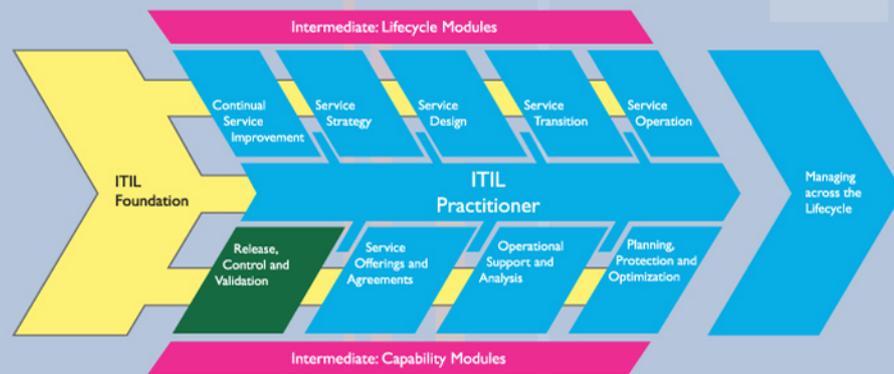


ITIL® Intermediate Release, Control and Validation

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 Release, Control and Validation

Version 1.3.0

This material is based on AXELOS ITIL® material. Material is reproduced under licence from AXELOS

Material in this document has been sourced from ITIL® Core Books 2011 edition. No part of this document may be reproduced in any form without the written permission of both Van Haren Publishing and AXELOS Limited.

Permission can be requested at info@vanharen.net and licensing@AXELOS.com.

Copyright protected. Use is for Single Users only via a VHP Approved License.
For information and printed versions please see www.vanharen.net

Colofon

Title: ITIL® Intermediate Release, Control & Validation

Author: Pelle Rástock

Publisher: Van Haren Publishing, 's Hertogenbosch

ISBN Hard copy: 9789401801454

Edition: First edition, first impression, March 2017

Second edition, first impression, October 2018

Design & layout: Van Haren Publishing, 's Hertogenbosch

Copyright: © Van Haren Publishing 2018

For any future enquiries about Van Haren Publishing, please send an email to:

info@vanharen.net

This material is based on AXELOS ITIL® material. Material is reproduced under licence from AXELOS

All rights reserved. No part of this publication may be reproduced in any form by print, photo print, microfilm or any other means without written permission by the publisher.

Although this publication has been composed with much care, neither author, nor editor, nor publisher can accept any liability for damage caused by possible errors and/or incompleteness in this publication.

Material in this document has been sourced from ITIL® Service Operation 2011 edition. No part of this document may be reproduced in any form without the written permission of both Van Haren Publishing and AXELOS Limited. Permission can be requested at info@vanharen.net and licensing@AXELOS.com.

ITIL Release, Control and Validation

Index

| | |
|---|-----|
| ITIL and Service Management Overview | 5 |
| Introduction to Release, Control and Validation | 27 |
| Change Management | 43 |
| Service Asset and Configuration Management | 93 |
| Service Validation and testing | 145 |
| Release and Deployment management | 189 |
| Request fulfilment..... | 269 |
| Change evaluation..... | 302 |
| Knowledge Management | 329 |
| RCV Roles and responsibilities..... | 365 |
| Technology and implementation considerations | 405 |
| Appendices | 434 |
| • Sample Paper 1 | |
| • Sample Paper 2 | |
| • Syllabus | |



Welcome to Release, Control and Validation

The ITIL® Capability Qualification

ITIL® is a registered trade mark of AXELOS Limited

Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

1

The examination

- ✓ 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

Course Introduction
- Exam

Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

6

Learning objectives

- ✓ Introduction to Release, Control and Validation
- ✓ Change Management
- ✓ Service asset and configuration management
- ✓ Service validation and testing
- ✓ Release and deployment management
- ✓ Request fulfilment
- ✓ Change evaluation
- ✓ Knowledge management
- ✓ RCV roles and responsibilities
- ✓ Technology and implementation considerations

Course Introduction
- Objectives



Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

5

Material in this document has been sourced from ITIL® Core Books 2011 edition. No part of this document may be reproduced in any form without the written permission of both Van Haren Publishing and AXELOS Limited.

Permission can be requested at info@vanharen.net and licensing@AXELOS.com

Copyright protected. Use is for Single Users only via a VHP Approved License.
For information and printed versions please see www.vanharen.net

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



Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

7

ITIL and Service Management overview



Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

9

ITIL and Service Management Overview

The ITIL Toolbox

ITIL and Service
Management

- ✓ The ITIL Core (5 books)
 - Best Practice guidance applicable to all types of organizations who provide services
- ✓ The ITIL Complementary Guidance
 - A set of publications with guidance specific to industry sectors, organization types, operating models and technology architectures
- ✓ The ITIL Live
 - An interactive expert knowledge center
 - Subscription based

Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

10

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.

