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ITIL® V3 Foundation Exam

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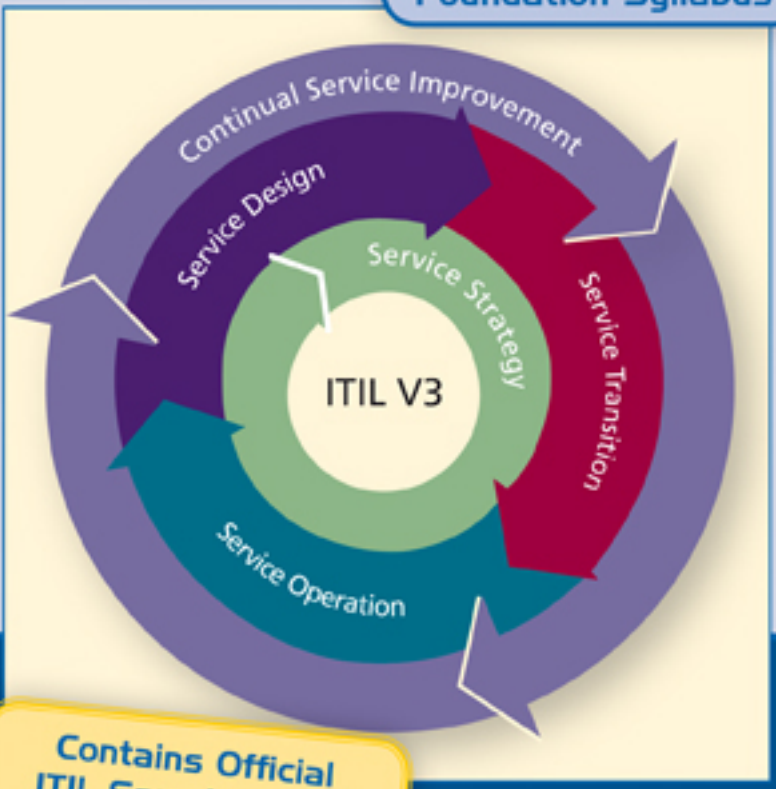
2009 ITIL® V3 Foundation Syllabus



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ITIL® V3 Foundation Exam

The Study Guide

Colophon

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Foreword

This concise Study Guide provides details on the ITIL V3 Qualification Scheme, a practical introduction to the content of the five ITIL V3 core books, and an extensive set of exam questions to support the best exam preparation.

It explains the structure of the new Service Lifecycle in the context of IT service management principles, and explains what functions and processes are. Each of the phases in the Service Lifecycle is discussed in detail, including all functions and processes. Each chapter follows a standardized structure, and ends with a number of sample exam questions.

At the end of the guide, a full set of 40 sample questions of the ITIL V3 Foundation Exam is provided, including the answers to the sample questions.

The Study Guide provides detailed information on the ITIL V3 Foundation Exam and how to prepare for this exam. It also provides a cross-reference to the ITIL V3 Foundation Exam requirements, underpinning its value as an exam preparation tool.

This Study Guide contains Core ITIL material that is published under license from HMSO and was developed by a broad team of expert editors, expert authors and expert reviewers. It provides an essential tool for anyone taking the ITIL V3 Foundation Exam or the Version 2 to Version 3 Foundation Bridging Exam.

It is based on the ITIL Foundation Certification syllabus version 4.2 and ITIL content, highlighting the areas needed to pass the exam. As a study aid it is ideal for those new to ITIL but also for those already familiar with ITIL V2, it is straight to the point, and provides you with an excellent reference to keep up to date.

Jan van Bon
Managing Editor

Contents

CHAPTER 1

The ITIL® V3 Qualification Scheme[1]

1.1 About ITIL

The Information Technology Infrastructure Library™ (ITIL) offers a systematic approach to the delivery of quality IT services. ITIL was developed in the 1980s and 1990s by CCTA (Central Computer and Telecommunications Agency, now the **Office of Government Commerce, OGC**), under contract to the UK Government.

Since then, ITIL has provided not only a best practice based framework for IT management, but also an approach and philosophy shared by the people who work with it in practice. ITIL has now been updated twice, the first time in 2000-2002 (V2), and the second time in 2007 (V3). ITIL is supported by the **IT Service Management Forum** (**itSMF**), an internationally recognized not-for-profit organization dedicated to support the development of IT service management.

1.2 The ITIL® V3 Qualification Scheme

The ITIL V3 Qualification Scheme uses a system that enables an individual to gain credits for each exam they pass. Once candidates have accumulated a sufficient number of credits they can be awarded the ITIL Expert in IT Service Management. There are four levels within the scheme:

- Foundation Level
- Intermediate Level (Lifecycle Stream and Capability Stream)
- ITIL Expert
- ITIL Master

Figure 1.1 shows the structure of qualifications within the ITIL V3 scheme.

1 This chapter is based on text from the "ITIL Service Management Practices V3 Qualification Scheme 4.2", the website of APMG and the Official ITIL Site.

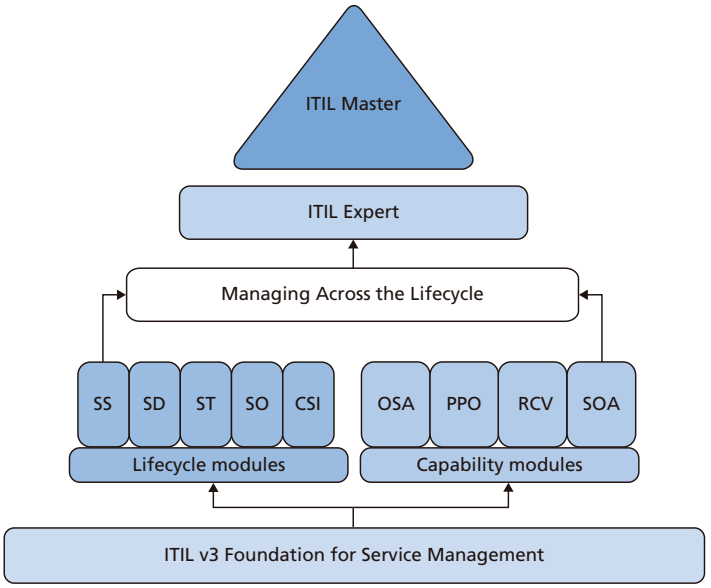

Figure 1.1 The ITIL V3 Qualification Scheme (© Official Accreditor of the OGC ITIL Portfolio: - APM Group Limited 2009)

1.2.1 Foundation Level

The ITIL Foundation Certificate in IT service Management is targeted at:

- Individuals who require a basic understanding of the ITIL framework and how it may be used to enhance the quality of IT service management within an organization.
- IT professionals who are working within an organization that practices ITIL and who need to be informed about - and contribute to - service improvement.

