service catalogue

■ **Technical/supporting service catalogue view** Contains details of the supporting IT services delivered and links to the customer-facing services, configuration items (CIs) and other supporting services necessary for the delivery of services.

The key information within the SCM process is that contained within the service catalogue. The main input for this information comes from the service portfolio and the business via either the business relationship management or the service level management processes.

5.3.3 Service level management

Service level management (SLM) negotiates, agrees and documents appropriate IT service targets with the business in service level agreements (SLAs) and then monitors and produces reports on delivery against the agreed level of service.

Definition: service level agreement

An agreement between an IT service provider and a customer. A service level agreement describes the IT service, documents service level targets, and specifies the responsibilities of the IT service provider and the customer. A single agreement may cover multiple IT services or multiple customers.

The purpose of the SLM process is to ensure that all operational services and their performance are measured in a consistent, professional manner throughout the IT organization, and that the services and the reports produced meet the needs of the business and customers.

The main information provided by the SLM process includes SLAs, operational level agreements (OLAs) and other support agreements, and the production of a service improvement plan and service quality plan.

5.3.4 Availability management

The purpose of availability management is to provide a point of focus and management for all availability-related issues that apply to services, components and resources, ensuring that availability targets in all areas are measured and achieved, and that they match or exceed the current and future agreed needs of the business in a cost-effective manner.

Availability management takes place at two interconnected levels, namely service availability and component availability, and aims to continually optimize and proactively improve the availability of IT services and their supporting organization. There are two key aspects:

- **Reactive activities** Monitoring, measuring, analysis and management of events, incidents and problems involving service unavailability
- **Proactive activities** Proactive planning, design, recommendation and improvement of availability.

Availability management activities consider the availability, reliability, maintainability and serviceability at both service and component level, particularly those supporting vital business functions.

The availability management process is based around an availability management information system that contains all of the measurements and information that are required to support availability activities, produce an availability plan and provide appropriate information to the business on service levels.

5.3.5 Capacity management

Capacity management includes business, service and component capacity management across the service lifecycle. A key success factor in managing capacity is ensuring that it is considered during the design stage.

The purpose of capacity management is to provide a point of focus and management for all capacity and performance-related issues, relating to both services and components, and to match the capacity of IT to the agreed business demands.

The capacity management information system (CMIS) is the cornerstone of a successful capacity management process. Information contained within the CMIS is stored and analysed by all the sub-processes of capacity management for the provision of technical and management reports, including the capacity plan.

5.3.6 IT service continuity management

As technology is a core component of most business processes, continuous or high availability of IT is critical to the survival of the business as a whole. This is achieved by introducing risk reduction measures and recovery options. Ongoing maintenance of the recovery capability is essential if it is to remain effective.

The purpose of IT service continuity management (ITSCM) is to maintain the appropriate ongoing recovery capability within IT services to match the agreed needs, requirements and timescales of the business.

ITSCM includes a series of activities throughout the lifecycle to ensure that, once service continuity and recovery plans have been developed, they are kept aligned with business continuity plans and business priorities.

The maintenance of appropriate ITSCM policy strategies and ITSCM plans aligned with business plans is key to the success of an ITSCM process. This can be accomplished by the regular completion of business impact analysis and risk management exercises.

5.3.7 Information security management

Information security management (ISM) needs to be considered within the overall corporate governance framework. Corporate governance is the set of responsibilities and practices exercised by the board and executive management with the fourfold goal of providing strategic direction, ensuring that the objectives are achieved, ascertaining that the risks are being managed appropriately, and verifying that the enterprise's resources are used effectively.

The purpose of the ISM process is to align IT security with business security and ensure that information security is effectively managed in all service and service management activities, such that:

- Information is available and usable when required – **availability**
- Information is observed by or disclosed to only those who have a right to know – **confidentiality**
- Information is complete, accurate and protected against unauthorized modification – **integrity**
- Business transactions, as well as information exchanges, can be trusted – **authenticity and non-repudiation**.

ISM maintains and enforces an overall policy, together with a set of supporting controls within an integrated security management information system, aligned with business security policies and strategies.

5.3.8 Supplier management

The supplier management process ensures that suppliers and the services they provide are managed to support IT service targets and business expectations.

The purpose of the supplier management process is to obtain value for money from suppliers and to ensure that suppliers perform to the targets contained within their contracts and agreements, while conforming to all of the terms and conditions. The process categorizes suppliers and contracts in terms of value, importance, risk and impact, and manages them according to their criticality to the overall delivery of IT services.

The supplier and contract management information system is a vital source of information on suppliers and contracts. The system should contain all of the information necessary for the management of suppliers, contracts and their associated services.

5.3.9   Key service design stage activities

- Business requirements collection, requirements analysis and engineering to ensure they are clearly documented
- Design and development of appropriate service solutions, technology, processes, information and measurements
- Production and revision of all design processes and documents involved in service design
- Liaison with all other design and planning activities and roles
- Production and maintenance of policies and design documents
- Risk management of all services and design processes
- Alignment with all corporate and IT strategies and policies.

5.4   KEY ROLES

The key specific roles within the service design activities and processes include:

- **Design coordination process manager** Responsible for the overall planning, management and coordination of service design activities for new or changed services
- **SCM process manager** Responsible for producing and maintaining an accurate service catalogue
- **SLM process manager** Responsible for ensuring that the service quality levels are agreed and met
- **Availability management process manager** Responsible for ensuring that all services meet their agreed availability targets

- **Capacity management process manager** Responsible for ensuring that IT capacity is matched to agreed current and future business demands
- **ITSCM process manager** Responsible for ensuring that all services can be recovered in line with their agreed business needs, requirements and timescales
- **Security management process manager** Responsible for ensuring that IT security is aligned with agreed business security policy risks, impacts and requirements
- **Supplier management process manager** Responsible for ensuring that value for money is obtained from all IT suppliers and contracts, and that underpinning contracts and agreements are aligned with the needs of the business
- **IT planner** Responsible for the production and coordination of IT plans
- **IT designer/architect** Responsible for the overall design of the required technologies, architectures, managements systems and designs.

