COURSEWARE

Continual Service Improvement

Service Strategy

Service Design

Service Transition

Service Operation

Planning, Protection and Optimization

Operational Support and Analysis

Service Offerings and Agreements

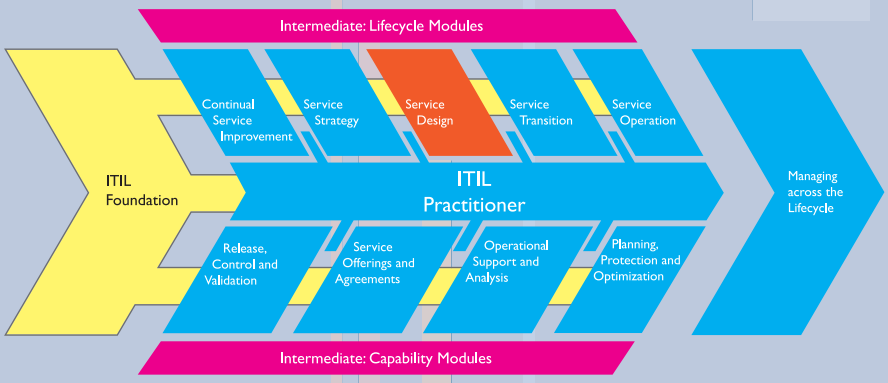
Release, Control and Validation

ITIL Practitioner

Managing, Protection and Optimization

ITIL® Intermediate Service Design

Courseware



Van Haren PUBLISHING

ITIL®
TRAINING ORGANIZATION ACCREDITED BY
PEOPLECERT ON BEHALF OF AXELOS

Colofon

Title: ITIL® Intermediate Service Design

Publisher: Van Haren Publishing, Zaltbommel

ISBN Hard copy: 978 94 018 0152 2

Edition: First edition, first impression, March 2017

Design & layout: Van Haren Publishing, Zaltbommel

Version: 1.3.1

For any futhure equiries about Van Haren Publishing, please send an email to:
info@vanharen.net

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Welcome to
Service Design
The ITIL® Intermediate Qualification

ITIL
TRAINING ORGANIZATION ACCREDITED BY
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Learning objectives

Course Introduction
- Objectives

- ✓ Introduction to Service Design
- ✓ Service Design Principles
- ✓ Service Design Processes
- ✓ Organizing for Service Operation: Functions
- ✓ Technology Considerations
- ✓ Implementation of Service Operation
- ✓ Challenges, Critical Success Factors and Risks

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The examination

Course Introduction
- Exam

- ✓ Eight questions
- ✓ 90 minutes (+30 minutes if English is not your native language)
- ✓ Four answer options worth 5, 3, 1 or 0 marks
- ✓ Pass: 28/40

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Passing the examination

Course Introduction
- Exam

During the course
- ✓ Pay attention
- ✓ Ask questions if things aren´t clear
- ✓ Be active during the exercises

At home
- ✓ Study the presentation material
- ✓ Study the core books
- ✓ Do the sample exams

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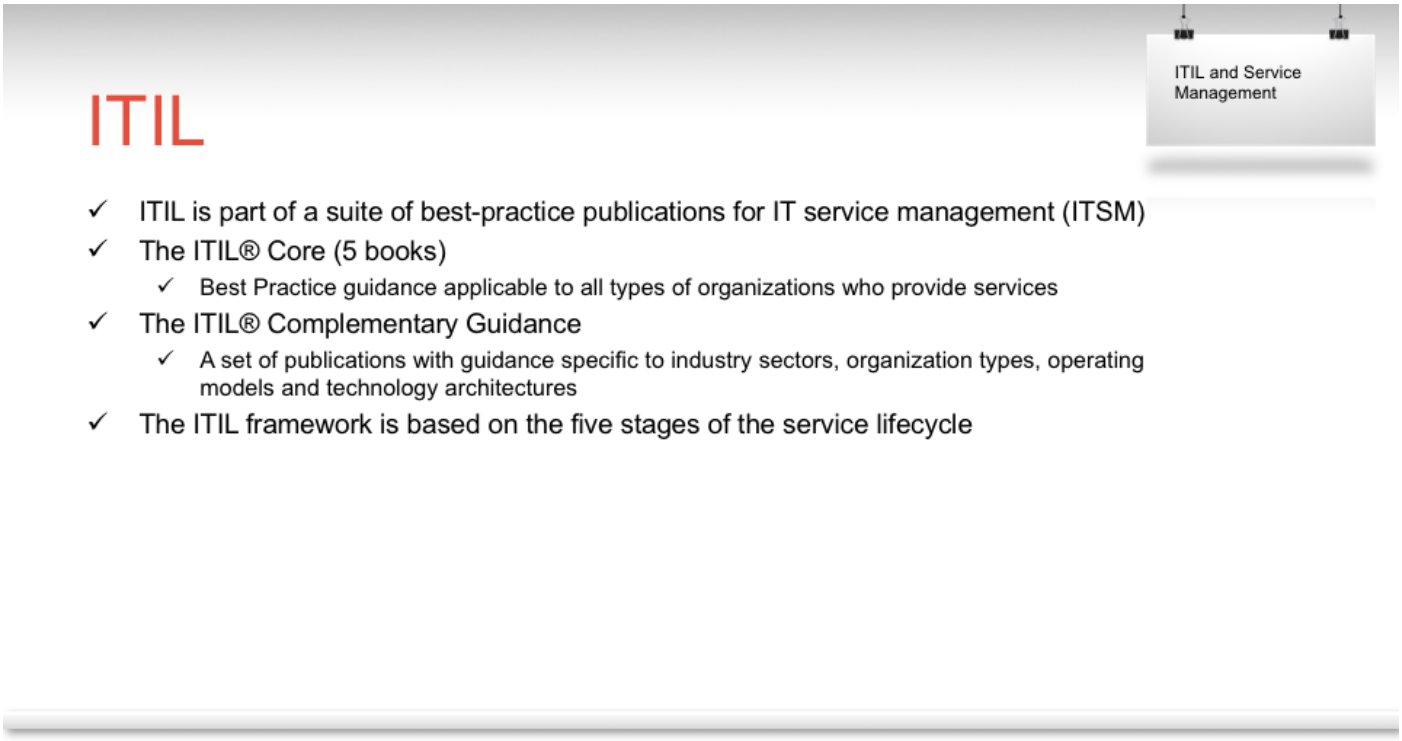
ITIL and Service Management Overview



SD 1 Introduction

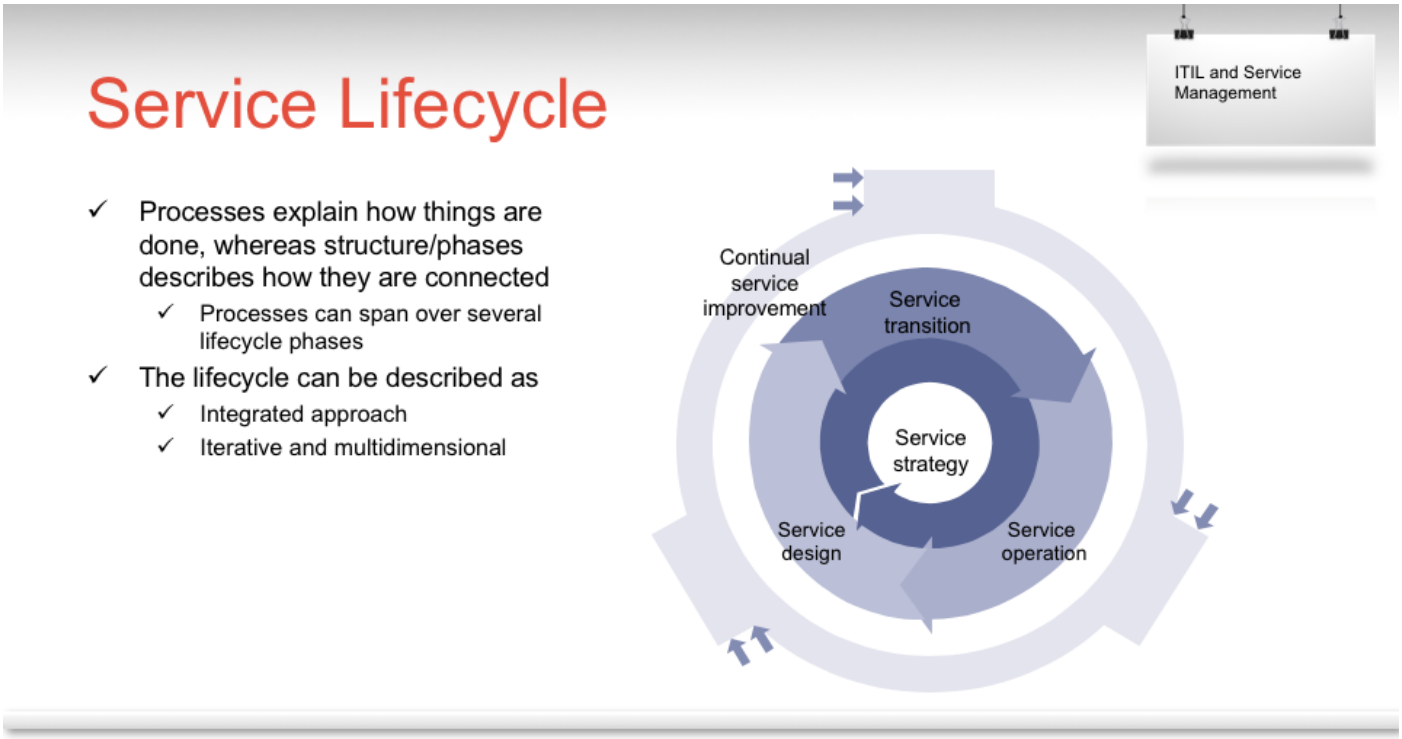
ITIL is part of a suite of best-practice publications for IT service management (ITSM). ITIL provides guidance to service providers on the provision of quality IT services, and on the processes, functions and other capabilities needed to support them. ITIL is used by many hundreds of organizations around the world and offers best-practice guidance applicable to all types of organization that provide services. ITIL is not a standard that has to be followed; it is guidance that should be read and understood, and used to create value for the service provider and its customers. Organizations are encouraged to adopt ITIL best practices and to adapt them to work in their specific environments in ways that meet their needs.