The purpose of the ITIL Foundation Certificate in IT Service Management is to certify that the candidate has gained knowledge of the ITIL terminology, structure and basic concepts and has comprehended the core principles of ITIL practices for service management. More specifically, Foundation level candidates will have to gain knowledge and understanding of the following topics:

- **Service management as a practice** (Comprehension) - Define service and comprehend and explain the concept of service management as a practice.
- **Service lifecycle** (Comprehension) - Understand the service lifecycle and explain the objectives and business value for each phase in the lifecycle.

- **Key principles and models** (Comprehension) - Comprehend and account for the key principles and models of service management and 'the balance' of some opposing forces within service management.
- **Generic concepts** (Awareness) - Define some of the key terminology and explain the key concepts of service management.
- **Selected processes** (Awareness) - Understand how the service management processes contribute to the service lifecycle, explain the high level objectives, scope, basic concepts, activities, key metrics (KPI's), roles and challenges for five of the core processes and state the objectives, some of the basic concepts and roles for fifteen of the remaining processes.
- **Selected roles** (Awareness) - Account for the role and to be aware of the responsibilities of some of the key roles in service management and recognize a number of the remaining roles described in other learning units.
- **Selected functions** (Awareness) - Explain the role, objectives, organizational structures, staffing and metrics of the Service Desk function and state the role, objectives and overlap of three other functions.
- **Technology and architecture** (Awareness) - List some generic requirements for an integrated set of service management technology, and understand how service automation assists with integrating service management processes.
- **ITIL® V3 Qualification Scheme** (Awareness) - Explain the ITIL® V3 Qualification Scheme.

This list is not exhaustive. For more detailed information about the Foundation Exam topics, you can download the syllabus "The ITIL V3 Foundation Certificate in IT Service Management, Version 4.2" at the official ITIL site (http://www.itil-officialsite.com), examine the cross-reference at the end of this book, or ask your accredited trainer.

1.2.2 Intermediate Level

There are two streams in the Intermediate level. Both streams assess an individual's ability to analyze and apply the concepts of ITIL. Candidates are able to take units from either of the Intermediate streams, to gain credits towards the Expert level.

- **Intermediate Lifecycle Stream** - This stream includes 5 individual certificates built around the five core OGC titles: Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement.
- **Intermediate Capability Stream** - This stream includes 4 individual certificates loosely based on the current V2 Clustered Practitioner qualifications, but broader in scope in line with the updated V3 content.

1.2.3 ITIL Expert

To achieve the ITIL Expert in IT Service Management, candidates must successfully complete a number of Intermediate units in addition to the mandatory Foundation level and the Managing Across The Lifecycle capstone course. This course brings together the full essence of a lifecycle approach to service management, and consolidates the knowledge gained across the qualification scheme.

1.2.4 ITIL Master

This level of the qualification will assess an individual's ability to apply and analyze the ITIL concepts in new areas. This higher level qualification is currently under development.

1.3 Examination Institutes

Professional qualifications based on ITIL are offered by Examination Institutes (EIs). An Examination Institute is an organization accredited by the APM Group (APMG) through the ITIL Qualifications Board. EIs are permitted to operate an ITIL examination scheme through a network of Accredited Training Organizations (ATOs), and Accredited Trainers with accredited materials. The Examination Institutes at the time of publication are listed below. The up-to-date list can be viewed on the APMG website.

1.3.1 APMG

APMG specialize in the accreditation and certification of organizations, processes and people. APMG are an ITIL Examination Institute, who offer global accreditation and examination services for training providers.

1.3.2 DANSK IT

DANSK IT is an interest organization for IT-professionals in Denmark. The core activities evolve around member networks, conferences, courses, certification programs and IT political advice to the Danish Government and its agencies. Founded in 1958 DANSK IT is among the first IT societies in the world.

1.3.3 DF Certifiering AB

DF Certifiering AB (DFC), is a wholly owned subsidiary to Dataföreningen i Sverige, the Swedish Computer Society with 26.000 IT professionals as members in Sweden. DFC's role is to give accreditation to training providers and certify IT. DFC also provide products in the field of information security and self-assessing tests for e-Citizens.

1.3.4 EXIN

The Examination Institute for Information Science in the Netherlands (EXIN) is a global, independent IT examination provider. EXIN establishes educational requirements and develops and organizes examinations and learning tracks in the field of IT.

1.3.5 ISEB

The Information Systems Examination Board (ISEB) is a wholly owned subsidiary of the British Computer Society. The ISEB provides industry recognized qualifications that measure competence, ability and performance in many areas of IT, including ITIL.

1.3.6 LCS

Loyalist Certification Services (LCS) is a premier deliverer of ITIL certification exams in North America.

1.4 Accredited Training Organizations

It is recommended that any training you receive is through an Accredited Training Organisation (ATO). Only ATOs and their affiliates have licences to offer training courses that incorporate official OGC trademarks, brands and copyrighted material. These ATOs have been fully accredited by an approved Examination Institute. The accreditation process involves an assessment of the organization's management systems, course materials and trainers, assuring the quality of training provided. The various Examination Institutes are in turn accredited by APMG, OGC's official accreditor.
The ATOs listed on the APMG website (http://www.apmgroup.co.uk) are accredited by the various Examination Institutes to provide training in ITIL.

1.5 About this Study Guide

This study guide is based on the publication: ITIL V3 - a Pocket Guide. For this publication, the content has been modified and updated to comply with the Foundation Examination specifications as defined in: "The ITIL® V3 Foundation Certificate in IT Service Management Syllabus, Version 4.2". **This guide is only intended as an aid** to help you pass your ITIL Foundation Exam, it is not an introduction to the ITIL core publications. For that purpose, you may use, amongst others available: "Foundations of ITIL V3", also published by Van Haren Publishing.

This study guide is set up in three parts. The first part introduces the service lifecycle in the context of IT service management principles, and explains what functions and processes are (Chapter 2).

