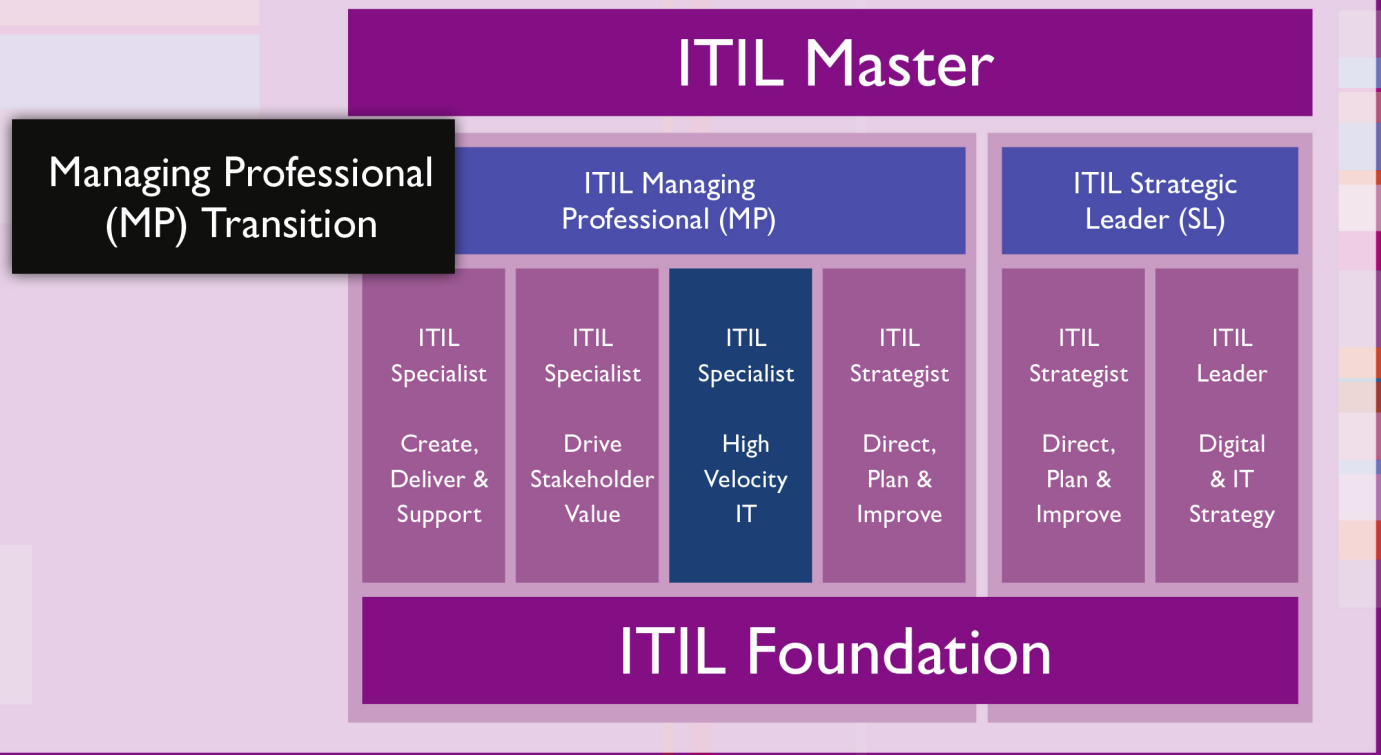
COURSEWARE

# ITIL® 4

## Specialist High Velocity IT (HVIT) Courseware




Van Haren PUBLISHING

# ITIL® 4 Specialist High Velocity IT (HVIT)
Courseware

## Colophon


| | |
|---|---|
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## About this Courseware

This Courseware was created by industry experts. The input for the material is based on existing publications and on the experience and expertise of the author(s). The material has been reviewed by trainers who did trial courses with test versions of this material. This courseware aligns with the examination specs of the certification body.

The objective of the courseware is to provide maximum support to the trainer and to the student, during his or her training. The material has a modular structure. The content has been designed to help the student to realize the highest success rate should he or she opt for examination.

Additionally, the training organization, is expected to make the material available to each student, in order to obtain full accreditation for the training course. To optimally support the trainer and the participant of the training, also assignments, sample exams and feedback to its results are provided with this courseware.