ITIL Release, Control and Validation

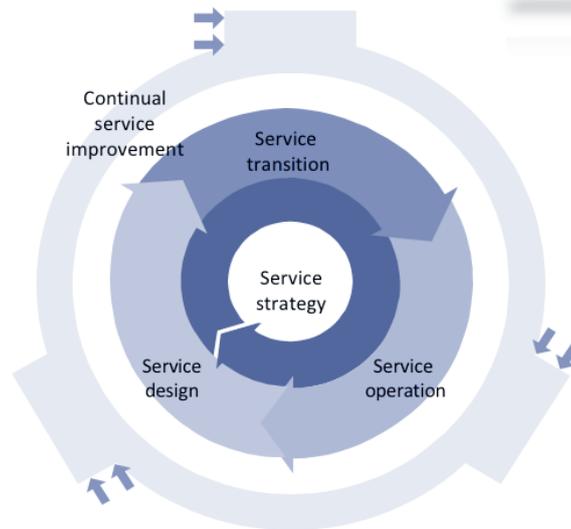
The ITIL framework is based on the five stages of the service lifecycle as shown on next slide with a core publication providing best-practice guidance for each stage. This guidance includes key principles, required processes and activities, organization and roles, technology, associated challenges, 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.

Service Lifecycle

ITIL and Service Management

- ✓ Processes explain how things are done, whereas structure/phases describes how they are connected
 - Processes can span several lifecycle phases
- ✓ The lifecycle can be described as
 - Integrated approach
 - Iterative and multidimensional



Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

11

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.

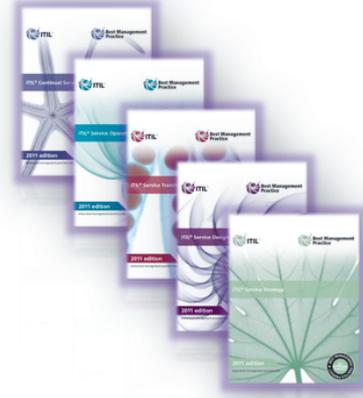
ITIL guidance can be adapted to support various business environments and organizational strategies. Complementary ITIL publications provide flexibility to implement the core in a diverse range of environments. Practitioners can select complementary publications as needed to provide traction for the 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



Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

12

ITIL® Core Books - Strategy

ITIL and Service Management

- ✓ Axis around which the other lifecycle phases rotates
- ✓ Think about **why** something is to be done before thinking of **how**
- ✓ Represents policies and objectives
- ✓ Answers following questions:
 - *What services to offer and to whom?*
 - *How do we differentiate ourselves?*
 - *How do we create value?*
 - *Which capabilities and resources are required and how should they be allocated across services?*



Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

13

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.

ITIL® Core Books - Design

ITIL and Service
Management

- ✓ Design of new or changed services for introduction into the live environment
- ✓ Design of processes, ITSM tools, technical architectures and measurement methods & metrics
- ✓ Business value
 - Improved quality of service
 - Reduced Total Cost of Ownership (TCO)
 - Easier implementation and improved consistency
 - More effective ITSM



Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

14

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.

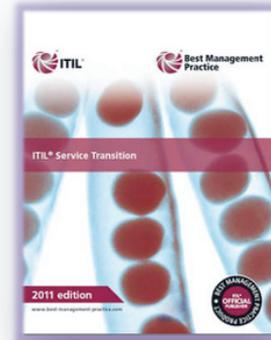
ITIL Service Design (this publication) provides guidance for the design and development of services and service management practices. It covers design principles and methods for converting strategic objectives into portfolios of services and service assets. The scope of *ITIL Service Design* is not limited 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.

ITIL® Core Books - Transition

ITIL and Service
Management

- ✓ Move a new or changed service into, or from, operational use within predicted cost, quality and time
- ✓ Establish methods for testing, validating, packaging, deploying or decommissioning a service
- ✓ Business value
 - Ability to adapt quickly to new or changed requirements
 - Reduced disturbance due to inconsistent or failed releases
 - Better prediction of service levels and warranties



Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

15

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.

ITIL® Core Books - Operation

ITIL and Service Management

- ✓ Activities and processes required to deliver and support services at agreed levels of utility and warranty
- ✓ Day-to-day management of the technology, ITSM processes and people used for delivering and supporting services
- ✓ Business value
 - The phase where value to business is realized



Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

16

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.

ITIL® Core Books - CSI

ITIL and Service
Management

- ✓ Continually align services to business needs and improve efficiency and cost effectiveness of ITSM
- ✓ Represents learning and improvement in each lifecycle phase
- ✓ Measure and report services and ITSM as discipline
- ✓ Business value
 - Improved quality and IT/business alignment
 - Service and cost effectiveness improvements (ROI and VOI)
 - Better information about performance and service levels



Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

17

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.

Service - Definition

ITIL and Service Management

Service

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

IT Services

Are provided by an IT Service Provider.
An IT Service is made up of a combination of information technology, people and processes.

Outcome

The result of carrying out an activity, following a process, or delivering an IT service etc. The term is used to refer to intended results, as well as to actual results.

Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

18

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.

ITIL Release, Control and Validation

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.

Service Management

ITIL and Service Management

- ✓ The act of using *capabilities* for transforming *resources* into valuable *services* is at the core of Service Management
- ✓ Capabilities take the form of functions, processes, activities, roles etc
 - Covers entire service lifecycle
 - Strategy, Design, Transition, Operations and CSI (ITIL)
- ✓ Without capabilities, a service organization is merely a bundle of resources with low value to customers

Definition:

“Service Management is a set of specialized organizational **capabilities** for providing **value** to customers in the form of **services**”

Copyright © Van Haren Publishing and AXELOS Limited 2017. Reproduced under licence from AXELOS

19

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.

ITIL Release, Control and Validation

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.