6 Service transition

6.1 PURPOSE

The purpose of service transition is to ensure that new, modified or retired services meet the expectations of the business as documented in the service strategy and service design stages of the service lifecycle. Key activities during this stage of the service lifecycle include planning and managing changes and releases, managing risks, transferring knowledge, setting expectations and ensuring that the expected business value is delivered.

Service transition focuses on implementing all aspects of the service, ensuring that the new or changed service meets customer expectations and can be managed by the service provider. This requires sufficient understanding of:

■ Potential business value, who it is delivered to and judged by
■ Identification of all stakeholders within supplier, customer and other areas
■ Implementation and adaptation of the service design, including arranging for modification of the design, where the need is detected during transition.

6.2 KEY PRINCIPLES

Service transition is supported by underlying principles that facilitate effective and efficient use of new or changed services. Key principles include:

■ Understanding all services, their utilities, their warranties, and the outcomes they support
■ Managing the complexity associated with changes to services, technology and processes

- Establishing a formal policy and common framework for implementation of changes, to ensure that all required activities are carried out and all relevant risks are considered
- Supporting knowledge transfer, decision support and reuse of processes, systems and other elements. Effective service transition is delivered by involving all relevant parties, ensuring appropriate knowledge is available and that work is reusable in future similar circumstances
- Anticipating and managing 'course corrections' by being proactive and determining their likely course and timing
- Ensuring involvement of service transition personnel and an understanding of service transition requirements throughout the service lifecycle.

6.3   KEY PROCESSES AND ACTIVITIES

The processes described in *ITIL Service Transition* can be categorized into two groups, based on the extent to which process activities take place during the service transition stage of the service lifecycle.

Some processes are critical during the service transition stage, but influence and support all stages of the service lifecycle:

- Change management
- Service asset and configuration management
- Knowledge management.

Other processes are strongly focused within the service transition stage of the service lifecycle:

- Transition planning and support
- Release and deployment management
- Service validation and testing
- Change evaluation.

6.3.1 Transition planning and support

The purpose of transition planning and support is to provide overall planning for service transitions and to coordinate the resources they require.

Transition planning and support has two main areas of activity:

- Planning and coordinating the resources and capabilities needed to enable the smooth operation of the service transition stage
- Planning and coordinating individual service transitions, to ensure that they deliver the expected business benefits.

Effective transition planning and support can significantly improve a service provider's ability to handle high volumes of change and releases across its customer base.

6.3.2 Change management

The purpose of the change management process is to control the lifecycle of all changes, enabling beneficial changes to be made with minimum disruption to IT services.

Definition: change

The addition, modification or removal of anything that could have an effect on IT services. The scope should include changes to all architectures, processes, tools, metrics and documentation, as well as changes to IT services and other configuration items.

Change management ensures that changes are recorded and evaluated, and that authorized changes are prioritized, planned, tested, implemented, documented and reviewed in a controlled manner.

Change management is relevant across the whole service lifecycle, applying to all levels of service management – strategic, tactical and operational (see Figure 6.1).

Figure 6.1 Scope of change and release management for services
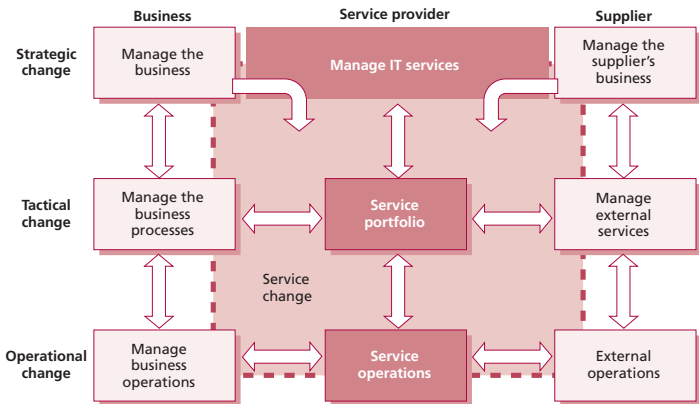
Change management protects the business and other services while enabling required changes to be made promptly to meet business timescales. It also helps the business to meet governance, legal, contractual and regulatory requirements.

6.3.3   Service asset and configuration management

The purpose of service asset and configuration management (SACM) is to ensure that the assets required to deliver services are properly controlled, and that accurate and reliable information

about those assets is available when and where it is needed. This information includes details of how the assets have been configured and the relationships between assets.

> **Definition: configuration item**
>
> Any component or other service asset that needs to be managed in order to deliver an IT service.

SACM supports the business by providing the information needed to manage all CIs across the whole of the service lifecycle. This contributes to the success of all service management processes, as well as providing IT management and the business with the information needed to get maximum value from service assets. The scope of SACM may extend to non-IT assets and to internal and external service providers, where shared assets need to be controlled.

To manage large and complex IT services and infrastructures, SACM requires the use of a supporting system known as the configuration management system.

6.3.4 Release and deployment management

The purpose of the release and deployment management process is to plan, schedule and control the building, testing and deployment of releases, and to deliver new functionality required by the business while protecting the integrity of existing services.

> **Definition: release**
>
> One or more changes to an IT service that are built, tested and deployed together. A single release may include changes to hardware, software, documentation, processes and other components.

Effective release and deployment delivers significant business value by delivering changes at optimized speed, risk and cost, and offering a consistent, appropriate and auditable implementation of usable and useful services.

Release and deployment management covers the whole build, test and implementation of new or changed services, from planning through to early life support.

6.3.5 Service validation and testing

The purpose of the service validation and testing process is to ensure that a new or changed IT service matches its design specification and will meet the needs of the business.