ITIL is the most widely recognized framework for ITSM in the world. In the 20 years since it was created, ITIL has evolved and changed its breadth and depth as technologies and business practices have developed. ISO/IEC 20000 provides a formal and universal standard for organizations seeking to have their service management capabilities audited and certified. While ISO/IEC 20000 is a standard to be achieved and maintained, ITIL offers a body of knowledge useful for achieving the standard.

In 2007, the second major refresh of ITIL was published in response to significant advancements in technology and emerging challenges for IT service providers. New models and architectures such as outsourcing, shared services, utility computing, cloud computing, virtualization, web services and mobile commerce have become widespread within IT. The process-based approach of ITIL was augmented with the service lifecycle to address these additional service management challenges. In 2011, as part of its commitment to continual improvement, the Cabinet Office published this update to improve consistency across the core publications.

The ITIL framework is based on the five stages of the service lifecycle as shown on next slide with a core publication providing best-practice guidance for each stage. This guidance includes key principles, required processes and activities, organization and roles, technology, associated challenges, critical success factors and risks. The service lifecycle uses a hub-and-spoke design, with service strategy at the hub, and service design, transition and operation as the revolving lifecycle stages or 'spokes'. Continual service improvement surrounds and supports all stages of the service lifecycle. Each stage of the lifecycle exerts influence on the others and relies on them for inputs and feedback. In this way, a constant set of checks and balances throughout the service lifecycle ensures that as business demand changes with business need, the services can adapt and respond effectively.

In addition to the core publications, there is also a complementary set of ITIL publications providing guidance specific to industry sectors, organization types, operating models and technology architectures.



SD 1.2 CONTEXT

The ITIL core consists of five lifecycle publications. Each provides part of the guidance necessary for an integrated approach as required by the ISO/IEC 20000 standard specification. The five publications are:

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

Each one addresses capabilities having direct impact on a service provider's performance. The core is expected to provide structure, stability and strength to service management capabilities, with durable principles, methods and tools. This serves to protect investments and provide the necessary basis for measurement, learning and improvement. The introductory guide, *Introduction to the ITIL Service Lifecycle*, provides an overview of the lifecycle stages described in the ITIL core.

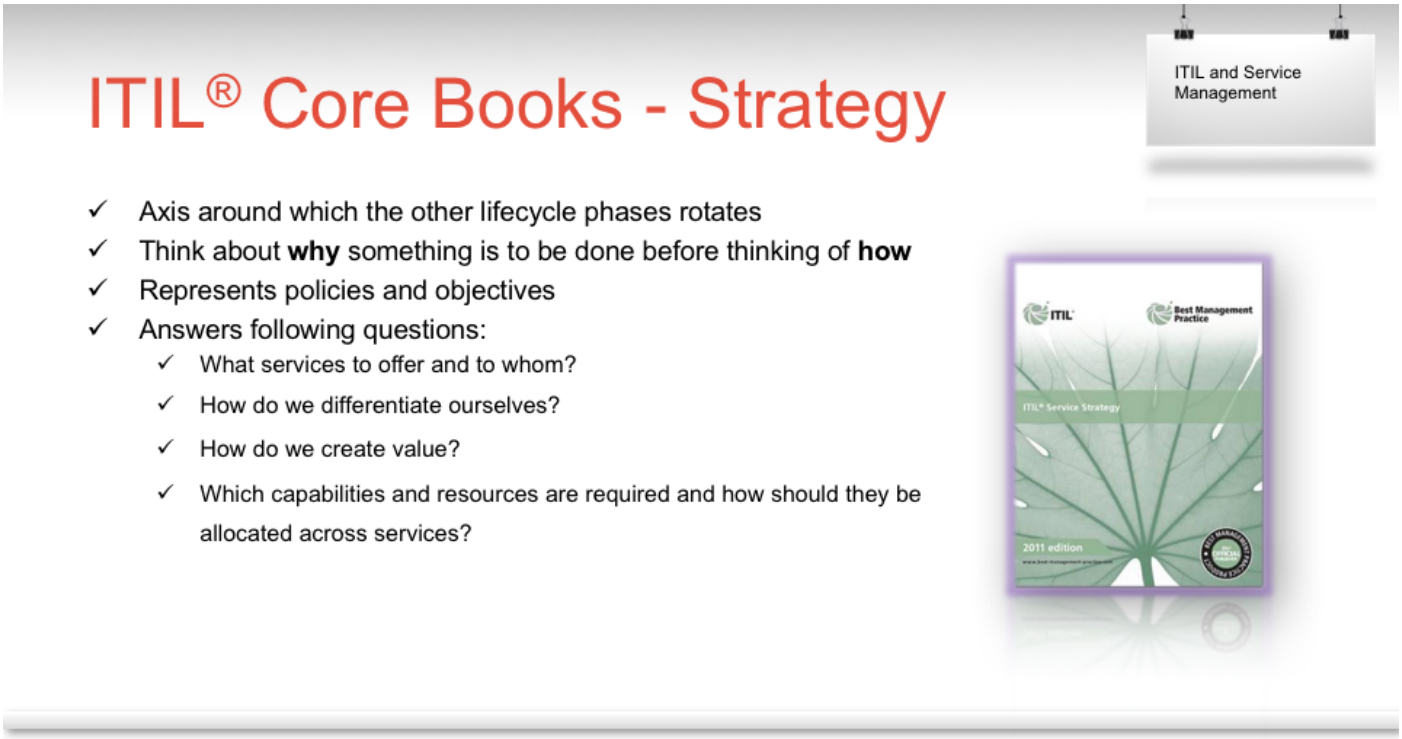
ITIL guidance can be adapted to support various business environments and organizational strategies. Complementary ITIL publications provide flexibility to implement the core in a diverse range of environments. Practitioners can select complementary publications as needed to provide traction for the ITIL core in a given context, in much the same way as tyres are selected based on the type of vehicle, purpose and road conditions. This is to increase the durability and portability of knowledge assets and to protect investments in service management capabilities.

More than just processes

ITIL and Service Management

ITIL Core book contents

- ✓ Introduction
- ✓ Service Management as a practice
- ✓ Principles
- ✓ Processes
- ✓ Organizing – Roles and responsibilities
- ✓ Technology considerations
- ✓ Implementation considerations
- ✓ Challenges, Critical Success Factors and Risks
- ✓ Examples/Templates



SD 1.2.1 Service strategy

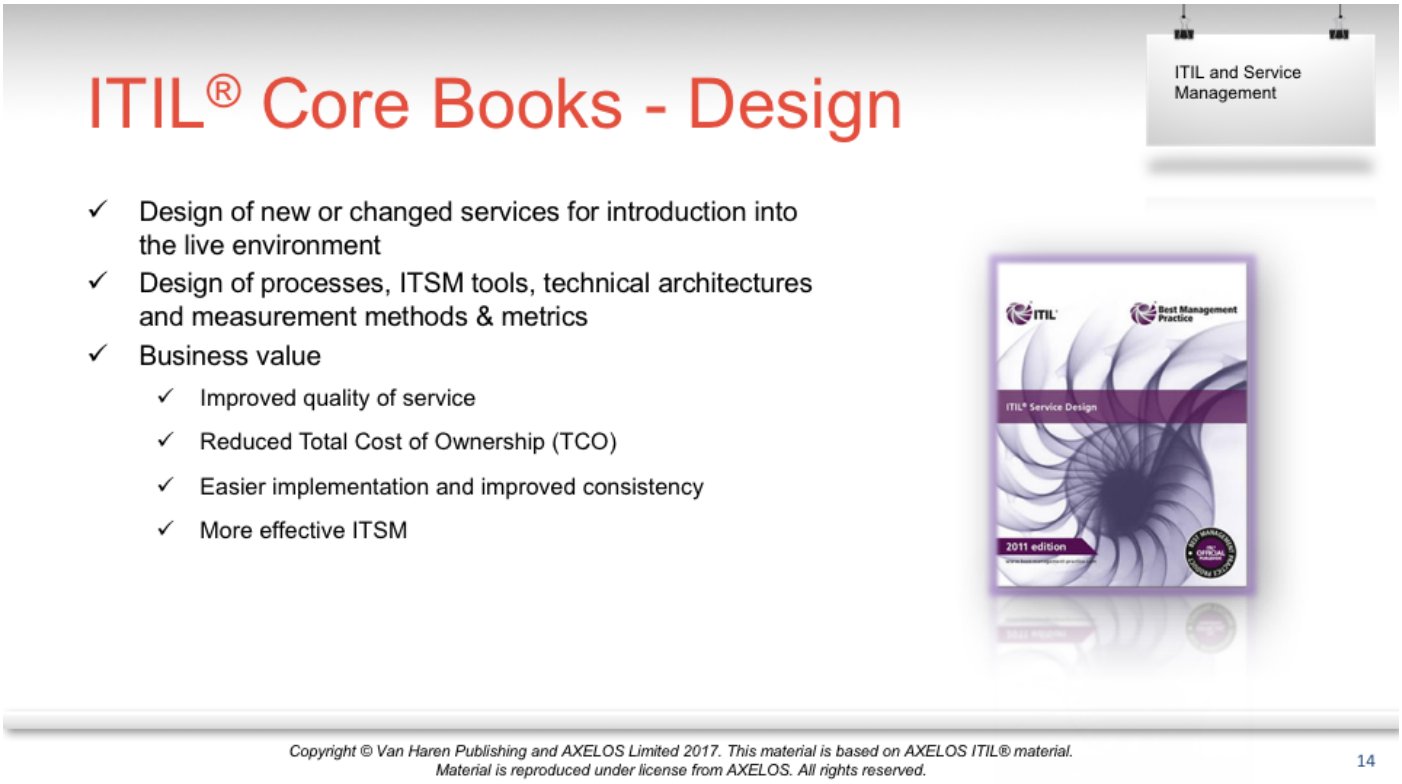
At the centre of the service lifecycle is service strategy. Value creation begins here with understanding organizational objectives and customer needs. Every organizational asset including people, processes and products should support the strategy.