The second part (Chapters 3 to 7) discusses each of the phases in the service lifecycle in more detail, including all functions and processes. Each chapter follows a standardized structure, and ends with a number of sample exam questions.

The third part of this guide (Chapter 8) provides more information on the ITIL V3 Foundation Exam and how to prepare for this exam. The chapter ends with a sample ITIL V3 Foundation Examination.

In the appendices of this guide you will find the answers to the sample questions, a cross-reference to the official ITIL V3 exam requirements, a list with acronyms, a glossary and a reference list.

CHAPTER 2

Introduction

2.1 Definition of Service Management

ITIL is presented as "**good practice**". Good practice is an approach or method that has been proven in practice. Good practices can be a solid backing for organizations that want to improve their IT services.

The ITIL service lifecycle is based on ITIL's core concept of "service management" and the related concepts "service" and "value". These core terms in service management are explained as follows:

- **Service management** - A set of specialized organizational capabilities for providing value to customers in the form of services.
- **Service** - A means of delivering value to customers by facilitating outcomes the customers want to achieve without the ownership of specific costs or risks. Outcomes are possible from the performance of tasks and they are limited by a number of constraints. Services enhance performance and reduce the pressure of constraints. This increases the chances of the desired outcomes being realized.
- **Value** - Value is the core of the service concept. From the customer's perspective, value consists of two core components: utility and warranty. Utility is what the customer receives, and warranty is how it is provided. The concepts "utility" and "warranty" are described in the Section "Service Strategy".

2.2 Service Management Technology

Technology plays a major role in IT service management. With the help of tools, management tasks can be automated, for example in monitoring tasks or software distribution tasks. Other tools support the performance of the activities themselves, for example help desk tools or service management tools.

An integrated set of service management technology should ideally include the following functionality:

- support for all stages of the lifecycle
- support for the design of services
- self-help and remote control
- an integrated Configuration Management System (CMS)

- technology for discovery / deployment / licensing / diagnostics / reporting
- dashboards

Automation is considered to improve utility and warranty of services (see section 3.2 for an explanation of the terms **utility** and **warranty**). Consider the following guidelines to prepare for automation:

- Simplify the processes before automating them.
- Clarify the flow of activities, allocation of tasks, need for information, and interactions.
- In self-service situations, reduce the surface area of contact users have with the underlying systems and processes.
- Do not hurry to automate tasks and interactions that are neither simple nor routine.

2.3 Overview of the Service Lifecycle

ITIL V3 approaches service management from the lifecycle aspect of a service. The service lifecycle is an organizational model that provides insight into:

- The way service management is structured.
- The way the various lifecycle components are linked to each other.
- The impact that changes in one component will have on other components and on the entire lifecycle system.

Thus, ITIL V3 focuses on the service lifecycle, and the way service management components are linked. Processes and functions are also discussed in the lifecycle phases.

The service lifecycle consists of five phases. Each volume of the core ITIL books describes one of these phases. The related processes and functions are described in detail in the phase where they have the strongest association.
The five phases are:

1. **Service Strategy** - The phase of strategic planning of service management capabilities, and the alignment of service and business strategies. Processes and functions:
   - Financial management
   - Service portfolio management
   - Demand management
2. **Service Design** - The phase of designing and developing appropriate IT services, including architecture, processes, policy and documents; the design goal is to meet the current and future business requirements. Processes and functions:

- Service catalogue management
- Service level management
- Capacity management
- Availability management
- IT service continuity management
- Information security management
- Supplier management

3. **Service Transition** - The phase of realizing the requirements from previous stages, and improving the capabilities for the transition of new and modified services to production. Processes and functions:
   - Transition planning and support
   - Change management
   - Service asset and configuration management
   - Release and deployment management
   - Service validation and testing
   - Evaluation
   - Knowledge management
4. **Service Operation** - The phase of achieving effectiveness and efficiency in providing and supporting services in order to ensure value for the customer and the service provider. Processes and functions:
   - Event management
   - Incident management
   - Request fulfillment
   - Problem management
   - Access management
   - Monitoring and control
   - IT operations
   - Service desk
5. **Continual Service Improvement** - The phase of creating and maintaining the value for the customer by design improvement, and service introduction and operation. Functions and processes:
   - The 7-step improvement process (CSI Improvement Process)
   - Service reporting

Service Strategy is the axis of the service lifecycle (Figure 2.1) that drives all other phases; it is the phase of policymaking and setting objectives. The Service Design, Service Transition and Service Operation phases are guided by this strategy, their continual theme is adjustment and change. The Continual Service Improvement phase stands for learning and improving, and embraces all other lifecycle phases. This phase initiates

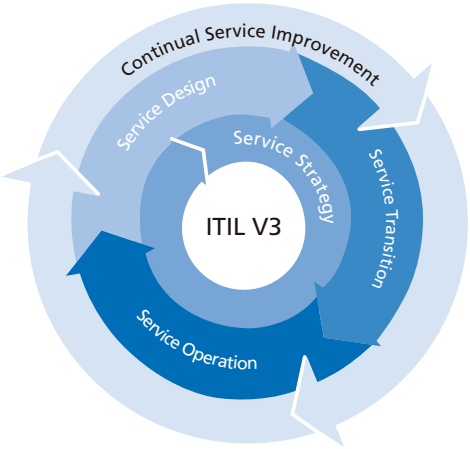

Figure 2.1 The Service Lifecycle (Based on OGC ITIL V3 material)

improvement programs and projects, and prioritizes them based on the strategic objectives of the organization.

2.4 ITIL Library

The ITIL V3 Library encompasses the following components:

- **Core publications** - the five service lifecycle publications:
  - Service Strategy
  - Service Design
  - Service Transition
  - Service Operation
  - Continual Service Improvement

  Each book covers a phase from the service lifecycle and encompasses various processes, functions and activities, which are always described in detail in the book in which they find their key application.
- **Complementary portfolio:**
  - introduction guide
  - key element guides
  - qualification aids
  - white papers
  - glossary

2.5 Introduction to Functions and Processes

This section provides an overview of the basic functions and processes that are included in the five phases of the service lifecycle.