When applicable, reference is made to the framework book or other literature where students and trainers can find additional information concerning a particular topic. In each page ample space is left in order to have students take notes throughout the material.

Although the courseware is complete, the trainer is encouraged to deviate from the structure of the sheets or to choose to not refer to some of the sheets. And hopefully the trainer adds his own case material, based on his own practice! The student always has the possibility to cover these topics and go through them at his own pace. This has been made easy because the courseware and the framework book follow the same structure.

Simply said, the courseware and the recommended literature are the perfect combination to learn and understand the theory.

The publisher

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Topics are (per domain):

### IT and IT Management

ABC of ICT
ASL®
CATS CM®
CMMI®
COBIT®
e-CF
ISO/IEC 20000
ISO/IEC 27001/27002
ISPL
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IT-CMF™
IT Service CMM
ITIL®
MOF
MSF
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TRIM
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GEA®
Novius Architectuur
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TOGAF®

### Business Management

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BiSL® and BiSL® Next
BRMBOK™
BTF
EFQM
eSCM
IACCM
ISA-95
ISO 9000/9001
OPBOK
SixSigma
SOX
SqEME®

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A4-Projectmanagement
DSDM/Atern
ICB / NCB
ISO 21500
MINCE®
M_o_R®
MSP®
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*PMBOK® Guide*
Praxis®
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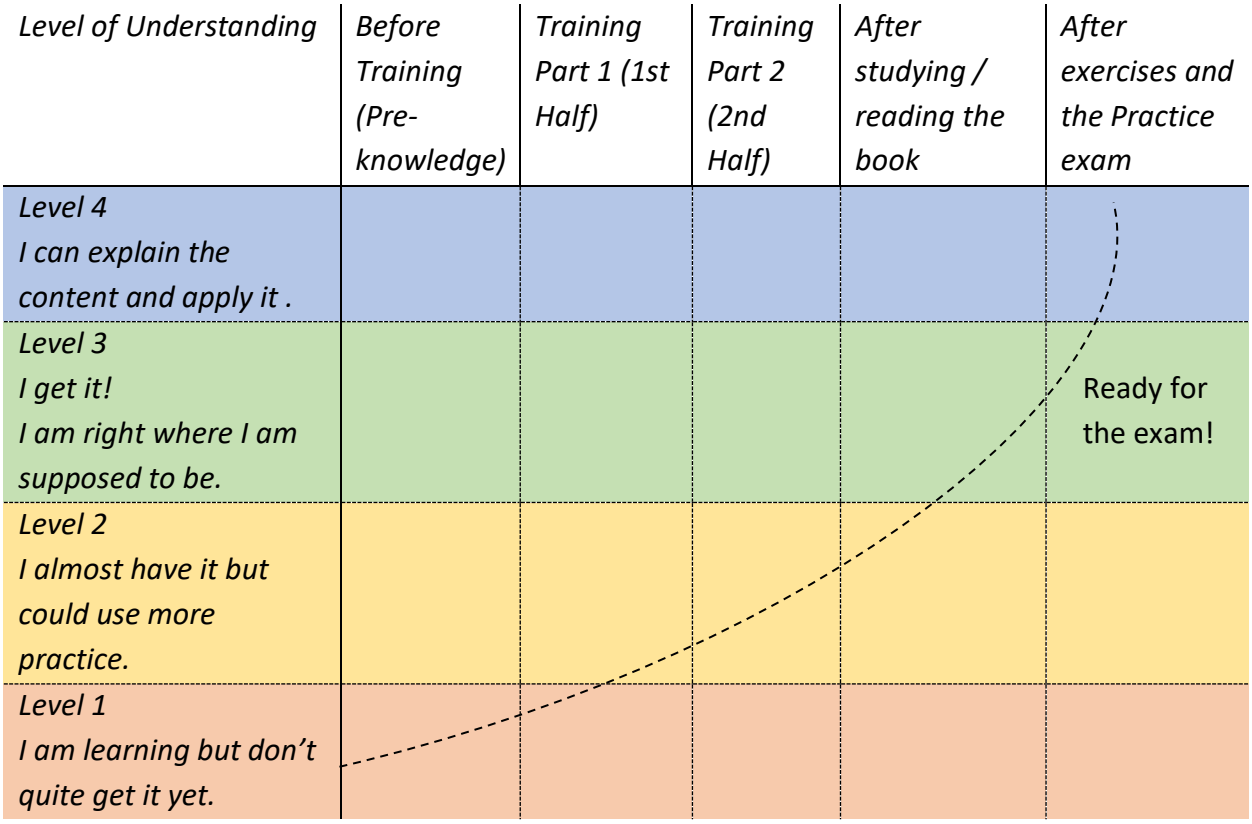
## Table of content