Service validation and testing provides confidence that the release will deliver the expected outcomes and value for customers, within the projected costs, capacity and constraints.

The service is tested explicitly against the utilities and warranties set out in the service design package to ensure that it will be both fit for purpose and fit for use. This includes testing of functionality, availability, continuity, capacity, security and usability. Testing also ensures that the service can be operated and managed by the service provider.

6.3.6 Change evaluation

The purpose of the change evaluation process is to provide a formal, standardized means of determining the performance of a service change in the context of likely impacts on business outcomes, and on existing and proposed services and IT infrastructure.

Change evaluation assesses the actual performance of a change against its predicted performance, and identifies risks and issues related to the change.

Change evaluation is closely linked to change management. The main output of change evaluation is an evaluation report which is used to help change management personnel decide whether to authorize a change. Formal change evaluation is not required for all changes, and each service provider defines when this formal process should be used and when the evaluation can be carried out as part of change management.

6.3.7 Knowledge management

The purpose of knowledge management is: to share perspectives, ideas, experience and information; to ensure that these are available in the right place at the right time to enable informed decisions; and to improve efficiency by reducing the need to rediscover knowledge.

At the heart of knowledge management is the Data-to-Information-to-Knowledge-to-Wisdom (DIKW) structure, condensing raw – and unusable – data into valuable assets.

Knowledge management defines the architecture for a service knowledge management system which describes four layers:

- **Data** Discovery, collection and audit of data
- **Information integration** Mapping, reconciliation and transformation

- **Knowledge processing** Query, analysis, reporting, monitoring, modelling and alerting
- **Presentation** Searching, browsing, publishing and collaboration.

6.4 MANAGING PEOPLE THROUGH SERVICE TRANSITIONS

Service transition is not just about technology and processes. Effective service transition enables the service provider, and its customer, to use and operate new and changed services to create value. This requires the service provider to develop capabilities in:

- Communications
- Managing organizational and stakeholder change.

6.5 KEY ROLES

The staff delivering service transition within an organization must be organized for effectiveness and efficiency. The skills and knowledge of these staff are needed during all stages of the service lifecycle, to ensure that new and changed services are able to deliver the outcomes and value defined in the service strategy stage.

The key specific roles within the service transition activities and processes include:

- **Transition planning and support process manager** Responsible for coordinating service transition activities across projects, suppliers and service teams, ensuring that the final delivery of each service transition meets the agreed customer and stakeholder requirements specified in the service design package – many organizations have 'service

transition managers' who combine the transition planning and support process owner and transition planning and support process manager roles

- **Change management process manager** Responsible for ensuring the control of all changes made to the IT service throughout the lifecycle of the change
- **Change authority** Responsible for reviewing and formally authorizing changes at agreed points in the change lifecycle
- **SACM process manager** Accountable for the management of fixed assets under the control of IT; and responsible for ensuring that the assets required to deliver services are properly controlled, and that accurate and reliable information about those assets is available
- **Release and deployment management process manager** Responsible for planning, scheduling and controlling the building, testing and deployment of releases to deliver new functionality while protecting the integrity of existing services
- **Service validation and testing process manager** Responsible for ensuring that a new or changed IT service matches its design specification and will meet the needs of the business
- **Change evaluation process manager** Responsible for providing a standardized means of determining the performance of a service change to support decision-making
- **Knowledge management process manager** Responsible for ensuring that knowledge is shared and available to enable informed decisions and improve efficiency.

7   Service operation

7.1   PURPOSE

The purpose of service operation is to deliver agreed levels of service to users and customers, and to manage the applications, technology and infrastructure that support delivery of the services.

It is only during this stage of the lifecycle that services actually deliver value to the business. Service strategy defines the value, service design designs the services to deliver that value, service transition brings that design to a live service, and then it is the responsibility of service operation staff to ensure that the service, and thus value, is delivered.

Service operation is the phase of the lifecycle that deals almost exclusively with users. For the vast majority of users of the IT service, service operation is IT.

Service operation is also the only phase within the service lifecycle that has functions defined within it. There are four such functions: service desk, technical management, application management and IT operations management. While these functions actively support the other phases of the lifecycle, they reside within service operation.

7.2 KEY PROCESSES AND ACTIVITIES

7.2.1 Event management

Effective service operation depends upon knowing the status of the infrastructure and the components within. Event management does exactly this. An event may indicate that something is functioning incorrectly, potentially leading to an incident log being raised. Events may also indicate that a normal activity, or routine intervention, has occurred or is necessary.

The purpose of event management is to manage events throughout their lifecycle, from detection through to determining the appropriate control action.

Monitoring and event management are closely related but slightly different in nature. Event management focuses on generating and detecting meaningful notifications about the status of the IT infrastructure and services. Monitoring simply watches the IT infrastructure and services, reporting on its status whether meaningful or not.

Events may be detected by a configuration item (CI) itself, or by a management tool polling the CI. Any event detected may lead to an action being taken; the event could be acknowledged, may trigger an action or may lead to an incident, problem or change record being created. Responses to events may be automated or may require manual intervention.

There are three types of event: informational, warning and exception.

7.2.2 Incident management

Definition: incident

An unplanned interruption to an IT service, or a reduction in the quality of an IT service. Failure of a configuration item that has not yet impacted service is also an incident.

The purpose of incident management is to restore normal service as quickly as possible and to minimize the adverse impact on business operations. 'Normal' service is the level of service agreed and defined within the SLAs and OLAs.

Incidents are often detected by event management, or by users contacting the service desk. Incidents are categorized to identify who should work on them and for trend analysis, and they are prioritized according to urgency and business impact.

If an incident cannot be resolved quickly, it is escalated. Functional escalation passes the incident to a technical support team with appropriate skills; hierarchical escalation engages appropriate levels of management.

Once the incident has been resolved from a technical perspective, the service desk ensures that the user is satisfied and working as 'normal' before the incident is closed.