Processes and functions are defined as follows:

- **Process** - A structured set of activities designed to accomplish a defined objective. Processes have inputs and outputs, result in a goal-oriented change, and utilize feedback for self-enhancing and self-corrective actions. Processes are **measurable**, provide **results** to **customers** or stakeholders, are continual and iterative and are always **originating from a certain event**. Processes can run through several organizational units. An example of a process is change management.
- **Function** - A team or group of people and the tools they use to carry out one or more processes or activities, specialized in fulfilling a specified type of work, and responsible for specific end results. Functions have their own practices and their own knowledge body. Functions can make use of various processes. An example of a function is a service desk. (Note: "function" can also mean "functionality", "functioning", or "job".)

We can study each process separately to optimize its quality:

- The **process owner** is responsible for the process results.
- The **process manager** is responsible for the realization and structure of the process, and reports to the process owner.
- The **process operatives** are responsible for defined activities, and these activities are reported to the process manager.

The management of the organization can provide control on the basis of data from each process. In most cases, the relevant performance indicators and standards will already be agreed upon, and the process manager can take day-to-day control of the process. The process owner will assess the results based on performance indicators and check whether the results meet the agreed standard. Without clear indicators, it would be difficult for a process owner to determine whether the process is under control, and if planned improvements are being implemented.

Processes are often described using procedures and work instructions:

- A **procedure** is a specified way to carry out an activity or a process. A procedure describes the "how", and can also describe "who" executes the activities. A procedure may include stages from different processes. Procedures will vary depending on the organization.

- A set of **work instructions** defines how one or more activities in a procedure should be executed in detail, using technology or other resources.

When setting up an organization, positions and roles are also used, in addition to the various groups (teams, departments, divisions):

- **Roles** are sets of responsibilities, activities and authorities granted to a person or team. One person or team may have multiple roles; for example, the roles of Configuration Manager and Change Manager may be carried out by one person.
- **Job positions** are traditionally recognized as tasks and responsibilities that are assigned to a specific person. A person in a particular position has a clearly defined package of tasks and responsibilities which may include various roles. Positions can also be more broadly defined as a logical concept that refers to the people and automated measures that carry out a clearly defined process, an activity or a combination of processes or activities. Individuals and roles have an N:N relationship (many-to-many).

People, process, products and partners (the four Ps) provide the main "machinery" of any organization, but they only work well if the machine is oiled: **communication** is an essential element in any organization. If the people do not know about the processes or use the wrong instructions or tools, the outputs may not be as anticipated. Formal structures on communication include:

- **Reporting** - Internal and external reporting, aimed at management or customers, project progress reports, alerts.
- **Meetings** - Formal project meetings, regular meetings with specific targets.
- **Online facilities** - Email systems, chat rooms, pagers, groupware, document sharing systems, messenger facilities, teleconferencing and virtual meeting facilities
- **Notice boards** - Near the coffee maker, at the entrance of the building, in the company restaurant.

It is recommended that a common understanding of processes, projects, programs, and even portfolios is created. The following definitions may be used:

- **Process** - A process is a structured set of activities designed to accomplish a defined objective.
- **Project** - A project is a temporary organization, with people and other assets required to achieve an objective.
- **Program** - A program consists of a number of projects and activities that are planned and managed together to achieve an overall set of related objectives.
- **Portfolio** - A portfolio is a set of projects and/or programs, which are not necessarily related, brought together for the sake of control, coordination and optimization of

the portfolio in its totality. NB: A service portfolio is the complete set of services that are managed by a service provider.

2.6 Sample Questions

1. Which of the following does NOT represent a stage in the Service Lifecycle?
   a. Continual Service Improvement
   b. Service Operation
   c. Service Architecture
   d. Service Strategy

2. Which of the following requirements are adequate for an integrated set of Service Management technology?
   1. The tool should have an integrated Configuration Management System to allow the organization's IT infrastructure assets, components and services to be held together with all relevant attributes and to allow relationships between each to be stored and maintained.
   2. The tool should be able to plan changes and assess the impact of changes to minimize the likelihood of post-production problems.
   3. The tool should contain a workflow or process control engine to allow the pre-definition and control of defined processes such as an Incident Lifecycle, Request Fulfilment Lifecycle, Problem Lifecycle, Change Model etc.
   4. The tool should ensure that all of the information within the Service Catalogue is accurate and up to date.

   a. 1 only
   b. 1 and 3 only
   c. 1, 3 and 4 only
   d. All of the above

3. Which of the following should be considered when automating Service Management?
   1. Simplify the service processes before automating them.
   2. Clarify the flow of activities, allocation of tasks, need for information and interactions.
   3. In self service situations, reduce the surface area of the contact users have with the underlying systems and processes.
   4. Do not be in a hurry to automate tasks and interactions that are neither simple nor routine.

   a. 1 only
   b. 1 and 2 only
   c. 1, 2 and 3 only
   d. All of the above

4. Which of the following characterizes a function?
   1. It is specialized to perform a certain type of work.
   2. It is self-contained with capabilities and resources for its performance.
   3. It is responsible for specific outcomes.
   4. It can be repeated and becomes manageable.

   a. 1 only
   b. 1 and 3 only
   c. 1, 2 and 3 only
   d. All of the above

5. Which of the following are characteristics of a process
   1. Measurable
   2. Responds to a specific Event
   3. Has customers
   4. Leads to specific results

   a. 1 only
   b. 1 and 3 only
   c. 1, 2 and 3 only
   d. All of the above

CHAPTER 3

Service Strategy

3.1 Lifecycle Phase

3.1.1 Introduction

In this chapter, the axis (principle line of development, movement, direction, reference point) of the lifecycle is introduced. As the axis of the lifecycle, Service Strategy delivers guidance with designing, developing and implementing service management as a strategic asset. Service Strategy is critical in the context of all processes along the ITIL service lifecycle.

Goal

The main **goal** of Service Strategy is to help service providers to develop the ability to think and act in a strategic manner.

Objectives

The **objectives** of Service Strategy are to answer questions such as:

- What services to offer to customers?
- How to differentiate from competitors?
- How to create value for customers?
- How to make a case for strategic investments?
- How to define and improve service quality?
- How to efficiently allocate resources across a portfolio of services?

Scope

Topics of Service Strategy include:

- strategy generation
- the development of markets (internal and external)
- service assets
- service catalogue
- implementation of strategy through the service lifecycle
- demand management
- financial management
- service portfolio management
- organizational development

- sourcing strategies
- strategic risks

3.1.2 Basic concepts

To formulate the strategy, Mintzberg's four Ps are a good starting point (Mintzberg, 1994):

- **Perspective** - Have a clear vision and focus.
- **Position** - Take a clearly defined stance.
- **Plan** - Form a precise notion of how the organization should develop itself.
- **Pattern** - Maintain consistency in decisions and actions.