## Self-Reflection of understanding Diagram

'*What you do not measure, you cannot control*.'' – Tom Peters

Fill in this diagram to self-evaluate your understanding of the material. This is an evaluation of how well you know the material and how well you understand it. In order to pass the exam successfully you should be aiming to reach the higher end of Level 3. If you really want to become a pro, then you should be aiming for Level 4. Your overall level of understanding will naturally follow the learning curve. So, it's important to keep track of where you are at each point of the training and address any areas of difficulty.

Based on where you are within the Self-Reflection of Understanding diagram you can evaluate the progress of your own training.




(Self-Reflection of Understanding Diagram)

Write down the problem areas that you are still having difficulty with so that you can consolidate them yourself, or with your trainer. After you have had a look at these, then you should evaluate to see if you now have a better understanding of where you actually are on the learning curve.

**Troubleshooting**

| *Problem areas:* | *Topic:* |
|---|---|
| | |
| Part 1 | |
| | |
| | |
| | |
| Part 2 | |
| | |
| | |
| | |
| | |
| You have gone through the book and studied. | |
| | |
| You have answered the questions and done the practice exam. | |
| | |
| | |
| | |

## Timetable

| | |
|---|---|
| | **Day 1** |
| | • ITIL® 4 Foundation recap<br>• Introduction<br>• Key terms and definitions<br>• Objectives and key characteristics |
| | **Day 2** |
| | • Culture<br>• Techniques |
| | **Day 3** |
| | • ITIL practices<br>• Exam preparation |

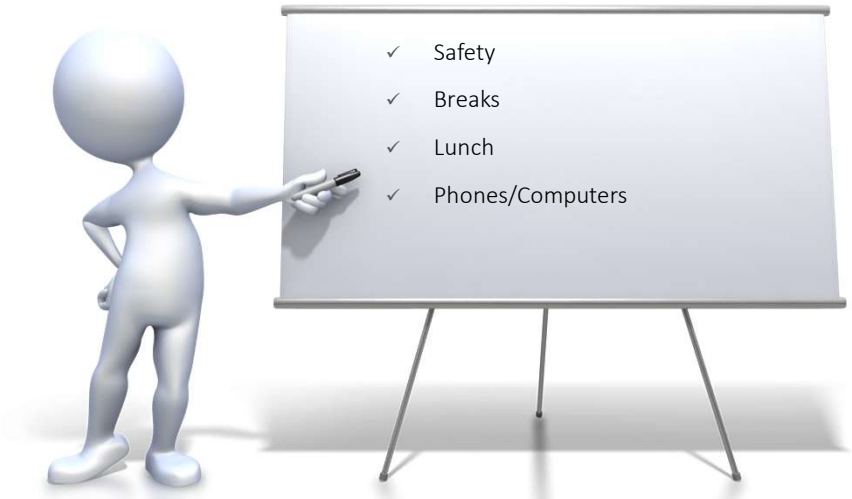
# Welcome to
# ITIL® 4
# High-velocity IT

ITIL
ACCREDITED TRAINING ORGANIZATION
PeopleCert ON BEHALF OF AXELOS



1

## Our coming days






2

# Our coming days

- ✓ Active participation!
- ✓ Ask questions
- ✓ Theory (a lot)
- ✓ Some homework
- ✓ Group dialogues