An incident management tool is imperative for efficient, effective and constantly improving the incident management process.

7.2.3 Request fulfilment

Definition: service request

A formal request from a user for something to be provided.

The purpose of request fulfilment is to enable users to request and receive standard services, to source and deliver these services, to provide information to users and customers about services, and to assist with general information, complaints and comments. Their scale and frequent low-risk nature requires this separate process rather than potentially congesting the normal incident and change management processes.

All requests are logged and tracked, usually via the service desk, and may necessitate an appropriate level of authorization before fulfilment.

7.2.4 Problem management

Definition: problem

A cause of one or more incidents.

Definition: known error

A problem that has a documented root cause and a workaround.

Definition: workaround

Reducing or eliminating the impact of an incident or problem for which a full resolution is not yet available.

The purpose of problem management is to manage the lifecycle of all problems, from first identification through investigation and documentation to eventual removal. Problem management seeks to minimize the adverse impacts of incidents and problems and to proactively prevent any recurrence of such incidents. Ultimately it is about seeking the root cause of incidents and problems and initiating actions to rectify or improve the situation.

Problems are categorized in a similar way to incidents, but the goal is to understand causes, document workarounds and request changes that permanently resolve the problems.

Workarounds are documented in a known error database.

7.2.5   Access management

The purpose of the access management process is to provide the rights for users to be able to access a service or group of services, while preventing access to non-authorized users.

Access management helps to manage confidentiality, availability and integrity of data and intellectual property. It is the user-facing process that underpins information security management.

Access management is concerned with identity (unique information that distinguishes an individual) and rights (settings that provide access to data and services). The process includes verifying identity and entitlement, granting access to services, logging and tracking access, and removing or modifying rights when status or roles change.

7.2.6   Common service operation activities

Service operation includes a number of activities that are not part of the five processes described. These include:

- Monitoring and control to detect the status of services and CIs and take appropriate corrective action
- Console management/operations bridge; a central coordination point for monitoring and managing services
- Management of the infrastructure, including storage, databases, middleware, directory services, facilities/data centre
- Management of the applications delivering the services to customers
- Operational aspects of processes from other lifecycle stages
- Communications to users, customers, IT teams, service level managers, business relationship managers and other management.

The majority of these activities are delivered using the functional units within the ITIL framework.

7.3   KEY ROLES

The key specific roles within the service operation activities and processes include:

- **Incident management process manager** Responsible for ensuring that normal service is restored as quickly as possible, minimizing the adverse impact on business operations, after identification of an incident
- **Problem management process manager** Responsible for managing problems, from identification through investigation and documentation to eventual removal, seeking to minimize the adverse impacts of incidents and problems and to proactively prevent recurrence of incidents
- **Request fulfilment process manager** Responsible for ensuring that service requests are fulfilled within service level targets

- **Event management process manager** Responsible for ensuring that events are appropriately managed and communicated
- **Access management process manager** Responsible for ensuring that access rights are efficiently managed in line with policies.

7.4   KEY FUNCTIONS

7.4.1   Service desk

The service desk provides a single point of contact for all users of IT. The service desk usually logs and manages all incidents, service requests and access requests and provides a user interface for all other service operation processes and activities.

The service desk is the 'shop window' to IT for users; it is where the vast majority of users get their first impression of the IT service provider.

Specific service desk responsibilities include:

- Logging, escalating and closing incidents
- Logging requests and answering questions
- Keeping users informed of the status of services, incidents and requests
- Managing the lifecycle of incidents and requests, escalating as appropriate and closing them when the user is satisfied.

There are many ways of structuring and organizing service desks; ITIL suggests the use (or combination of) four types:

- **Local service desk** Physically close to the users
- **Centralized service desk** One physical location
- **Virtual service desk** Staff are in many locations but appear to the users to be a single team

- **Follow-the-sun** Service desks in different time zones give 24-hour coverage by passing calls to a location where staff are working.

Virtual and follow-the-sun service desks rely on technology to enable the routing of calls, mails and requests to enable the successful running of those types of desk.

7.4.2 Technical management

Technical management refers to groups, departments or teams that are the custodians of the technical expertise and overall management of the IT infrastructure.

Technical management helps to plan, implement and maintain a stable technical infrastructure and ensures that required resources and expertise are in place to design, build, transition, operate and improve the IT services and supporting technology.

Activities carried out by technical management include:

- Identifying knowledge and expertise requirements
- Documenting the skills that need development, skills inventories and training needs analysis
- Defining the standards to be used in the design of new architectures, and participation in the definition of technology architectures
- Participating in the design and development of new services.

Technical management usually consists of specialist technical architects and designers (primarily involved in service design) and specialist maintenance and support staff (primarily involved during service operation).

7.4.3 Application management

Application management is responsible for managing applications throughout their lifecycle. They are the custodians of the technical knowledge and expertise pertaining to the applications. They work alongside technical management providing the knowledge to resources supporting the IT services.

It is common in many organizations to refer to applications as services, but applications are just one component needed to provide a service. Each application may support more than one service, and each service may make use of many applications. This is especially true for modern service providers who create shared services based on service-oriented architectures.

Application management works closely with application development but is a distinct function with a different role. Activities carried out by application management are the same or similar to those described for technical management but with an application bias.

7.4.4 IT operations management

IT operations management is the term used to mean the department, group or team of people responsible for performing the organization's day-to-day operational activities.

The role of IT operations management is to execute the ongoing activities and procedures required to manage and maintain the IT infrastructure to deliver and support the IT services at the agreed levels.