ITIL Service Strategy provides guidance on how to view service management not only as an organizational capability but as a strategic asset. It describes the principles underpinning the practice of service management which are useful for developing service management policies, guidelines and processes across the ITIL service lifecycle.

Topics covered in *ITIL Service Strategy* include the development of market spaces, characteristics of internal and external provider types, service assets, the service portfolio and implementation of strategy through the service lifecycle. Business relationship management, demand management, financial management, organizational development and strategic risks are among the other major topics.

Organizations should use *ITIL Service Strategy* to set objectives and expectations of performance towards serving customers and market spaces, and to identify, select and prioritize opportunities. Service strategy is about ensuring that organizations are in a position to handle the costs and risks associated with their service portfolios, and are set up not just for operational effectiveness but for distinctive performance.

Organizations already practising ITIL can use *ITIL Service Strategy* to guide a strategic review of their ITIL-based service management capabilities and to improve the alignment between those capabilities and their business strategies. *ITIL Service Strategy* will encourage readers to stop and think about why something is to be done before thinking of how.



SD 1.2.2 Service design

For services to provide true value to the business, they must be designed with the business objectives in mind. Design encompasses the whole IT organization, for it is the organization as a whole that delivers and supports the services. Service design is the stage in the lifecycle that turns a service strategy into a plan for delivering the business objectives.

ITIL Service Design (this publication) provides guidance for the design and development of services and service management practices. It covers design principles and methods for converting strategic objectives into portfolios of services and service assets. The scope of *ITIL Service Design* is not limited to new services. It includes the changes and improvements necessary to increase or maintain value to customers over the lifecycle of services, the continuity of services, achievement of service levels, and conformance to standards and regulations. It guides organizations on how to develop design capabilities for service management.

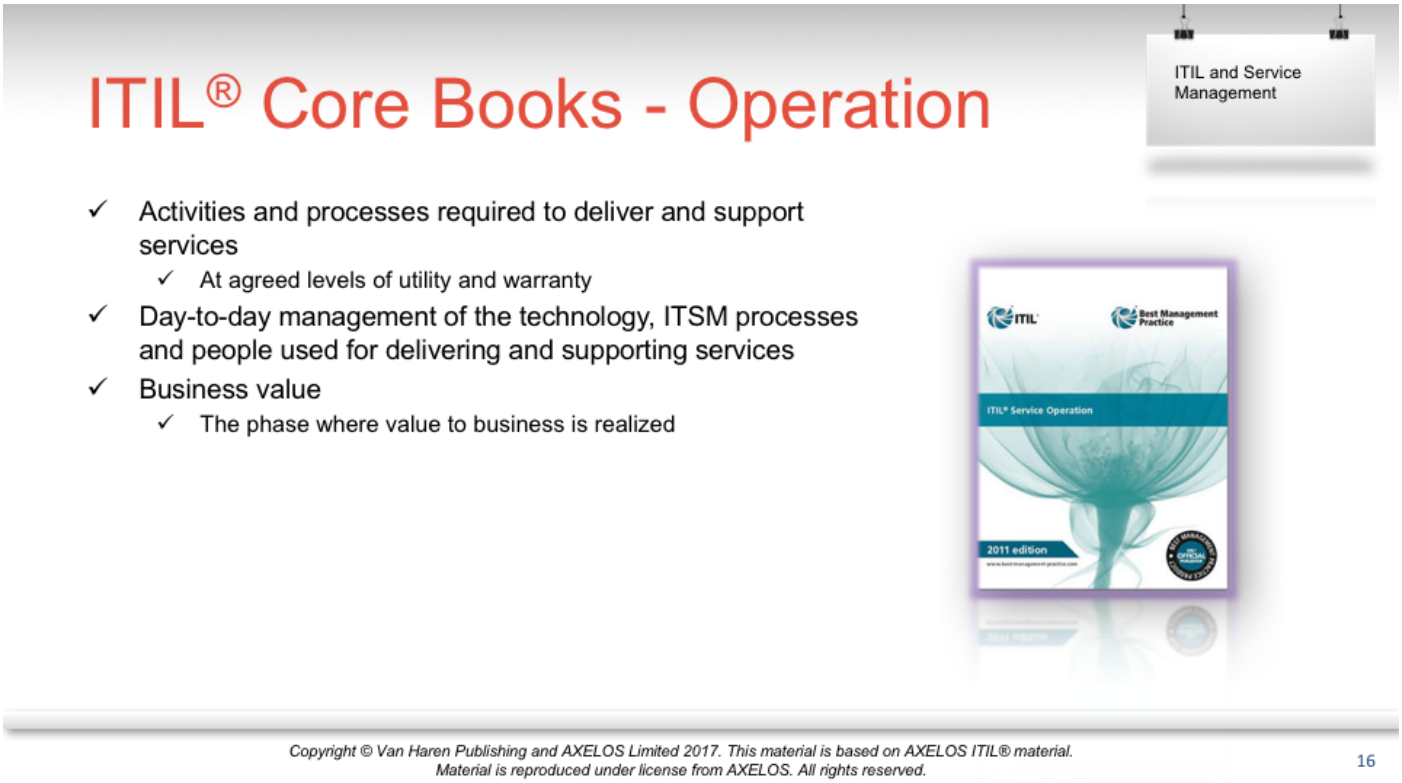
Other topics in *ITIL Service Design* include design coordination, service catalogue management, service level management, availability management, capacity management, IT service continuity management, information security management and supplier management.

SD 1.2.3 Service transition

ITIL Service Transition provides guidance for the development and improvement of capabilities for introducing new and changed services into supported environments. It describes how to transition an organization from one state to another while controlling risk and supporting organizational knowledge for decision support. It ensures that the value(s) identified in the service strategy, and encoded in service design, are effectively transitioned so that they can be realized in service operation.

ITIL Service Transition describes best practice in transition planning and support, change management, service asset and configuration management, release and deployment management, service validation and testing, change evaluation and knowledge management. It provides guidance on managing the complexity related to changes to services and service management processes, preventing undesired consequences while allowing for innovation.

ITIL Service Transition also introduces the service knowledge management system, which can support organizational learning and help to improve the overall efficiency and effectiveness of all stages of the service lifecycle. This will enable people to benefit from the knowledge and experience of others, support informed decision- making, and improve the management of services.

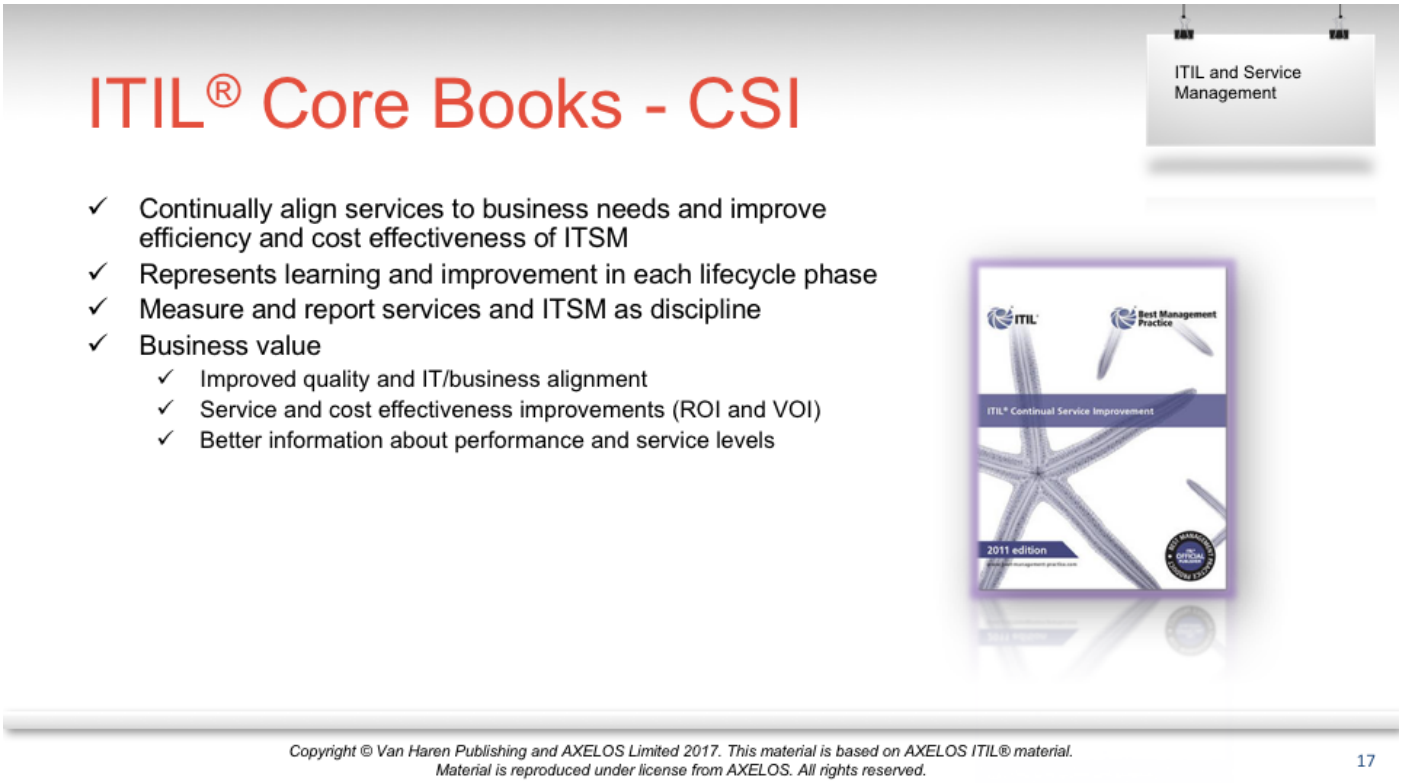


SD 1.2.4 Service operation

ITIL Service Operation describes best practice for managing services in supported environments. It includes guidance on achieving effectiveness and efficiency in the delivery and support of services to ensure value for the customer, the users and the service provider.