Value creation is a combination of the effects of utility and warranty. Both are necessary for the creation of value for the customer. For customers, the positive effect is the "utility" of a service; the insurance of this positive effect is the "warranty":

- **Utility** - **fitness for purpose**. Functionality offered by a product or service to meet a particular need. Utility is often summarized as "what it does".
- **Warranty** - **fitness for use**. A promise or guarantee that a product or service will meet its agreed requirements. The availability, capacity, continuity and information security necessary to meet the customers' requirements.

The **value networks** are defined as follows: "A value network is a web of relationships that generate both tangible and intangible value through complex and dynamic exchanges between two or more organizations."

Resources and capabilities are the **service assets** of a service provider. Organizations use them to create value in the form of goods and services.

- **Resources** - Resources include IT Infrastructure, people, money or anything else that might help to deliver an IT service. Resources are considered to be the assets of an organization.
- **Capabilities** - Capabilities develop over the years. Service providers must develop distinctive capabilities in order to maintain services that are difficult to duplicate by the competition. Service providers must also invest substantially in education and training if they are to continue to develop their strategic assets and maintain their competitive advantage.

Service providers are organizations that supply services to one or more internal or external customers. Three different types of service providers are distinguished:

- **Type I: Internal service provider** - An internal service provider that is embedded within a Business Unit. There may be several type I service providers within an organization.
- **Type II: Shared Services Unit** - An internal service provider that provides shared IT services to more than one Business Unit.
- **Type III: External service provider** - A service provider that provides IT services to external customers.

The **service portfolio** represents the opportunities and readiness of a service provider to serve the customers and the market space. The service portfolio can be divided into three subsets of services:

- **Service catalogue** - The services that are available to customers.
- **Service pipeline** - The services that are either under consideration or in development.
- **Retired services** - Services that are phased out or withdrawn.

3.1.3 Processes and other activities

This section briefly explains the processes and activities of Service Strategy.
More information about each of these processes can be found in 3.2 of this pocket guide.

The Service Strategy processes:

- **Financial management** - An integral component of service management. It anticipates the essential management information in financial terms that is required for the guarantee of efficient and cost-effective service delivery.
- **Demand management** - An essential aspect of service management in which offer and demand are harmonized. The goal of demand management is to predict, as accurately as possible, the purchase of products and, where possible, to balance the demand with the resources.
- **Service Portfolio Management (SPM)** - Method to manage all service management investments in terms of business value. The objective of SPM is to achieve maximum value creation while at the same time managing the risks and costs.

The Service Strategy activities:

- **Defining the market** - Understand the relation between services and strategies, understand the customers, understand the opportunities, and classify and visualize the services.

- **The development of the offer** - Create a service portfolio that represents the opportunities and readiness of a service provider to serve the customers and the market.
- **The development of strategic assets** - Define the value network and improve capabilities and resources (service assets) to increase the service and performance potential.
- **Preparation for execution** - Strategic assessment, setting objectives, defining critical success factors, prioritizing investments, et cetera.

3.1.4 Organization

There are five recognizable phases in organizational development within the spectrum of centralization and decentralization:

1. **Stage 1: Network** - An organization in stage 1 focuses on fast, informal and ad hoc provision of services. The organization is technologically oriented and is uncomfortable with formal structures.
2. **Stage 2: Directive** - In stage 2, the informal structure of stage 1 is transformed into an hierarchical structure with a strong management team. They assume the responsibility for leading the strategy and for guiding managers to embrace their functional responsibilities.
3. **Stage 3: Delegation** - In stage 3, efforts are made to enhance technical efficiency and provide space for innovation in order to reduce costs and improve services.
4. **Stage 4: Coordination** - In stage 4 the focus is directed towards the use of formal systems as a means of achieving better coordination.
5. **Stage 5: Collaboration** - During stage 5, the focus is on the improvement of cooperation with the business.

The goal of the Service Strategy phase is to improve the core competencies. Sometimes it is more efficient to outsource certain services. We call this the SOC principle (Separation of Concerns, SOC): that which results from the search for competitive differentiation through the redistribution of resources and capabilities.
The following generic forms of outsourcing can be delineated:

- **Internal outsourcing**:
  - Type 1 Internal - Provision and delivery of services by internal staff; this offers the most control, but is limited in scale.
  - Type 2 Shared services - Working with internal BUs; offers lower costs than Type 1 and more standardization, but is still limited in scale.
- **Traditional outsourcing**:
  - Complete outsourcing of a service - A single contract with one service provider; better in terms of scaling opportunities, but limited in best-in-class capabilities.

- **Multi-vendor outsourcing**:
  - **Prime** - A single contract with one service provider who works with multiple providers; improved capabilities and risks, but increased complexity.
  - **Consortium** - A selection of multiple service providers; the advantage is best-in-class with more oversight; the disadvantage is the risk of the necessity of working with the competition.
  - **Selective outsourcing** - A pool of service providers selected and managed through the service receiver; this is the most difficult structure to manage.
  - **Co-Sourcing** - A variation of selective outsourcing in which the service receiver combines a structure of internal or shared services with external providers; in this case, the service receiver is the service integrator.

Roles and responsibilities

Important roles and responsibilities are:

- **Chief sourcing officer** - The chief sourcing officer reports to the CIO and manages the implementation of sourcing.
- **Director of service management** - The director supervises the provider on behalf of the business.
- **Contract manager** - The contract manager manages the service contract from the perspective of the service provider.
- **Product manager** - The product manager is a key role within service portfolio management. The role is responsible for managing the services in the service provider's organization. Works closely with the business relationship manager.
- **Business relationship manager** - The business relationship manager brings coordination and focus to the customer portfolio. This role represents the customer.
- **Process owner** - The process owner manages the process models that have been developed on behalf of the users.
- **Business representatives** - They represent the customers' interests and manage the sourcing relationship from that perspective.
- The **financial manager** - The financial manager is responsible for implementing and managing the IT Service providers budgeting, accounting and charging.

3.1.5 Methods, techniques and tools

Services are socio-technical systems with service assets as the operational elements. The effectiveness of Service Strategy depends on a well-managed relationship between the social and technical sub-systems. It is essential to identify and manage these dependencies and influences.