IT operations management includes two sub-functions:

- IT operation control is usually staffed by shifts of operators who carry out routine operational tasks. They provide centralized monitoring and control of the operational activities and events in the IT infrastructure, usually from an operations bridge or network operations centre.
- Facilities management is responsible for management of the physical IT environment, typically data centres, computer rooms and recovery sites. Facilities management may also coordinate large-scale projects, such as data centre consolidation or server consolidation.
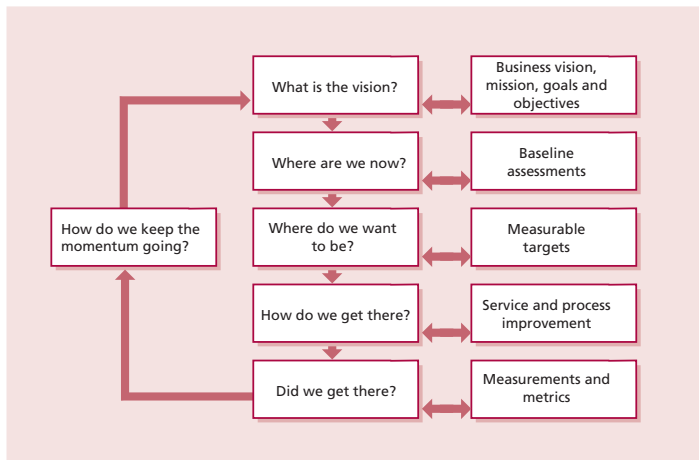
8 Continual service improvement

8.1 PURPOSE

Continual service improvement (CSI) is concerned with maintaining value for customers through the continual evaluation and improvement of the quality of services and the overall maturity of the ITSM service lifecycle and underlying processes.

CSI combines principles, practices and methods from quality management, change management and capability improvement, working to improve each stage in the service lifecycle, as well as the current services, processes, and related activities and technology.

CSI is not a new concept but often the concept has not moved beyond the discussion stage. For many organizations, CSI becomes a project when something has failed and severely impacted the business. When the issue is resolved the concept is promptly forgotten until the next major failure occurs. Discrete time-bound projects are still required but, to be successful, CSI must be embedded within the organizational culture and become a routine activity.

The CSI approach shown in Figure 8.1 provides a way for an organization to identify and manage appropriate improvements by contrasting its current position, and the value it is providing to the business, with its long-term goals and objectives, identifying any gaps that exist. This is done on a continual basis to address changes in business requirements and technology to ensure ongoing alignment and improvement of IT services.

Figure 8.1 The continual service improvement approach

8.2   KEY PROCESSES AND ACTIVITIES

CSI defines three key areas for the effective implementation of continual improvement: the seven-step improvement process, service measurement and service reporting.

8.2.1   Seven-step improvement process

The purpose of the seven-step improvement process (see Figure 8.2) is to define and manage the steps needed to identify, define and gather meaningful data; analyse this data to identify trends and issues; present the information to management for their prioritization and agreement; and implement improvements.

Figure 8.2 Seven-step improvement process
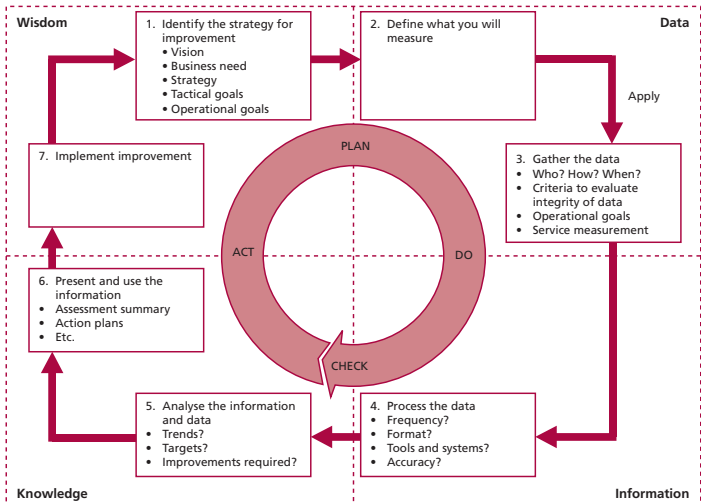
Each step is driven by the strategic, tactical and operational goals defined during service strategy and service design.

Step 1 – Identify the strategy for improvement

Using the vision, strategy and goals of the organization, identify how improvements in IT services can enable the business to achieve these, based on current and future plans.

Step 2 – Define what you will measure

A set of measurements is defined that fully support the goals of the organization. Organizations may find that they have limitations on what can actually be measured so a gap analysis

needs to be conducted between what is or can be measured today and what is ideally required. The gaps and implications (including potential risks) can then be reported to the business, the customers and IT management. It is possible that new tools or customization will be required at some stage.

Step 3 – Gather the data
Monitoring tools and/or manual processes are used to gather the data needed for the measurements that have been defined.

Quality is the key objective of monitoring for CSI; monitoring therefore focuses on the effectiveness of a service, process, tool, organization or CI. The emphasis is on identifying where improvements can be made to the existing level of service, or IT performance, typically by detecting exceptions and resolutions.

However, CSI is not only interested in exceptions. If an SLA is consistently met over time, CSI is also interested in determining whether that level of performance can be sustained at a lower cost or whether it needs to be upgraded to an even better level of performance.

Step 4 – Process the data
Raw data is processed into the required format, typically providing an end-to-end perspective on the performance of services and/or processes.

Processing the data into useful information is a fundamental CSI activity. While monitoring and collecting data on a single infrastructure component is important, it is key to understand that component's impact on the larger infrastructure and IT service.

Step 5 – Analyse the information and data
Data analysis transforms the information into knowledge of the events that are affecting the organization.

Once the data is processed into information, the results can be analysed to answer questions such as:

- Are we meeting targets?
- Are there any clear trends?
- Is corrective action required? What is the cost?

Step 6 – Present and use the information
The knowledge gained can now be presented in a format that is easy to understand and allows those receiving the information to make strategic, tactical and operational decisions. The information needs to be provided at the right level and in the right way for the intended audience. It needs to provide value, note exceptions to service, and identify any benefits that have arisen during the time period.