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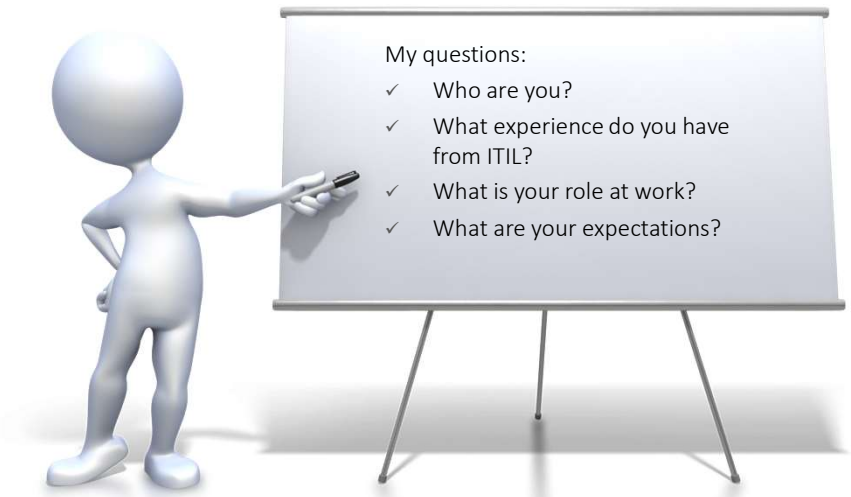
# Presentation



My questions:

- ✓ Who are you?
- ✓ What experience do you have from ITIL?
- ✓ What is your role at work?
- ✓ What are your expectations?



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## Course schedule

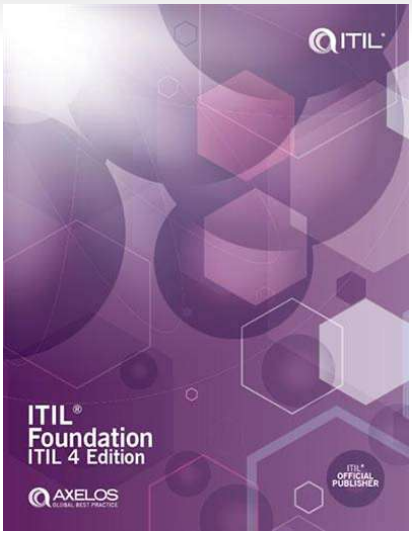
- **Day 1:**
  - ITIL® 4 Foundation recap
  - Introduction
  - Key terms and definitions
  - Objectives and key characteristics
  - Key concepts
- **Day 2:**
  - Culture
  - Techniques
- **Day 3:**
  - ITIL practices
  - Exam preparation





# ITIL® 4 FOUNDATION RECAP

Background and a short recap on some fundamentals from ITIL® 4 Foundation



# Introduction

Foundation recap

This section will focus on **validating the ITIL® 4 Foundation concepts** that are prerequisites for this training. Key areas covered include:

- The four dimension model
- The ITIL service value system (SVS)
- The ITIL guiding principles
- Governance
- The ITIL service value chain
- The ITIL management practices
- Continual improvement
- Basic terms and definitions such as:
  - Provider and Consumer
  - Service and Products
  - Service management
  - Service relationship management
  - Value; Outcome, Cost and Risk
  - Utility and Warranty



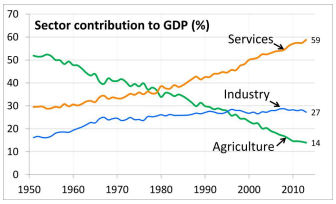


# Service management

Foundation recap

Definition: **Service**

A means of enabling value co-creation by facilitating outcomes that customers want to achieve, without the customer having to manage specific costs and risks.




Definition: **Service management**

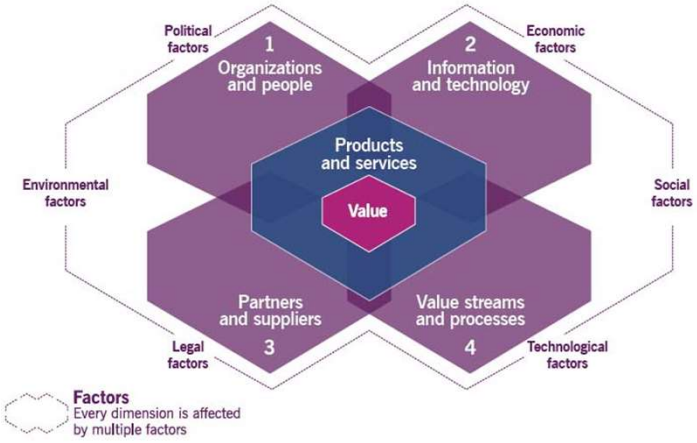
A set of specialized organizational capabilities for enabling value for customers in the form of services.

Developing these capabilities requires an understanding of:

- the nature of value
- the nature and scope of the stakeholders involved
- how value creation is enabled through services.