Strategic objectives are ultimately realized through service operation, therefore making it a critical capability. *ITIL Service Operation* provides guidance on how to maintain stability in service operation, allowing for changes in design, scale, scope and service levels. Organizations are provided with detailed process guidelines, methods and tools for use in two major control perspectives: reactive and proactive. Managers and practitioners are provided with knowledge allowing them to make better decisions in areas such as managing the availability of services, controlling demand, optimizing capacity utilization, scheduling of operations, and avoiding or resolving service incidents and managing problems. New models and architectures such as shared services, utility computing, web services and mobile commerce to support service operation are described.

Other topics in *ITIL Service Operation* include event management, incident management, request fulfilment, problem management and access management processes; as well as the service desk, technical management, IT operations management and application management functions.

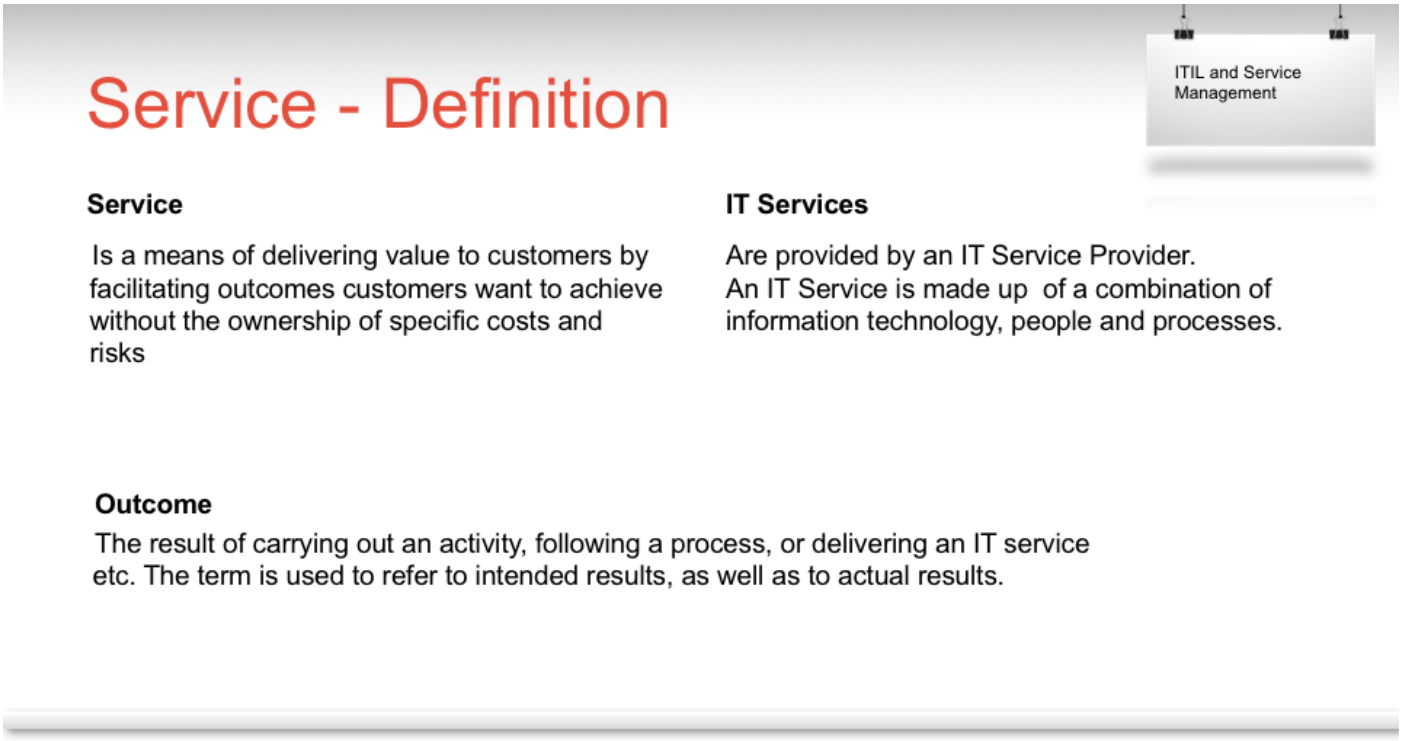


SD 1.2.5 Continual service improvement

ITIL Continual Service Improvement provides guidance on creating and maintaining value for customers through better strategy, design, transition and operation of services. It combines principles, practices and methods from quality management, change management and capability improvement.

ITIL Continual Service Improvement describes best practice for achieving incremental and large- scale improvements in service quality, operational efficiency and business continuity, and for ensuring that the service portfolio continues to be aligned to business needs. Guidance is provided for linking improvement efforts and outcomes with service strategy, design, transition and operation. A closed loop feedback system, based on the Plan-Do-Check- Act (PDCA) cycle, is established. Feedback from any stage of the service lifecycle can be used to identify improvement opportunities for any other stage of the lifecycle.

Other topics in *ITIL Continual Service Improvement* include service measurement, demonstrating value with metrics, developing baselines and maturity assessments.



SD 2.1.1 Services

Services are a means of delivering value to customers by facilitating the outcomes customers want to achieve without the ownership of specific costs and risks. Services facilitate outcomes by enhancing the performance of associated tasks and reducing the effect of constraints. These constraints may include regulation, lack of funding or capacity, or technology limitations. The end result is an increase in the probability of desired outcomes. While some services enhance performance of tasks, others have a more direct impact they perform the task itself.

The preceding paragraph is not just a definition, as it is a recurring pattern found in a wide range of services. Patterns are useful for managing complexity, costs, flexibility and variety. They are generic structures useful to make an idea applicable in a wide range of environments and situations. In each instance the pattern is applied with variations that make the idea effective, economical or simply useful in that particular case.

An outcome-based definition of service moves IT organizations beyond business–IT alignment towards business–IT integration. Internal dialogue and discussion on the meaning of services is an elementary step towards alignment and integration with a customer's business (Figure 2.1). Customer outcomes become the ultimate concern of business relationship managers instead of the gathering of requirements, which is necessary but not sufficient. Requirements are generated for internal coordination and control only after customer outcomes are well understood.

Customers seek outcomes but do not wish to have accountability or ownership of all the associated costs and risks. All services must have a budget when they go live and this must be managed. The service cost is reflected in financial terms such as return on investment (ROI) and total cost of ownership (TCO). The customer will only be exposed to the overall cost or price of a service, which will include all the provider's costs and risk mitigation measures (and any profit margin if appropriate). The customer can then judge the value of a service based on a comparison of cost or price and reliability with the desired outcome.

IT service: A service provided by an IT service provider. An IT service is made up of a combination of information technology, people and processes. A customer-facing IT service directly supports the business processes of one or more customers and its service level targets should be defined in a service level agreement. Other IT services, called supporting services, are not directly used by the business but are required by the service provider to deliver customer-facing services.

Customer satisfaction is also important. Customers need to be satisfied with the level of service and feel confident in the ability of the service provider to continue providing that level of service or even improving it over time. The difficulty is that customer expectations keep shifting, and a service provider that does not track this will soon find itself losing business. *ITIL Service Strategy* is helpful in understanding how this happens, and how a service provider can adapt its services to meet the changing customer environment.

Services can be discussed in terms of how they relate to one another and their customers, and can be classified as core, enabling or enhancing.

Core services deliver the basic outcomes desired by one or more customers. They represent the value that the customer wants and for which they are willing to pay. Core services anchor the value proposition for the customer and provide the basis for their continued utilization and satisfaction.