Now, more than ever, IT must invest the time to understand specific business goals and translate IT metrics to reflect an impact against these business goals. Often there is a gap between what IT reports and what is of interest to the business.

Although most reports tend to concentrate on areas of poor performance, good news needs to be reported as well. A report showing improvement trends is IT services' best marketing vehicle.

Step 7 – Implement improvement
The knowledge gained is used to optimize, improve and correct services, processes, and all other supporting activities and technology. The corrective actions required to improve the service are identified and communicated to the organization.

CSI will identify many opportunities for improvement and an organization will need to determine priorities based on its goals, and the resources and funding available.

The seven-step improvement process is continual and loops back to the beginning.

8.2.2　Service measurement

There are four basic reasons to monitor and measure. These are to:

- Validate previous decisions that have been made
- Direct activities in order to meet set targets – this is the most prevalent reason for monitoring and measuring
- Justify that a course of action is required, with factual evidence or proof
- Intervene at the appropriate point and take corrective action.

Monitoring and measurement underpins CSI and the seven-step improvement process, and is an essential part of being able to manage services and processes, and report value to the business.

Many organizations today measure at the component level; but although this is necessary and valuable, service measurement must go up a level to provide a view of the true customer experience of services being delivered.

There are three types of metrics that an organization needs to collect to support CSI activities as well as other process activities:

- **Technology metrics**　Often associated with component- and application-based metrics such as performance and availability
- **Process metrics**　Captured in the form of critical success factors, key performance indicators and activity metrics
- **Service metrics**　The results of the end-to-end service. Component/technology metrics are used to compute the service metrics.

It is essential that a baseline is established at the start of any improvement activity so that there is a reference point against which changes in performance can be measured.

8.2.3 Service reporting

A significant amount of data is collated and monitored by IT in the daily delivery of quality service to the business, but only a small subset is of real interest and importance to the business. The business likes to see a historical representation of the past period's performance that portrays its experience, but it is more concerned with those historical events that continue to be a threat going forward, and how IT intends to mitigate against such threats.

It is not enough to present reports depicting adherence or otherwise to SLAs. IT needs to build an actionable approach to reporting, i.e. what happened, what IT did, how IT will ensure it doesn't impact again and how IT is working to improve service delivery generally.

A reporting ethos which focuses on the future as strongly as it focuses on the past also provides the means for IT to market its offerings directly aligned to the positive or negative experiences of the business.

8.3 KEY ROLES

While a CSI manager is responsible for the overall CSI activities within an organization, most of the work related to detailed improvements is carried out within each of the lifecycle stages, processes and activities. Service owners, working within the framework of CSI, are responsible for improvements to their services.

9 Service management processes and functions

Each core ITIL publication addresses a stage in the service lifecycle and defines a key set of processes required during that stage. *ITIL Service Operation* also describes four functions.

Table 9.1 lists the key processes and functions defined by each lifecycle stage. Table 9.2 provides an alphabetical list of service management processes and functions defined in ITIL, and cross-references them to the publication where they are primarily defined and to any other publication where significant further expansion of the process is provided. Most processes play some role during each stage of the lifecycle, but only significant references from the core publications are included in Table 9.2.

Table 9.1 Service management processes and functions across the lifecycle

Service strategy	Service design
Strategy management for IT services	Design coordination
Service portfolio management	Service catalogue management
Financial management for IT services	Service level management
Demand management	Availability management
Business relationship management	Capacity management
	IT service continuity management
	Information security management
	Supplier management
Service transition	**Service operation**
Transition planning and support	Event management
Change management	Incident management
Service asset and configuration management	Request management
Release and deployment management	Problem management
Service validation and testing	Access management
Change evaluation	*Functions*
Knowledge management	Service desk
	Technical management
	IT operations management
	Application management
Continual service improvement	
Seven-step improvement process	

Table 9.2 ITIL service management processes and functions

Service management process	Primary source	Further expansion
Access management	SO	
Availability management	SD	SS, CSI
Business relationship management	SS	SD, CSI
Capacity management	SD	SO, CSI
Change evaluation	ST	
Change management	ST	
Demand management	SS	SD
Design coordination	SD	
Event management	SO	
Financial management for IT services	SS	
Incident management	SO	SD, CSI
Information security management	SD	SO
IT service continuity management	SD	
Knowledge management	ST	CSI
Problem management	SO	
Release and deployment management	ST	

Table continues

Table 9.2 *continued*

Service management process	Primary source	Further expansion
Request fulfilment	SO	
Service asset and configuration management	ST	
Service catalogue management	SD	SS
Service level management	SD	SS, CSI
Service portfolio management	SS	SD
Service validation and testing	ST	
Seven-step improvement process	CSI	
Strategy management for IT services	SS	
Supplier management	SD	
Transition planning and support	ST	SS
Service management function	**Primary source**	**Further expansion**
Application management	SO	SD, CSI
IT operations management	SO	
Service desk	SO	SS, SD, ST, CSI
Technical management	SO	

Key: CSI = continual service improvement; SD = service design;
SO = service operation; SS = service strategy; and ST = service transition.

10 Qualifications

10.1 OVERVIEW

Training in service management helps service providers build and maintain their service management capability. The official ITIL qualification scheme enables organizations to develop the competence of their personnel through approved training courses.

The scheme has four levels:

■ Foundation
■ Intermediate
■ ITIL Expert
■ ITIL Master.

All examinations are multiple-choice and have been designed to test at a variety of levels of difficulty in the learning process by using Bloom's Taxonomy principles adapted to the specific ITIL principles. The level of difficulty depends on the level of scheme or qualification supported.

There are also further complementary service management qualifications available which can contribute (accumulating credits) towards achievement of the ITIL Expert. Further details of these can be found at www.itil-officialsite.com/Qualifications/ComplementaryQualifications.aspx

10.2 FOUNDATION

The Foundation level ensures candidates gain knowledge of the ITIL terminology, structure and basic concepts, and comprehend the core principles of ITIL practices for service management. Foundation level represents two credits towards the ITIL Expert.