# Four dimensions of service management

Foundation recap

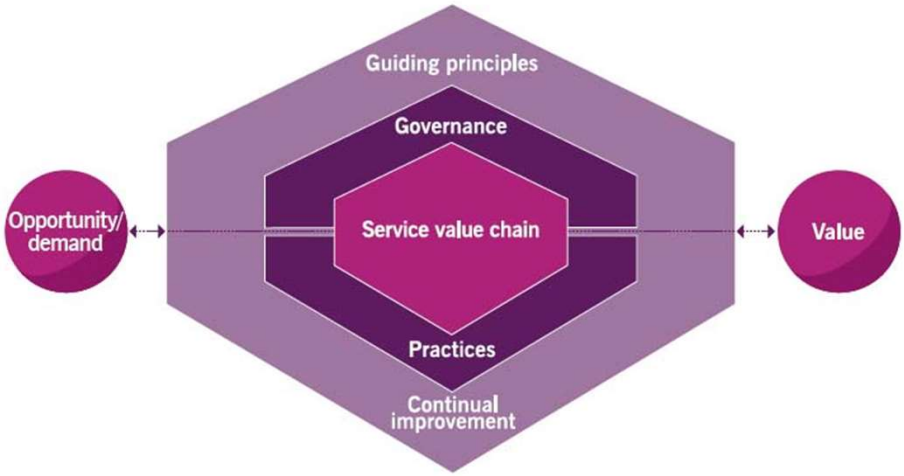







# The service value system (SVS)

Foundation recap



# The 7 ITIL guiding principles

Foundation recap

| | |
|---|---|
| **Focus on value** | Everything that the organization does needs to map, directly or indirectly, to value for the stakeholders. |
| **Start where you are** | Do not start from scratch and build something new without considering what is already available to be leveraged. The current state should be investigated and observed directly to make sure it is fully understood. |
| **Progress iteratively with feedback** | Do not attempt to do everything at once. Even huge initiatives must be accomplished iteratively. |
| **Collaborate and promote visibility** | Working together across boundaries produces results that have greater buy in, more relevance to objectives and better likelihood of long-term success. Achieving objectives requires information, understanding and trust. |
| **Think and work holistically** | Results are delivered to internal and external customers through the effective and efficient management and dynamic integration of information, technology, organization, people, practices, partners and agreements, which should all be coordinated to provide a defined value. |
| **Keep it simple and practical** | If a process, service, action or metric provides no value, or produces no useful outcome, eliminate it. Always use outcome-based thinking to produce practical solutions that deliver results. |
| **Optimize and automate** | Eliminate anything that is truly wasteful and use technology to achieve whatever it is capable of. Human intervention should only happen where it really contributes value. |





# Governance

Foundation recap

Governance is the means by which an organization is **directed and controlled.**

The role and position of governance in the ITIL Service Value System (SVS) will vary depending on how the SVS is applied in an organization.

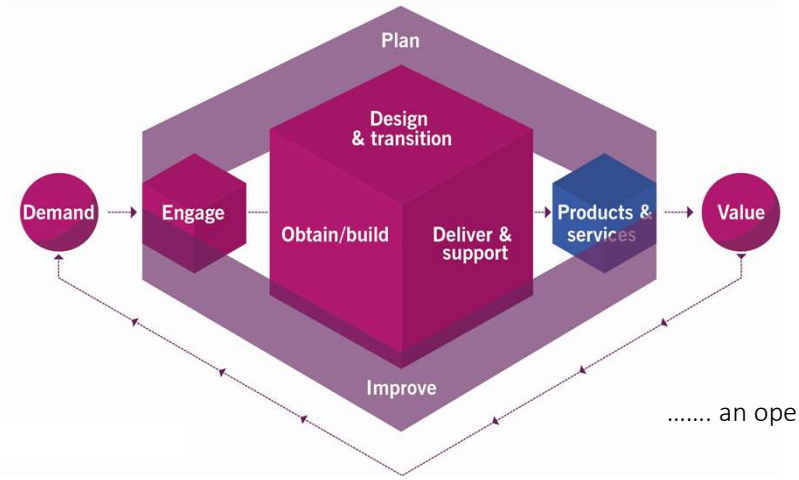
The governance function of an organization has three main responsibilities:

- **Evaluate** – to identify the right options and objectives for the organization
- **Direct** – to point out the right direction and set overall objectives for the organization
- **Monitor** – to follow up on the management and realisation of agreed objectives

The acronym **EDM** is commonly used to refer to these three distinct responsibilities. It's important to understand the reason for the separation and the difference between the three.