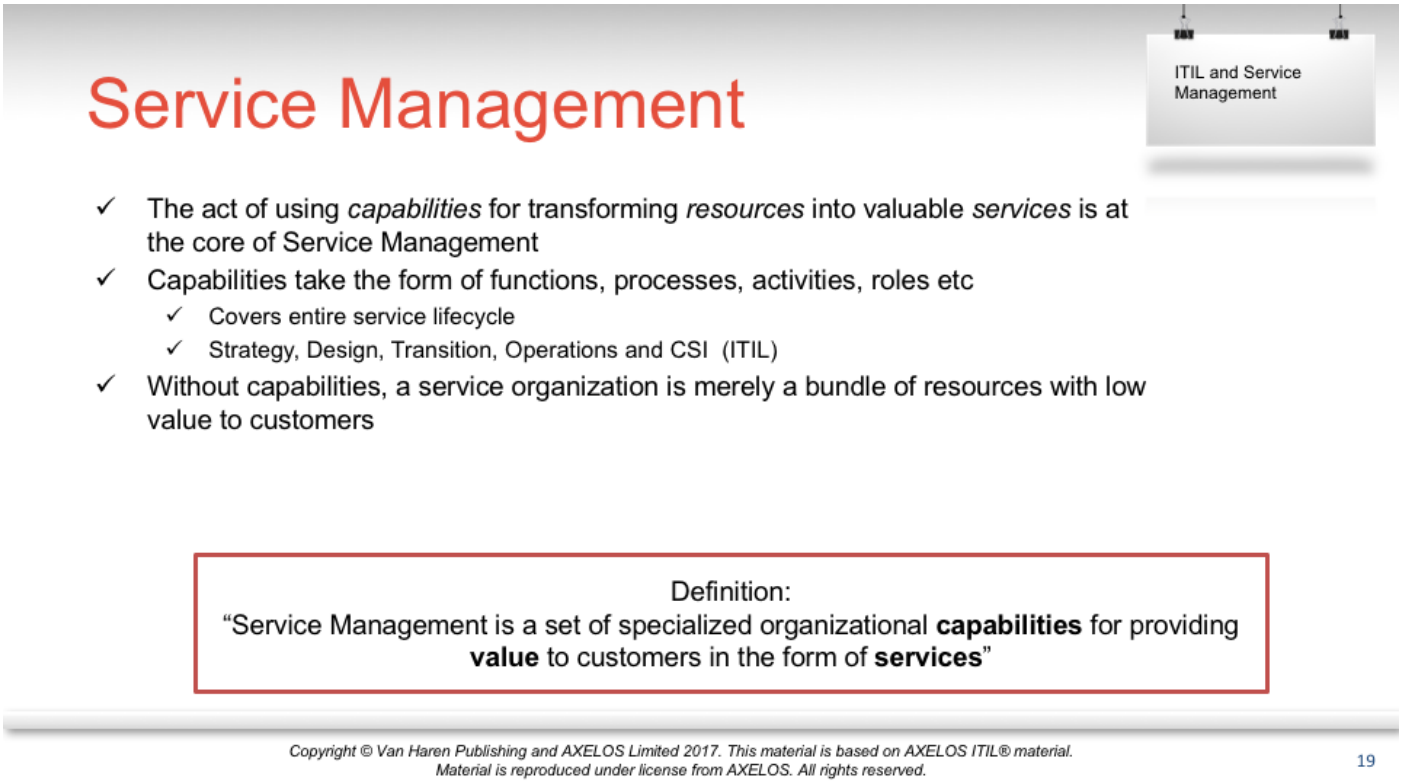
Enabling services are services that are needed in order for a core service to be delivered. Enabling services may or may not be visible to the customer, but the customer does not perceive them as services in their own right. They are 'basic factors' which enable the customer to receive the 'real' (core) service.

Enhancing services are services that are added to a core service to make it more exciting or enticing to the customer. Enhancing services are not essential to the delivery of a core service, and are added to a core service as 'excitement' factors, which will encourage customers to use the core service more (or to choose the core service provided by one company over those of its competitors).

Services may be as simple as allowing a user to complete a single transaction, but most services are complex. They consist of a range of deliverables and functionality. If each individual aspect of these complex services were defined independently, the service provider would soon find it impossible to track and record all services.

Most service providers will follow a strategy where they can deliver a set of more generic services to a broad range of customers, thus achieving economies of scale and competing on the basis of price and a certain amount of flexibility. One way of achieving this is by using service packages. A service package is a collection of two or more services that have been combined to offer a solution to a specific type of customer need or to underpin specific business outcomes. A service package can consist of a combination of core services, enabling services and enhancing services.

Where a service or service package needs to be differentiated for different types of customer, one or more components of the package can be changed, or offered at different levels of utility and warranty, to create service options. These different service options can then be offered to customers and are sometimes called service level packages.



SD 2.1.2 Service management

The use of IT today has become the utility of business. Business today wants IT services that behave like other utilities such as water, electricity or the telephone. Simply having the best technology will not ensure that IT provides utility- like reliability. Professional, responsive, value- driven service management is what brings this quality of service to the business.

Service management is a set of specialized organizational capabilities for providing value to customers in the form of services. The more mature a service provider's capabilities are, the greater is their ability to consistently produce quality services that meet the needs of the customer in a timely and cost-effective manner. The act of transforming capabilities and resources into valuable services is at the core of service management. Without these capabilities, a service organization is merely a bundle of resources that by itself has relatively low intrinsic value for customers.

Definitions

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

Service provider: An organization supplying services to one or more internal or external customers.

Service management capabilities are similarly influenced by the following challenges that distinguish services from other systems of value creation, such as manufacturing, mining and agriculture:

- Intangible nature of the output and intermediate products of service processes: they are difficult to measure, control and validate (or prove)
- Demand is tightly coupled with the customer's assets: users and other customer assets such as processes, applications, documents and transactions arrive with demand and stimulate service production
- High level of contact for producers and consumers of services: there is little or no buffer between the service provider's creation of the service and the customer's consumption of that service
- The perishable nature of service output and service capacity: there is value for the customer from assurance on the continued supply of consistent quality. Providers need to secure a steady supply of demand from customers.

Service management is more than just a set of capabilities. It is also a professional practice supported by an extensive body of knowledge, experience and skills. A global community of individuals and organizations in the public and private sectors fosters its growth and maturity. Formal schemes exist for the education, training and certification of practising organizations, and individuals influence its quality. Industry best practices, academic research and formal standards contribute to and draw from its intellectual capital.

The origins of service management are in traditional service businesses such as airlines, banks, hotels and phone companies. Its practice has grown with the adoption by IT organizations of a service-oriented approach to managing IT applications, infrastructure and processes. Solutions to business problems and support for business models, strategies and operations are increasingly in the form of services. The popularity of shared services and outsourcing has contributed to the increase in the number of organizations that behave as service providers, including internal IT organizations. This in turn has strengthened the practice of service management while at the same time imposed greater challenges.

SD 2.1.3 IT service management

Information technology (IT) is a commonly used term that changes meaning depending on the different perspectives that a business organization or people may have of it. A key challenge is to recognize and balance these perspectives when communicating the value of IT service management (ITSM) and understanding the context for how the business sees the IT organization. Some of these meanings are:

- IT is a collection of systems, applications and infrastructures which are components or sub- assemblies of a larger product. They enable or are embedded in processes and services.
- IT is an organization with its own set of capabilities and resources. IT organizations can be of various types such as business functions, shared services units and enterprise-level core units.
- IT is a category of services utilized by business. The services are typically IT applications and infrastructure that are packaged and offered by internal IT organizations or external service providers. IT costs are treated as business expenses.
- IT is a category of business assets that provide a stream of benefits for their owners, including, but not limited to, revenue, income and profit. IT costs are treated as investments.

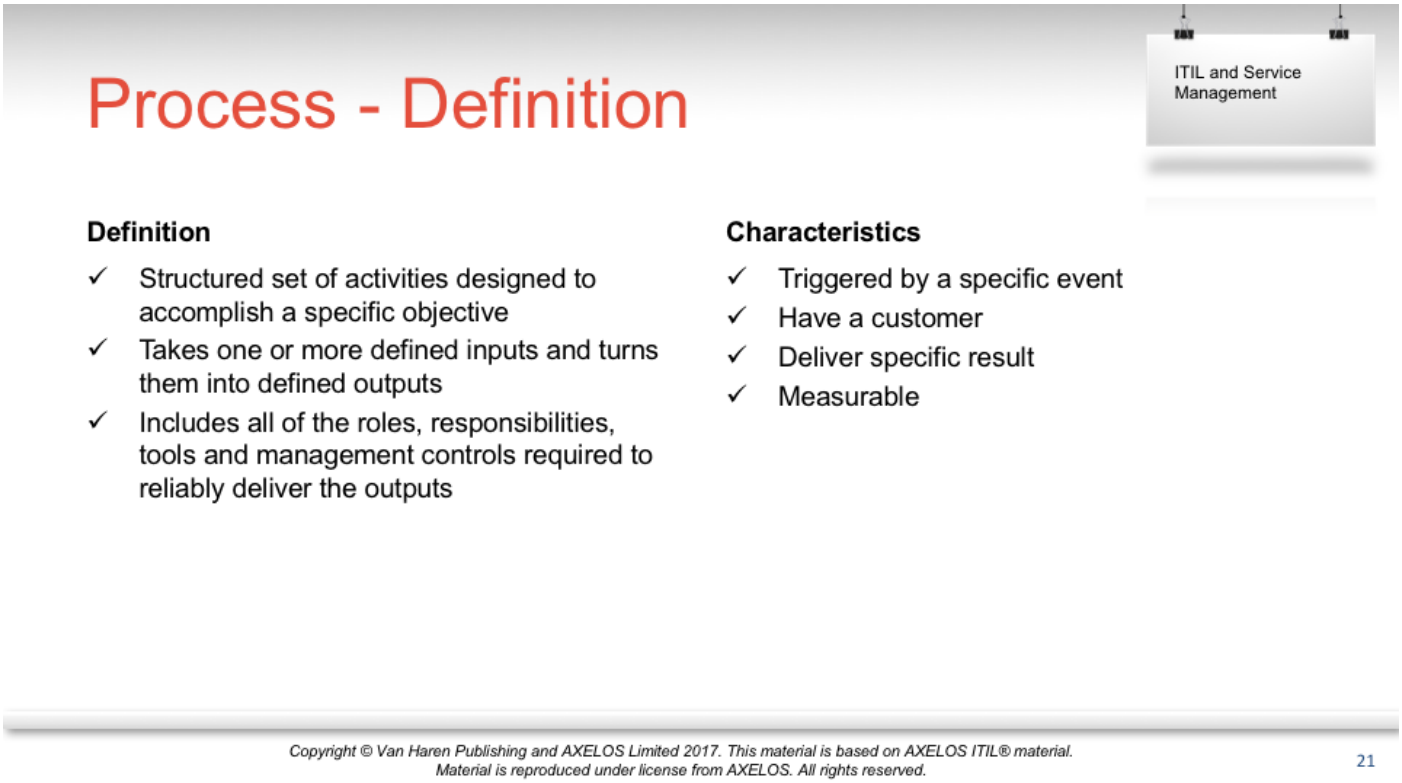
Every IT organization should act as a service provider, using the principles of service management to ensure that they deliver the outcomes required by their customers.