10.3   INTERMEDIATE STREAMS

Intermediate qualifications are available across two streams: lifecycle and capability. Both intermediate streams assess an individual's comprehension and application of the concepts of ITIL. Candidates may take units from either of the streams.

10.3.1 Lifecycle stream

The units are based on the five core ITIL publications. This qualification is of interest to candidates wishing to obtain knowledge of ITIL practices within the service lifecycle context:

- Service strategy
- Service design
- Service transition
- Service operation
- Continual service improvement.

10.3.2 Capability stream

The units are based around four clusters of related content. This qualification is of interest to candidates who wish to be certified in a deep level of understanding of processes and roles:

- Service offerings and agreements
- Release, control and validation
- Operational support and analysis
- Planning, protection and optimization.

Within the intermediate streams, each lifecycle unit represents three credits and each capability unit represents four credits towards the ITIL Expert.

10.4   MANAGING ACROSS THE LIFECYCLE

The Managing Across the Lifecycle (MALC) course brings together the full essence of a lifecycle approach to service management. MALC represents five credits towards the ITIL Expert.

10.5   ITIL EXPERT

Candidates automatically qualify for an ITIL Expert certificate once they have achieved the required 22 credits from Foundation (mandatory initial unit), Intermediate units and MALC (mandatory final unit). No further examination or courses are required.

10.6   ITIL MASTER

The ITIL Master qualification validates the capability of the candidate to apply the principles, methods and techniques from ITIL in the workplace.

To achieve the ITIL Master qualification, the candidate must be able to explain and justify how they selected and individually applied a range of knowledge, principles, methods and techniques from ITIL and supporting management techniques, to achieve desired business outcomes in one or more practical assignments.

To be eligible for the ITIL Master qualification, candidates must have reached the ITIL Expert level and worked in IT service management for at least five years in leadership, managerial or higher-management advisory levels.

11   Related guidance

ITIL is part of a portfolio of best-practice publications aimed at helping organizations and individuals manage projects, programmes and services consistently and effectively.

These publications include the following:

- ■ *Management of Portfolios* **(MoP®)** Principles, practices and guidance on implementing portfolio management.
  Office of Government Commerce (2011). *Management of Portfolios*. The Stationery Office, London.
- ■ *Management of Risk* **(M_o_R®)** A framework for taking informed decisions about risks that affect performance objectives.
  Office of Government Commerce (2010). *Management of Risk*. The Stationery Office, London.
- ■ *Management of Value* **(MoV®)** Guidance on maximizing value through effective use of priorities, stakeholder needs and resources.
  Office of Government Commerce (2010). *Management of Value*. The Stationery Office, London.
- ■ *Managing Successful Programmes* **(MSP®)** A framework to achieve change outcomes and benefits.
  Cabinet Office (2011). *Managing Successful Programmes*. The Stationery Office, London.
- ■ *Managing Successful Projects with PRINCE2®* A structured method for effective project management via clearly defined products.
  Office of Government Commerce (2009). *Managing Successful Projects with PRINCE2*. The Stationery Office, London.

- *Portfolio, Programme and Project Offices* **(P3O®)** Principles, processes and techniques to establish, develop and maintain support structures.
  Office of Government Commerce (2008). *Portfolio, Programme and Project Offices.* The Stationery Office, London.

Figure 11.1 shows ITIL's relationship with these best practices, which can be tailored to meet the needs of the organization.

Figure 11.1 ITIL's relationship with other best-practice guides
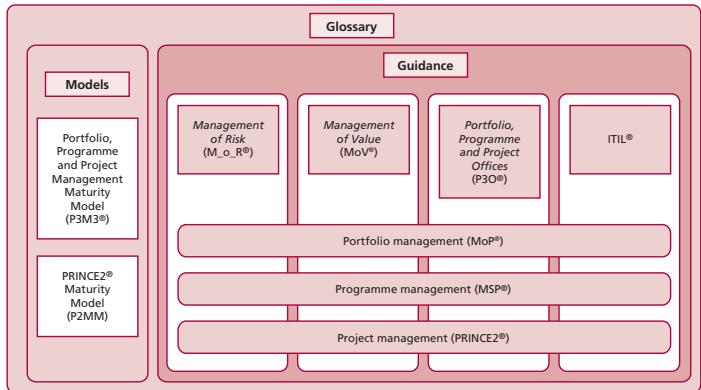
The primary standard for IT service management is ISO/IEC 20000, which is an internationally recognized standard for service providers who manage and deliver IT services to internal or external customers. This standard is based on a service management system that is used to direct and control the service management activities of the service provider. One of the most common routes for an organization to achieve the requirements of ISO/IEC 20000 is by adopting ITIL best practices.

Other related frameworks, best practices, standards, models and quality systems are listed below:

- **Quality management systems** Total Quality Management and ISO 9000:2005 are widely used, as is the Plan-Do-Check-Act cycle, often referred to as the Deming Cycle
- **Risk management** *Management of Risk* (M_o_R), ISO 31000, Risk IT and ISO/IEC 27001 all provide guidance related to risk management
- **Governance of IT** ISO 9004 provides guidance for board- and executive-level governance, and ISO/IEC 38500 provides guidance for corporate governance
- **Control OBjectives for Information and related Technology** COBIT is a governance and control framework for IT management created by ISACA and the IT Governance Institute (ITGI)
- **Environmental management and green/sustainable IT** ISO 14001 is a series of standards related to an environment management system
- **ISO standards and publications for IT** There are many ISO standards and publications, including ISO 9241 for the utility of a service; ISO/IEC 27001 for information security management; ISO/IEC 15504 or SPICE for process assessment; and ISO/IEC 19770 for software asset management
- **ITIL and the Open Systems Interconnection framework** The OSI framework is a reference model defining common network standards and definitions
- **Organizational change** Kotter's eight steps for organizational change are referenced in *ITIL Service Transition* and *ITIL Continual Service Improvement*
- **Skills Framework for the Information Age** This is a common framework for IT skills, including job standardization, skills audits and skills planning exercises

- **Carnegie Mellon CMMI and eSCM framework** The Capability Maturity Model Integration (CMMI) is a process improvement approach; the eSourcing Capability Model for Service Providers (eSCM-SP) is a framework to improve the relationship between IT service providers and customers
- **Balanced scorecard** This is an approach to strategic management which uses four perspectives (learning and growth, business process, customer and financial) as a basis for assessing and reporting performance
- **Six Sigma** This comprises a data-driven process improvement approach, which identifies defects that lead to improvement and reduction in process variation.