# The ITIL service value chain

Foundation recap




..... an operating model





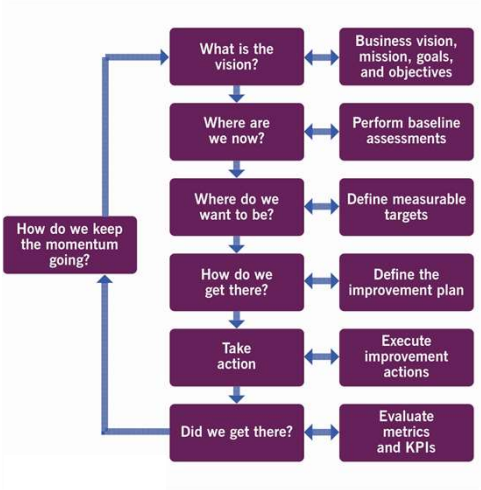
# The 34 ITIL management practices

Foundation recap

| General management practices | Service management practices | Technical management practices |
|---|---|---|
| Architecture management | Availability management | *Deployment management* |
| ***Continual improvement*** | Business analysis | Infrastructure and platform management |
| *Information security management* | Capacity and performance management | Software development and management |
| Knowledge management | ***Change enablement*** | |
| *Measurement and reporting* | ***Incident management*** | |
| Organizational change management | *IT asset management* | |
| Portfolio management | *Monitoring and event management* | |
| Project management | ***Problem management*** | |
| *Relationship management* | *Release management* | |
| Risk management | Service catalogue management | |
| Service financial management | *Service configuration management* | |
| Strategy management | Service continuity management | |
| *Supplier management* | Service design | |
| Workforce and talent management | ***Service desk*** | |
| | ***Service level management*** | |
| | ***Service request management*** | |
| | Service validation and testing | |

# Continual improvement

Foundation recap



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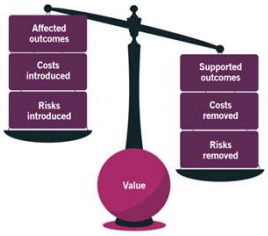
# Value - outcomes, costs and risks

Foundation recap

Definition: **Value**

Value is the perceived benefits, usefulness and importance of something.




Definition: **Outcome**

A result for a stakeholder enabled by one or more outputs.

Definition: **Cost**

The amount of money spent on a specific activity or resource. Cost can be expressed in non-monetary terms, such as time, people allocated, etc.

Definition: **Risk**

A possible event that could cause harm or loss or make it more difficult to achieve objectives. Can also be defined as "uncertainty of outcome".



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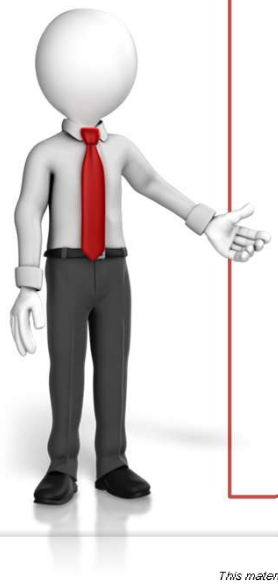
# Summary

Foundation recap



## We have just talked about:

- ✓ This section has covered some fundamental concepts and key terms introduced in ITIL 4 Foundation
- ✓ Key areas discussed:
  - Service and service management
  - Value; outcomes, costs and risks
  - The ITIL Service Value System (SVS)
  - ITILs guiding principles
  - Governance
  - The ITIL service value chain
  - The ITIL management practices
  - Continual improvement
- ✓ The following sections build on the understanding these concepts and key terms and definitions





## Q: What are the two types of cost that a service consumer should evaluate?

A. The cost of creating the service, and the cost charged for the service

B. The costs removed by the service, and the costs imposed by the service

C. The cost of provisioning the service, and the cost of improving the service

D. The cost of purchasing software, and the cost of purchasing hardware

Q: Which service management dimension is focused on activities and how these are coordinated?

A. Organizations and people

B. Information and technology

C. Partners and suppliers

D. Value streams and processes



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Q: Which ITIL concept describes governance?