Definitions

IT service management (ITSM): The implementation and management of quality IT services that meet the needs of the business. IT service management is performed by IT service providers through an appropriate mix of people, process and information technology.

IT service provider: A service provider that provides IT services to internal or external customers.

ITSM must be carried out effectively and efficiently. Managing IT from the business perspective enables organizational high performance and value creation.



SD 2.2.2 Processes

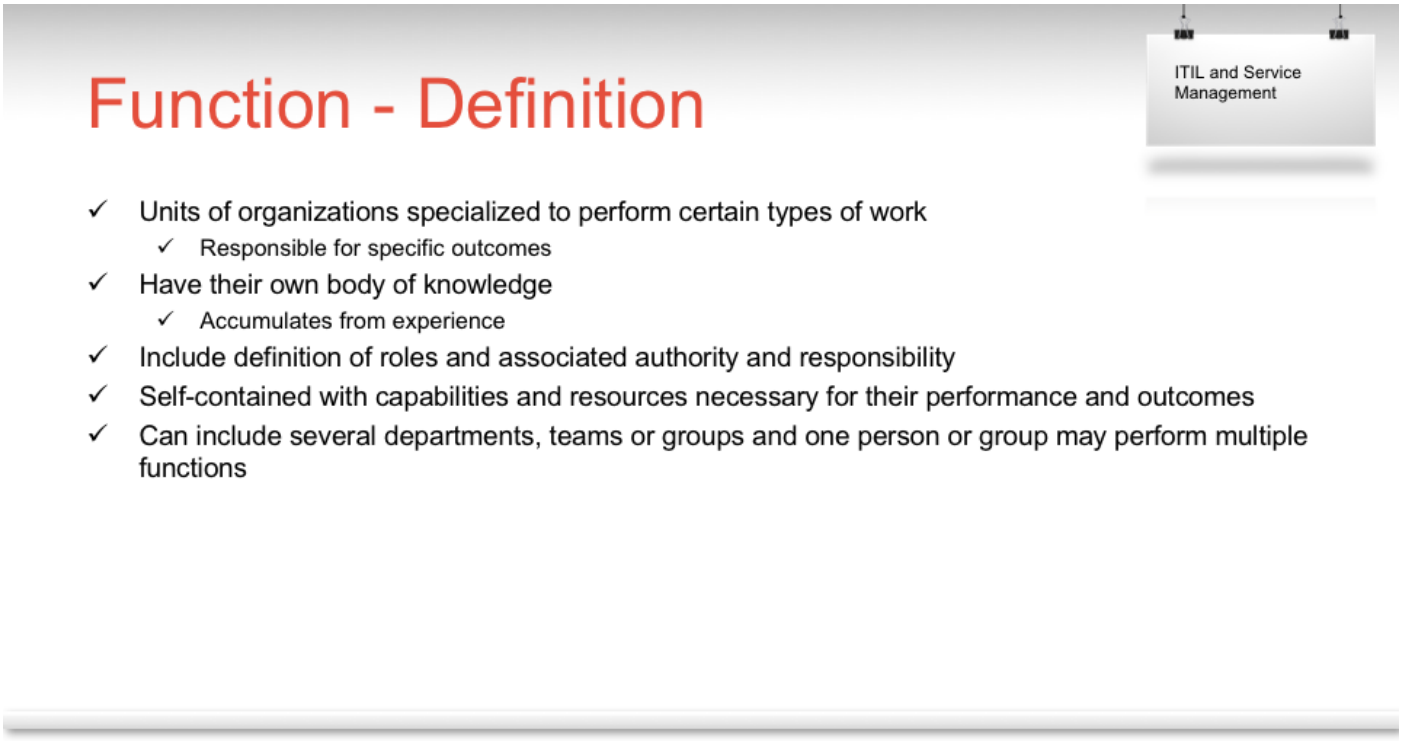
Definition: process

A process is 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.

Processes define actions, dependencies and sequence. Well-defined processes can improve productivity within and across organizations and functions. Process characteristics include:

- **Measurability**
  We are able to measure the process in a relevant manner. It is performance- driven. Managers want to measure cost, quality and other variables while practitioners are concerned with duration and productivity.
- **Specific results**
  The reason a process exists is to deliver a specific result. This result must be individually identifiable and countable.
- **Customers**
  Every process delivers its primary results to a customer or stakeholder. Customers may be internal or external to the organization, but the process must meet their expectations.
- **Responsiveness to specific triggers**
  While a process may be ongoing or iterative, it should be traceable to a specific trigger.

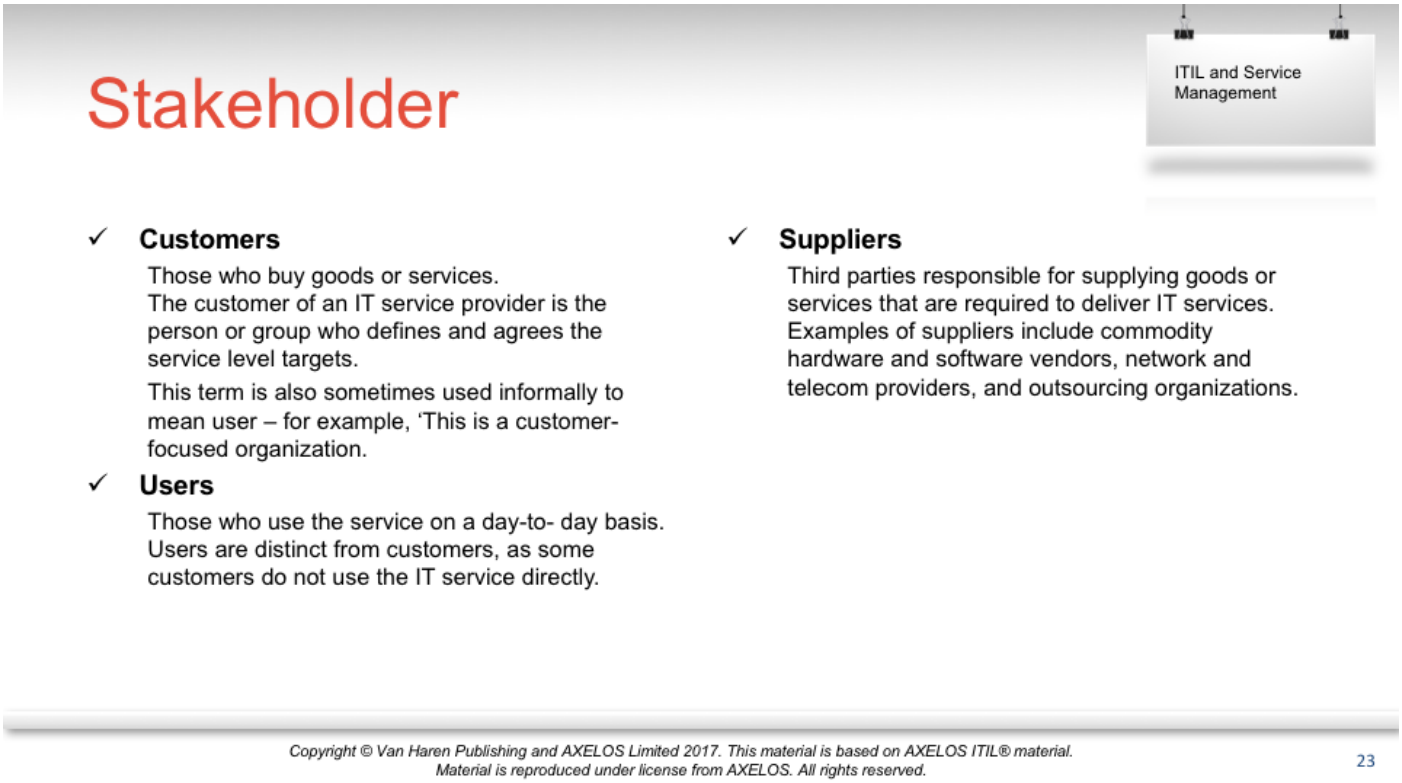
A process is organized around a set of objectives. The main outputs from the process should be driven by the objectives and should include process
measurements (metrics), reports and process improvement.



SD 2.2.3.1 Functions

A function is a team or group of people and the tools or other resources they use to carry out one or more processes or activities. In larger organizations, a function may be broken out and performed by several departments, teams and groups, or it may be embodied within a single organizational unit (e.g. the service desk). In smaller organizations, one person or group can perform multiple functions for example, a technical management department could also incorporate the service desk function.

For the service lifecycle to be successful, an organization will need to clearly define the roles and responsibilities required to undertake the processes and activities involved in each lifecycle stage. These roles will need to be assigned to individuals, and an appropriate organization structure of teams, groups or functions will need to be established and managed.