Tools for the Service Strategy phase can be:

- **Simulation** - System Dynamics is a methodology for understanding and managing the complex problems of IT organizations.
- **Analytical modeling** - Six Sigma, PMBOK® and PRINCE2® offer well tested methods based on analytical models. They must be evaluated and adopted within the context of Service Strategy and service management.

Three techniques for quantifying the value of an investment are suggested:

- **Business case** - A way of identifying business objectives that are dependent on service management.
- **Pre-Program ROI** - Techniques used to quantitatively analyze investments before committing resources.
- **Post-Program ROI** - Techniques used to retroactively analyze investments.

3.1.6 Implementation and operation

Strategic goals are to be converted into plans with objectives and ultimate goals, based on the lifecycle. Plans translate the intentions of the strategy into actions, through Service Design, Service Transition, Service Operation, and Continual Service Improvement.

Service Strategy provides every phase of the lifecycle with input:

- **Strategy and design** - Service strategies are implemented through the delivery of the portfolio in a specific market area. Newly chartered services or services that require improvements in order to suit the demand are promoted to the Service Design phase. The design can be driven by service models, outcomes, constraints or pricing.
- **Strategy and transition** - To reduce the risk of failing, all strategic changes go through Service Transition. Service Transition processes analyze, evaluate and approve strategic initiatives. Service Strategy provides Service Transition with structures and constraints like the service portfolio, policies, architectures, and the contract portfolio.
- **Strategy and operations** - The final realization of strategy occurs in the production phase. The strategy must be in line with operational capabilities and constraints. Deployment patterns in Service Operation define operational strategies for customers. Service Operation is responsible for delivering the contract portfolio and should be able to deal with demand changes.
- **Strategy and CSI** - Due to constant changes, strategies are never static. Service strategies need to be developed, adopted and continually reviewed. Strategic imperatives influence quality perspectives processed in CSI. CSI processes deliver

feedback for the strategy phase on, for example: quality perspective, warranty factors, reliability, maintainability, redundancy.

Challenges and opportunities:

- **Complexity** - IT organizations are complex systems. This explains why some service organizations are not inclined to change. Organizations are not always in a position to anticipate the long-term consequences of decisions and actions. Without continual learning processes, today's decisions often end up as tomorrow's problems.
- **Coordination and control** - The people who make the decisions often have limited time, attention and capacity. Therefore they delegate the roles and responsibilities to teams and individuals. This makes coordination through cooperation and monitoring essential.
- **Preserving Value** - Customers are not only interested in the utility and warranty that they receive for the price they pay. They want to know the Total Cost of Utilization (TCU).
- **Effectiveness in measurement** - Measurements focus the organization on its strategic goals, follow the progression and provide the organization with feedback. Most IT organizations are good at monitoring data, but often they are not very good at providing insights into the effectiveness of the services that they offer. It is crucial to perform the right analyses and to modify them as the strategy changes.

The implementation of strategy leads to changes in the service portfolio. This involves management of related risks. Risk is defined as follows: *"a **risk** is an uncertain outcome, or in other words, a positive opportunity or a negative threat."* Risk analysis and risk management must be applied to the service pipeline and service catalogue in order to identify, curb and mitigate the risks within the lifecycle phases.

The following types of risks are recognized:

- contract risks
- design risks
- operational risks
- market risks

3.2 Functions and Processes

3.2.1 Financial Management

Introduction

Financial management is an integrated component of service management. It provides vital information that management needs to guarantee efficient and cost-effective service delivery. If strictly implemented, financial management generates meaningful and critical data on performance. It is also able to answer important organizational issues, such as:

- Does our differentiation strategy result in higher profits and revenue, reduced costs or increased coverage?
- Which services cost most and why?
- Where are our greatest inefficiencies?

Financial management ensures that the charges for IT services are transparent via the service catalogue and that the business understands them. The benefits are:

- improved decision-making
- inputs for service portfolio management
- financial compliance and control
- operational control
- value capture and creation

Basic concepts

Two vital value concepts for service valuation are defined:

- **Provisioning value** - The actual underlying costs of IT (creation costs), both tangible and intangible. Examples of these costs include: hardware and software license costs, annual maintenance costs, facility costs, taxes, compliance costs.
- **Service value potential** - The value-adding component based on the customer's value perception or the expected additional utility and warranty that the customers can obtain compared to their own assets. Looks at the service's individual value components to determine the true value of the service. Determines the eventual value of the service by adding these components and comparing them against the costs (provisioning value).

Financial Management ensures correct funding for the purchase and the delivery of services. The expected demand for IT services is qualified and translated into financial

terms via a plan. This plan may have three primary areas, each of which delivers financial results that are necessary for continued transparency and service valuation:

- **Operating and capital planning** (general and fixed asset ledgers) - Translation of IT expenditures to collective financial systems as part of the collective planning cycle.
- **Demand planning** - Need for and use of IT services as described earlier.
- **Regulatory and environmental planning** (compliance) - driven from the business.

Financial management acts as a bridge between financial systems and service management systems. A service-oriented accounting function results in far more detail and understanding of the delivery and consumption of services, as well as the production of data for the planning process. Related functions and accounting properties are:

- **Service recording** - Allocating a cost center for a service.
- **Cost types** - High-level expenses, such as hardware, software, personnel costs, administration.
  - Once the basis for cost administration (e.g. per department, service or customer) is established, cost types are determined for cost entry.
  - The number of cost types can vary depending on the organization's size.
  - Cost types must have a clear and recognizable description, so that costs can be easily allocated.
  - The cost types can then be split up into cost items and settlement for each cost item may be established at a later stage.
- **Cost classification** - To ensure good cost control, it is important to gain insight into the types of costs that occur. Costs can be split up according to various aspects.

Variable Cost Dynamics (**VCD**) analyzes and searches for insight into the many variables that have an impact on the service costs. The VCD analysis is able to determine the expected impact of events like acquisitions, divestments and changes in the service portfolio or service alternatives.

Activities

During service valuation activities, the following decisions are made:

- **Direct costs versus indirect costs** - Can costs be attributed directly to a specific service or are they shared by several services (indirect costs)? Once the depth and width of the cost components have been identified, rules or policy plans may be required to indicate how the costs must be spread across the services.
- **Labor costs** - Develop a system to calculate the wage costs for a certain service.
- **Variable costs** - Variable expenses that depend on e.g. the number of users or the number of occurring events. To predict variable costs, you can use:
  - Tiers - Identify price breaks to encourage customers to buy a specific volume that is efficient to the customer and provider.