A. The seven guiding principles

B. The four dimensions of service management

C. The service value chain

D. The service value system



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## Q: What is the first step of the guiding principle 'focus on value'?

A. Identify the outcomes that the service facilitates

B. Identify all suppliers and partners that are involved in the service

C. Determine who the service consumer is in each situation

D. Determine the cost of provisioning the service





## Q: Which value chain activity includes negotiation of contracts and agreements with suppliers and partners?

A. Engage

B. Design and transition

C. Obtain/build

D. Deliver and support

## Q: How does categorization of incidents assist incident management?

A. It helps direct the incident to the correct support area

B. It determines the priority assigned to the incident

C. It ensures that incidents are resolved in times agreed with the customer

D. It determines how the service provider is perceived



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## Q: Which is NOT usually included as part of 'incident management'?

A. Scripts for collecting initial information about incidents

B. Formalized processes for logging incidents

C. Detailed procedures for the diagnosis of incidents

D. Use of specialized knowledge for complicated incidents



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## Course schedule

- Day 1:
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  - Techniques
- Day 3:
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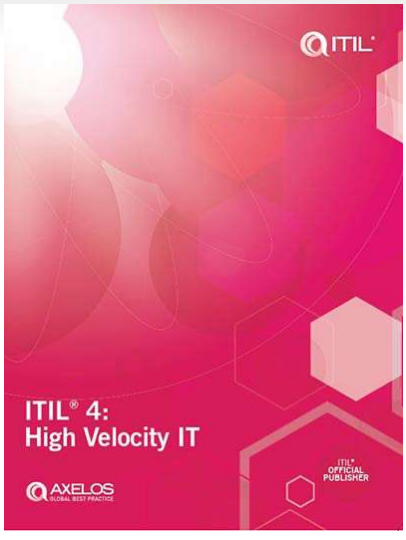
  - Exam preparation





# HIGH-VELOCITY IT INTRODUCTION



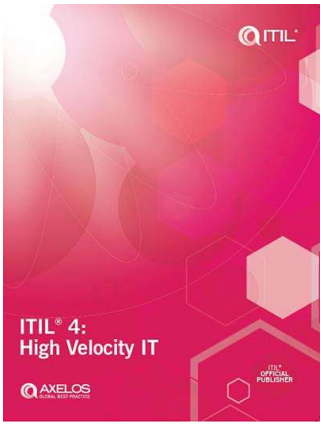
# High-velocity IT



The **purpose** of the *ITIL® 4: High Velocity IT* Qualification is:

to provide the candidate with an understanding of the ways in which digital organizations and digital operating models function in high velocity environments, focusing on rapid delivery of products & services to obtain maximum value.

The qualification will provide the candidate with an understanding of working practices such as Agile and Lean, and technical practices and technologies such as The Cloud, Automation, and Automatic Testing.








# Key learning requirements



**HIGH VELOCITY IT**

- ✓ Understand concepts regarding the high-velocity nature of the digital enterprise, including the demand it places on IT
- ✓ Understand the digital product lifecycle in terms of the ITIL "operating model"
- ✓ Understand the importance of the ITIL Guiding Principles and other fundamental concepts for delivering high velocity IT
- ✓ Know how to contribute to achieving value with digital products

# Some key terms and areas covered



**Terms:**

- Digital organisation
- High velocity IT
- Digital transformation
- IT transformation
- Digital products
- Digital technology

**Five objectives (to achieve with digital):**

- Valuable investments
- Fast development
- Resilient operations
- Co-created value
- Assured conformance

**The Digital Product Lifecycle:**

- Service consumer and service provider have different perspectives on digital products. They each have their own journeys, that overlap during the period of engagement