12   Summary

Since the original publication of the ITIL framework, many changes have taken place affecting the relationship between those delivering services and the various businesses they support, whether these are internal IT organizations or external service providers. As both business and technology continue to evolve at a rapid pace, it is increasingly important to have good practices in place to enable the definition, design, implementation, operation and improvement of services, ensuring management controls and governance while maintaining the flexibility needed to meet new and changed requirements.

The ITIL publications represent the learning and experience of many organizations delivering services to customers, and the underpinning theme of continual service improvement will enable best practice not only to evolve but also to drive quality and efficiency throughout the service management industry.

ITIL is relevant to service providers of all sizes, whether in the public or private sector, providing a vendor-neutral, non-prescriptive framework that can be adopted and adapted to meet the needs of the organization and its customers. In an industry where sourcing strategies can be varied and complex, ITIL provides a common language and set of processes that enable end-to-end services to be delivered in a consistent and integrated manner.

ITIL is successful because it describes practices that enable organizations to deliver benefits, return on investment and sustained success. ITIL is adopted by organizations to enable them to:

- Deliver value for customers through services
- Integrate the strategy for services with the business strategy and customer needs
- Measure, monitor and optimize IT services and service provider performance
- Manage the IT investment and budget
- Manage risk
- Manage knowledge
- Manage capabilities and resources to deliver services effectively and efficiently
- Enable adoption of a standard approach to service management across the enterprise
- Change the organizational culture to support the achievement of sustained success
- Improve the interaction and relationship with customers
- Coordinate the delivery of goods and services across the value network
- Optimize and reduce costs.

Changing business priorities, economic challenges, commercial pressures and new technologies will continue to shape the market. The guidance provided in the ITIL publications provides a proven framework of best practice to enhance an organization's capability to deliver maximum value to the business.

Further guidance

There are a number of ways that individuals and organizations can build on their understanding of ITIL to drive better adoption of best practice and to maximize the benefits to the business and its customers.

- *Introduction to the ITIL Service Lifecycle* provides a more detailed overview of the five core ITIL publications and includes an introduction to service management as a whole.
  Cabinet Office (2011). *Introduction to the ITIL Service Lifecycle*. The Stationery Office, London.
- The five core publications are available as hard-copy books, as PDFs or e-books, or as an online subscription, each providing detailed guidance for an area of the ITIL service lifecycle.
  Cabinet Office (2011). *ITIL Continual Service Improvement*. The Stationery Office, London.
  Cabinet Office (2011). *ITIL Service Design*. The Stationery Office, London.
  Cabinet Office (2011). *ITIL Service Operation*. The Stationery Office, London.
  Cabinet Office (2011). *ITIL Service Strategy*. The Stationery Office, London.
  Cabinet Office (2011). *ITIL Service Transition*. The Stationery Office, London.
- Membership of the itSMF provides access to a network of industry experts, information sources and a range of member events, including regional groups, seminars and special interest groups. These provide valuable opportunities to share knowledge and experience with other service management practitioners.

- The itSMF UK bookshop provides a catalogue of publications covering a wide range of service management-related topics, including co-branded and recommended publications.
- The ITIL qualification scheme delivers approved training courses that enable individuals to identify appropriate learning solutions to meet their needs and to support their professional development.
- A number of study guides are available to support students studying ITIL, in support of the accredited training courses. Here are two published by TSO.
Cabinet Office (2012). *ITIL Foundation Handbook*. The Stationery Office, London.
Cabinet Office (2012). *Passing your ITIL Foundation Exam*. The Stationery Office, London.

The above information sources will enable organizations to benefit from the knowledge and experience of their service management peers and to learn from, and contribute to, the service management industry as a whole.

Contact points

ABOUT ITSMF

The IT service management forum, known as the itSMF, is the only truly independent and internationally recognized forum for IT service management professionals worldwide.

This not-for-profit organization is a prominent player in the ongoing development and promotion of IT service management best practice, standards and qualifications, and has been since 1991.

Globally, the itSMF now boasts over 6000 member companies, blue-chip and public-sector alike, covering in excess of 70,000 individuals spread over more than 50 international chapters.

Each chapter is a separate legal entity and is largely autonomous. The UK chapter has over 9,000 members; it offers a flourishing annual conference, online bookstore, regular regional meetings, special interest groups and numerous other benefits for members. Its website is at www.itsmf.co.uk.

There is a separate international entity, itSMF International, that provides an overall steering and support function to existing and emerging chapters. It has its own website at www.itsmf.org.

ABOUT TSO

TSO is one of the largest publishers by volume in the UK, publishing more than 9,000 titles a year in print and digital formats for a wide range of clients. It has a long history in publishing best-practice guidance related to project, programme and IT service management. Working with partners such as itSMF, the Project Management Institute, Service Management 101 and APMG-International, TSO publishes guidance for a global range of management disciplines.
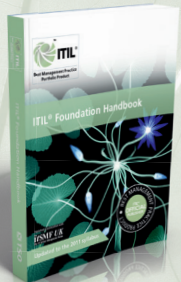
For more information on TSO's publications and to browse its resources, please visit www.internationalbestpractice.com