  - Maximum costs - Describe the costs of a service based on maximum variation.
  - Average costs - Set the costs at an average calculated over a defined period.
- **Translation of cost account data to service value** - Can be done only if the costs are linked to services.

After having established the fixed and variable costs for each service, the variable cost drivers and variation level of a service should be determined.

Traditional models to fund IT services include:
- **Rolling plan funding** - A constant funding cycle; suitable for a service lifecycle for which a funding obligation is incurred at the start of a cycle and continues until changes occur or the cycle ends.
- **Trigger based plans** - Critical triggers activate planning for a specific event; the change management process, for instance, could act as a trigger for the planning process for all approved changes that have financial consequences.
- **Zero based funding** - Only include the actual costs of a service.

The **Business Impact Analysis** (BIA) represents the basis for planning business continuity. BIA identifies the financial and operational impact that may result from an interruption of business operations as well as the impact on assets and customers. This information can help shape and improve operational performance. This is because it enables improved decision-making with regard to prioritization of incident handling, the focus of problem management, change management, release and deployment management, and project prioritization. BIA offers an additional tool to determine the costs of service failure and the relative value of a service. The costs of a service failure consist of the value of lost productivity and income for a specific period.

Some concepts in financial management have a big impact on the development of service strategies. A number of these are highlighted, allowing each organization to determine which the best alternatives are for its Service Strategy:
- **Cost Recovery, Value Center, or Accounting Center?** - IT's financial cycle starts with investment in resources that create the outputs. Customers identify those outputs as value, reinitiating the cycle. Depending on the acknowledgement of the added value, IT is then considered a cost center or a valuable asset for the business objectives.
- **Chargeback: to charge or not to charge?** - A chargeback model for IT can enable justification and transparency. Charging increases the customer organization's awareness of the costs incurred to provide it with information.

There are several chargeback models:

- **Notional charging** - An accounting method that provides insight into the costs that would be charged for a specific settlement method.
- **Metered usage** - Settling costs on the basis of carefully established consumption units; applies exclusively for organizations that have made serious progress in introducing financial management.
- **Direct plus** - Less complex settlement model in which the allocated direct costs of a service are increased by a percentage of the general indirect costs for shared services.
- **Fixed or user cost** - Simplest settlement model in which the costs are divided on the basis of an accepted computing factor, such as the number of users; this method does not allow for much distinction and therefore makes the least contribution to cost awareness.

- **Financial Management implementation checklist** - A number of example implementation steps for phased implementation: plan, analyze, design, implement, measure.

Inputs and outputs

Financial Management gathers data inputs from the whole organization and helps to generate and disseminate information as an output to base critical decisions and activities on.

3.2.2 Service Portfolio Management

Introduction

A **service portfolio** describes the services of a provider in terms of business value. It is a dynamic method used to govern investments in service management across the enterprise, in terms of financial values. With Service Portfolio Management (SPM), managers are able to assess the quality requirements and accompanying costs.

The **goal** of service portfolio management is to realize maximum value while managing risks and costs.

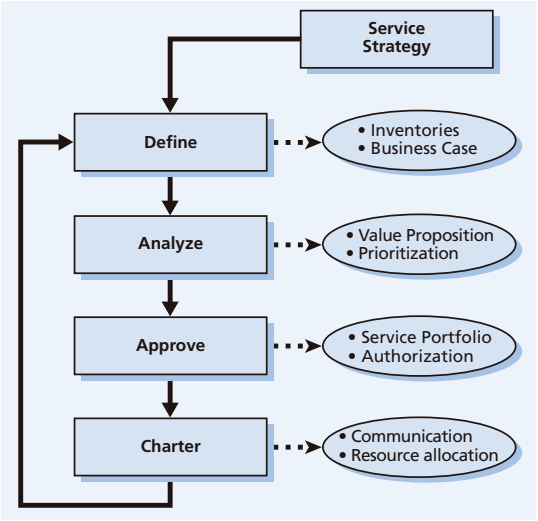

Figure 3.1 Service portfolio management (Source: Service Strategy was produced by OGC)

Basic concepts

By functioning as the basis of the decision framework, the service portfolio helps to answer the following strategic questions:

- Why should a client buy these services?
- Why should a client buy these services from us?
- What are the price and charge back models?
- What are our strong and weak points, our priorities and our risks?
- How should our resources and capabilities be allocated?

With an efficient portfolio having optimal ROI and risk levels, an organization can maximize the value realization on its constrained and limited resources and capabilities.

Product managers play an important role in the service portfolio management. They are responsible for managing services as products during the entire lifecycle. Product managers coordinate and focus the organization and own the service catalogue. They work closely together with the Business Relationship Managers, who coordinate and focus on the Client Portfolio. In essence, SPM is a Governance method.

The service portfolio covers three subsets of services:

- **Service catalogue** - That part of the service portfolio that is visible to customers. The service catalogue is an essential strategy tool because it can be viewed as the virtual projection of the actual and available capabilities of the service provider.
- **Service pipeline** - Consists of all services that are either under consideration or in development for a specific market or customer. These services are to be applied in the production phase via the Service Transition phase. The pipeline represents the growth and strategic anticipation for the future.
- **Retired services** - Services that are phased out or withdrawn. The phasing out of services is a component of Service Transition and is necessary to guarantee that all agreements with customers will be kept.

Activities

SPM is a dynamic and continuous process that entails the following work methods (see also Figure 3.1):

- **Define** - Making an inventory of services, business cases and validating the portfolio data; start with collecting information on all existing and proposed services in order to determine the costs of the existing portfolio; the cyclic nature of the SPM process signifies that this phase does not only inventory the services, but also validates the data over and over again; each service in the portfolio should have a business case.
- **Analyze** - Maximizing the portfolio value, tuning, prioritizing and balancing supply and demand; in this phase, the strategic goals are given a concrete form. Start with a series of top/down questions such as: What are the long-term goals of the service organization? Which services are required to realize these goals? Which capabilities and resources are necessary to attain these services? The answers to these questions form the basis of the analysis, but also determine the desired result of SPM. Service investments must be subdivided into three strategic categories:
  - **Run the Business** - RTB investments concentrate on maintaining the service production.