SD 2.1.5 Stakeholders in service management

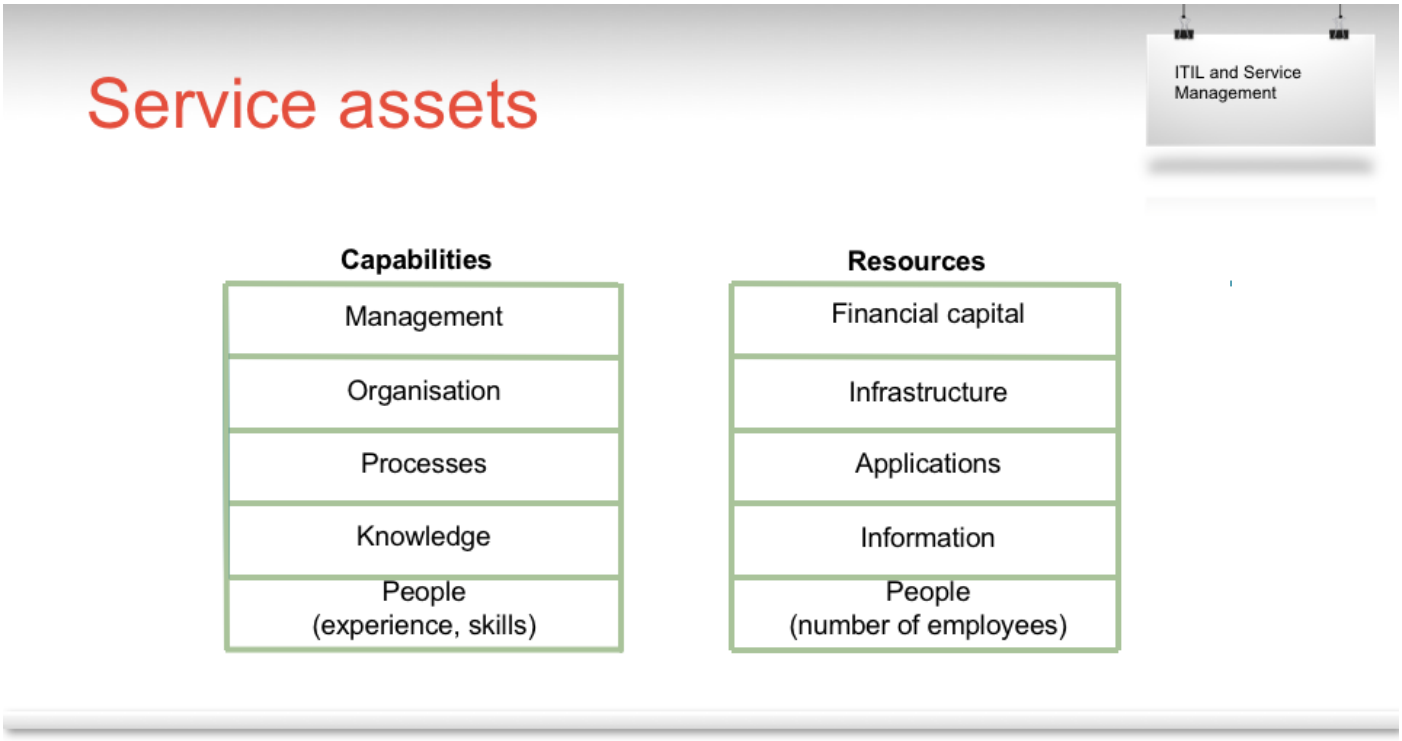
Stakeholders have an interest in an organization, project or service etc. and may be interested in the activities, targets, resources or deliverables from service management. Examples include organizations, service providers, customers, consumers, users, partners, employees, shareholders, owners and suppliers. The term 'organization' is used to define a company, legal entity or other institution. It is also used to refer to any entity that has people, resources and budgets for example, a project or business.

Within the service provider organization there are many different stakeholders including the functions, groups and teams that deliver the services. There are also many stakeholders external to the service provider organization, for example:

- **Customers**
  Those who buy goods or services. The customer of an IT service provider is the person or group who defines and agrees the service level targets. This term is also sometimes used informally to mean user for example, 'This is a customer-focused organization.'
- **Users**
  Those who use the service on a day-to- day basis. Users are distinct from customers, as some customers do not use the IT service directly.
- **Suppliers**
  Third parties responsible for supplying goods or services that are required to deliver IT services. Examples of suppliers include commodity hardware and software vendors, network and telecom providers, and outsourcing organizations.

There is a difference between customers who work in the same organization as the IT service provider, and customers who work for other organizations. They are distinguished as follows:

- **Internal customers**
  These are customers who work for the same business as the IT service provider. For example, the marketing department is an internal customer of the IT organization because it uses IT services. The head of marketing and the chief information officer both report to the chief executive officer. If IT charges for its services, the money paid is an internal transaction in the organization's accounting system, not real revenue.
- **External customers**
  These are customers who work for a different business from the IT service provider. External customers typically purchase services from the service provider by means of a legally binding contract or agreement.



SD 2.2.1 Assets, resources and capabilities

The service relationship between service providers and their customers revolves around the use of assets both those of the service provider and those of the customer. Each relationship involves an interaction between the assets of each party.

Many customers use the service they receive to build and deliver services or products of their own and then deliver them on to their own customers. In these cases, what the service provider considers to be the customer asset would be considered to be a service asset by their customer.

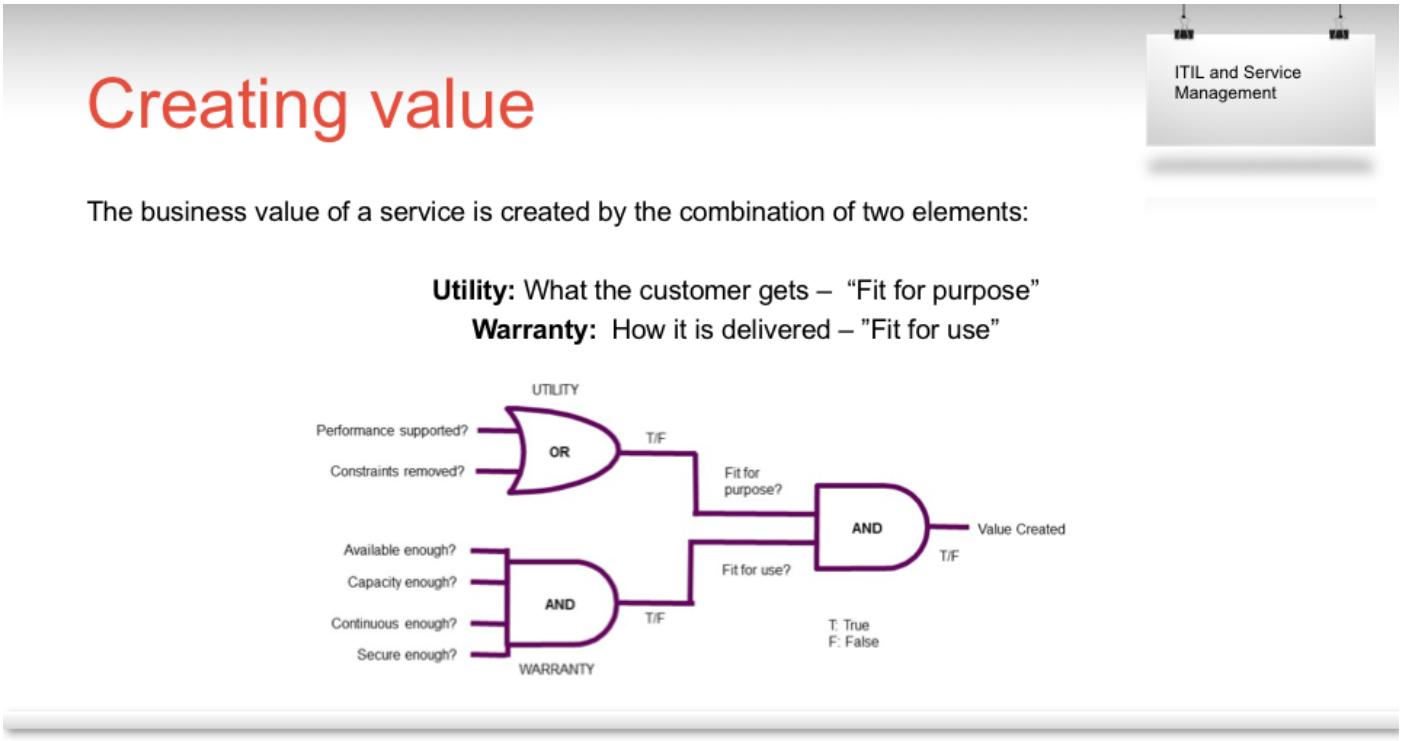
Without customer assets, there is no basis for defining the value of a service. The performance of customer assets is therefore a primary concern for service management.

Definitions

Asset: Any resource or capability.

Customer asset: Any resource or capability used by a customer to achieve a business outcome.

Service asset: Any resource or capability used by a service provider to deliver services to a customer.



SD 2.1.6 Utility and warranty

The value of a service can be considered to be the level to which that service meets a customer's expectations. It is often measured by how much the customer is willing to pay for the service, rather than the cost to the service provider of providing the service or any other intrinsic attribute of the service itself.

Unlike products, services do not have much intrinsic value. The value of a service comes from what it enables someone to do. The value of a service is not determined by the provider, but by the person who receives it because they decide what they will do with the service, and what type of return they will achieve by using the service. Services contribute value to an organization only when their value is perceived to be higher than the cost of obtaining the service.

Utility is the functionality offered by a product or service to meet a particular need. Utility can be summarized as 'what the service does', and can be used to determine whether a service is able to meet its required outcomes, or is 'fit for purpose'. Utility refers to those aspects of a service that contribute to tasks associated with achieving outcomes.