  - **Grow the Business** - GTB investments are intended to expand the scope of services.
  - **Transform the Business** - TTB investments are meant to move into new market spaces.
- **Approve** - Finishing the proposed portfolio, authorizing services and resources and making decisions for the future. There are six different outcomes: retain, replace, rationalize, re-factor, renew and retire.
- **Charter** - Communicating decisions, allocating resources and chartering services. Start with a list of decisions and action items and communicate these clearly and unambiguously to the organization. Decisions must be in tune with the budget decisions and financial plans. New services proceed to the Services Design Phase and existing services are renewed in the service catalogue.

Inputs and outputs

Financial management is a key input to service portfolio management. By understanding cost structures applied in the provisioning of a service, service costs can be benchmarked against other providers. This IT financial information can be used together with service demand and internal capability information. This way, beneficial decisions can be made regarding whether a certain service should be provisioned internally (the output).

Service portfolio management provides input for refreshing services in the service catalogue.

3.2.3 Demand Management

Introduction

Demand management is a vital aspect of service management. It aligns supply with demand and aims to predict the sale of products as closely as possible and, if possible, even regulate it.

Service management must deal with the additional problem of synchronous production and consumption. Service Operation is impossible without the existence of a demand that consumes the product. It is a pull-system, in which consumption cycles stimulate the production cycles (Figure 3.2).

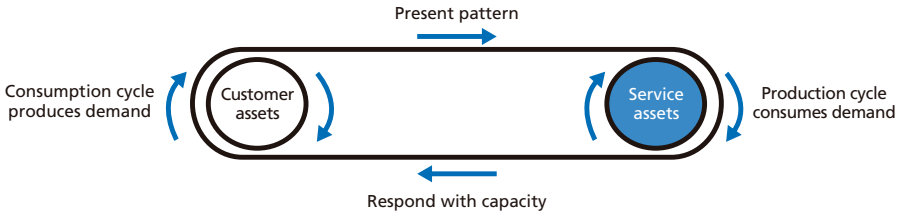

Figure 3.2 Close relationship between demand and capacity (Source: Service Strategy was produced by OGC)

It is not possible to produce service output and store it until demand arises. The production capacity of the resources available for a service is therefore adjusted in accordance with demand prognoses and patterns.

Activity-based demand management: business processes are the primary source of demand for services. **Patterns of Business Activity** (**PBA**) have an impact on demand patterns seen by the service providers.

It is extremely important to study the customer's business and thus identify, analyze and record patterns. This creates sufficient basis for capacity mananagement.

A **user profile** (**UP**) is a pattern of user demand for IT services. They are based on roles and responsibilities within organizations for people, and functions and operations for processes and applications. Each user profile can be associated with one or more Patterns of Business Activity.

Basic concepts

- **Service packages** - A service package is a detailed description of an IT service that can be delivered to customers. A service package consists of a Service Level Package (SLP) and one or more core services and supporting services.
- **Service Level Package (SLP)** - A defined level of utility and warranty for a particular service package, from the perspective of the user. Each SLP is designed to meet the needs of a particular Pattern of Business Activity (PBA).
- **Core Service Package (CSP)** - A detailed description of a core service that may be shared by two or more service level packages.
- **Line of Service (LOS)** - A core service or supporting service that has multiple service level packages. A line of service is managed by a product manager and each service level package is designed to support a particular market segment.

Activities

Core services deliver the basic results to the customer. They represent the value that customers require and for which they are willing to pay. Core services represent the basis for the value-proposition to the customer. Supporting services enable that value proposition (enabling services or Basic Factors) or improve it (Enhancing services or Excitement Factors).

Bundling core services and supporting services are a vital aspect of a market strategy. Service providers should thoroughly analyze the prevailing conditions in their business environment, the needs of the customer segments or types they serve, and the alternatives that are available to these customers. These are strategic decisions - they shape a long-term vision that is intended to enable the organization to create lasting value for customers, even if the methods, standards, technologies and regulations in an industry change. Bundling supporting services with core services affects Service Operations and represents challenges for the Design, Transition and CSI (Continual Service Improvement) phases.

Service providers must focus on the effective delivery of value through core services, while at the same time keeping an eye on the supporting services. Research has shown that customers are often dissatisfied with supporting services. Some supporting services, such as the helpdesk or technical support, are generally bundled but can also be offered separately. This is an important consideration in the strategic planning and review of the plans. These strategic decisions can have a major impact on the service provider's success at the portfolio level. They are important primarily to service providers who supply multiple organizations or business units while at the same time being forced to reduce costs in order to preserve the competitiveness of their portfolio.

Inputs and outputs

Business processes are the primary inputs for demand management. Patterns of Business Activity (PBAs) influence the demand forecasts and patterns. Analyzing PBAs within demand management can deliver inputs to other service management processes such as:

- Service Design - To make the design suit the demand patterns.
- Service catalogue management - To have the appropriate services available.
- Service portfolio management - To approve investing in additional capacity, new services, changes to services.
- Financial management - To approve suitable incentives to influence demand.

Inputs:

- resource utilization profiles of services
- PBAs

Outputs:

- financial constraints (e.g. pricing and charging policies)
- physical constraints (e.g. limited availability)

3.3 Sample Questions

1. A risk is measured by:
   1. the probability of a threat
   2. the vulnerability of the asset to a threat
   3. the countermeasures put in place
   4. the impact if a threat occurs
   a. 1 only
   b. 2 and 4 only
   c. 1, 2 and 4 only
   d. All of the above

2. The value of a service is determined by:
   1. Preferences
   2. Practice
   3. Perceptions
   4. Business outcome
   a. 1 only
   b. 1 and 3 only
   c. 1, 3 and 4 only
   d. All of the above

3. What are the MAIN activities in the Service Strategy management process?
   1. Define the market
   2. Develop the offerings
   3. Develop strategic assets
   4. Prepare for execution

   a. 4 only
   b. 2 and 3 only
   c. 1, 2 and 3 only
   d. All of the above

4. Which of the following activities is NOT an activity in the Financial Management process?
   a. Service devaluation
   b. Service Portfolio Management
   c. Service Investment Analysis
   d. Compliance

5. Which of the following concepts and activities help Demand Management in managing the demand for services?
   1. Differentiated offerings
   2. Differentiated service levels
   3. Major Incident Management
   4. Analysing and tracking the activity patterns of a business process

   a. 4 only
   b. 1 and 2 only
   c. 1, 2 and 4 only
   d. All of the above