Warranty is an assurance that a product or service will meet its agreed requirements. This may be a formal agreement such as a service level agreement or contract, or a marketing message or brand image. Warranty refers to the ability of a service to be available when needed, to provide the required capacity, and to provide the required reliability in terms of continuity and security. Warranty can be summarized as 'how the service is delivered', and can be used to determine whether a service is 'fit for use'.

Utility is *what* the service does, and warranty is *how* it is delivered.

Introduction to Service Design

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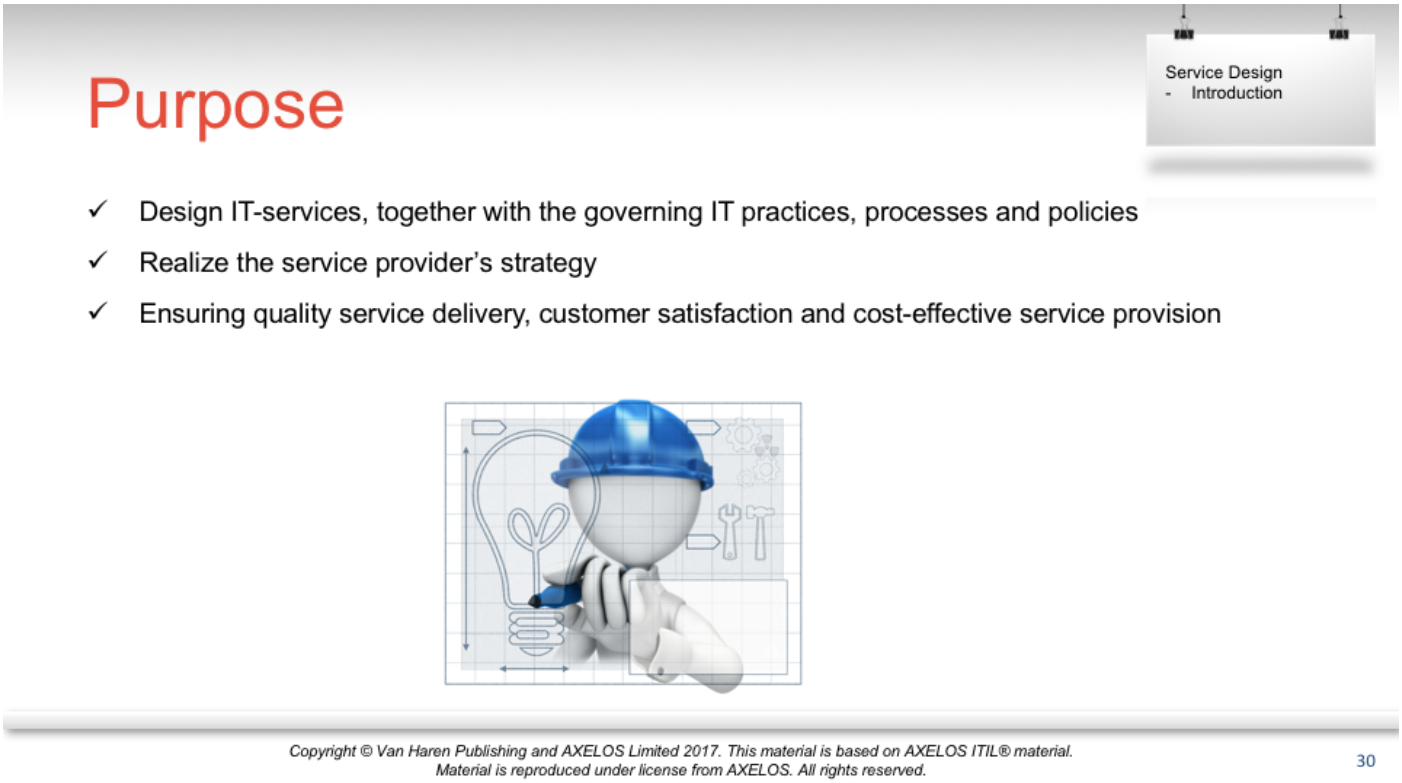
Introduction to Service Design



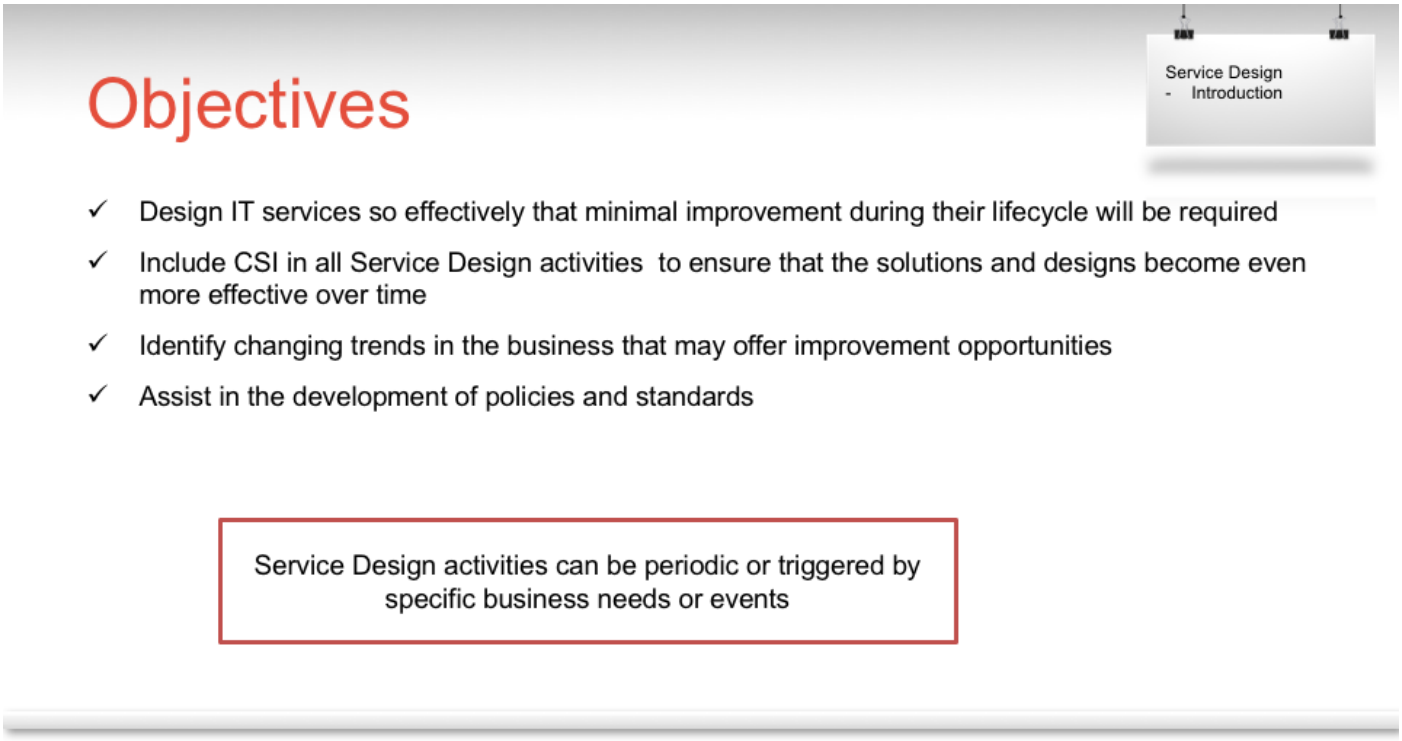
SD 1.1 OVERVIEW

ITIL Service Design provides best-practice guidance for the service design stage of the ITIL service lifecycle. Although this publication can be read in isolation, it is recommended that it is used in conjunction with the other core ITIL publications.

SD 1.1.1 Purpose and objective of service design

The purpose of the service design stage of the lifecycle is to design IT services, together with the governing IT practices, processes and policies, to realize the service provider's strategy and to facilitate the introduction of these services into supported environments ensuring quality service delivery, customer satisfaction and cost-effective service provision.

The objective of service design is to design IT services so effectively that minimal improvement during their lifecycle will be required. However, continual improvement should be embedded in all service design activities to ensure that the solutions and designs become even more effective over time, and to identify changing trends in the business that may offer improvement opportunities. Service design activities can be periodic or exception-based when they may be triggered by a specific business need or event.



SD 3.2 SERVICE DESIGN GOALS

The main goals and objectives of service design are to:

- Design services to satisfy business objectives and align with business needs, based on the quality, compliance, risk and security requirements, delivering more effective and efficient IT and business solutions by coordinating all design activities for IT services to ensure consistency and business focus
- Design services that can be easily and efficiently developed and enhanced within appropriate timescales and costs, and, wherever possible, reduce, minimize or constrain the long-term costs of service provision
- Design an efficient and effective service management system, including processes for the design, transition, operation and improvement of high-quality IT services, together with the supporting tools, systems and information, especially the service portfolio, to manage services through their lifecycle
- Identify and manage risks so that they can be removed or mitigated before services go live
- Design secure and resilient IT infrastructures, environments, applications and data/ information resources and capability that meet the current and future needs of the business and customers
- Design measurement methods and metrics for assessing the effectiveness and efficiency of the design processes and their deliverables
- Produce and maintain IT plans, processes, policies, architectures, frameworks and documents for the design of quality IT solutions, to meet current and future agreed business needs
- Assist in the development of policies and standards in all areas of design and planning of IT services and processes, receiving and acting on feedback on design processes from all other areas and incorporating the actions into a continual process of improvement
- Develop the skills and capability within IT by moving strategy and design activities into operational tasks, making effective and efficient use of all IT service resources
- Contribute to the improvement of the overall quality of IT service within the imposed design constraints, especially by reducing the need for reworking and enhancing services once they have been implemented in the live environment.