**Principles, models and concepts:**

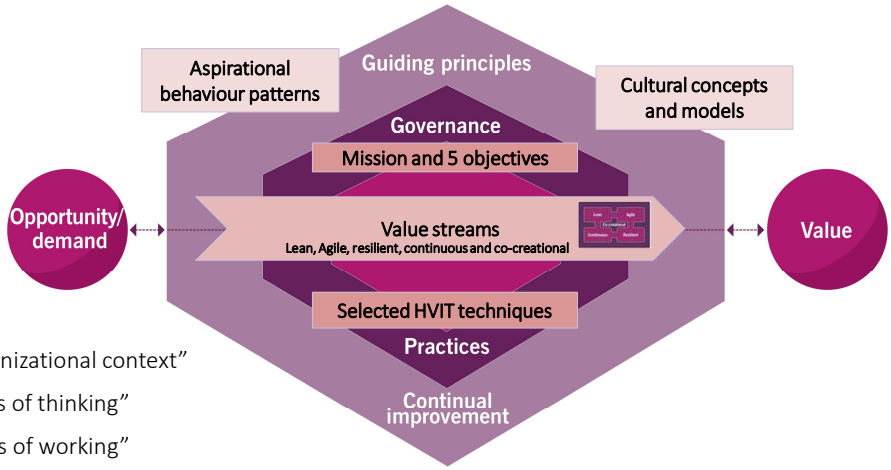
- Ethics
- Safety culture
- Lean culture
- Toyota Kata
- Lean / Agile / Resilient / Continuous
- Service-dominant logic
- Design thinking
- Complexity thinking





# Structural overview of the HVIT course






Day 1: ”Organizational context”

Day 2: ”Ways of thinking”

Day 3: ”Ways of working”

## Course schedule

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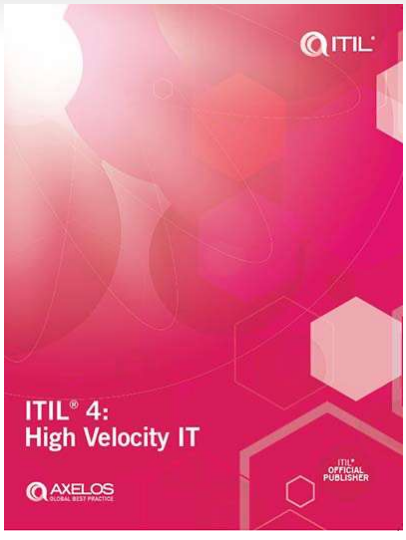
# HIGH-VELOCITY IT KEY TERMS AND DEFINITIONS



# High-velocity IT



| | |
|---|---|
| Definition: **High-velocity IT** | The application of digital technology for significant business enablement, where time to market, time to customer, time to change and speed in general are crucial. High velocity is not restricted to fast development; it is required throughout the service value chain, from innovation at the start, through development and operations, to the actual realization of value. |

Just as some digital organizations are more digital than others, the velocity in some organizations is higher than in others. However, an organization with a higher velocity is not necessarily better. The velocity at which an organization should operate depends on the nature of that particular organization, and in some cases a lower velocity may be more beneficial. It is also not necessary, or even recommended, that the whole of an organization's IT should be high velocity.

Increasing velocity within an organization will always involve costs and risks. There may be situations where risks are consciously taken in order to gain or retain competitive advantage.






# Digital technology



| | |
|---|---|
| Definition: **Digital technology** | Technology that digitizes something or processes digital data. Digital technology refers to ***information technology (IT)*** and the parts of ***operational technology (OT)*** that have been digitized. |

Digital technology is increasingly important. Its economic, societal, and political impacts are unprecedented.

At the same time, it is increasingly challenging for digital practitioners to design, develop, run, and support the systems and services that fulfil this demand.

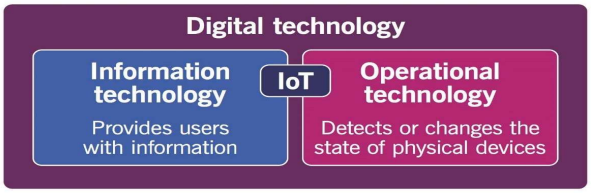



Figure 2.1

# Information and operational technology



Digital technology is made up of both IT and OT. IT provides users with data and information, whereas OT detects or implements changes in physical devices.

| | |
|---|---|
| Definition: **Information technology** | The application of digital technology to store, retrieve, transmit, and manipulate data (data processing), often in the context of a business or other kind of organization. |

| | |
|---|---|
| Definition: **Operational technology** | The application of digital technology for detecting or causing changes in physical devices through monitoring and/or control. |





# Information systems technology stack



IT exists as information systems that are made up of hardware, system software, data, and applications that are used for the purpose of data processing.

Information is data that is useful in a particular context. In IT, making information available to end users is the end goal. This can be presented in the form of numbers or text on a screen, or in other ways, for example, as a moving location on a map.

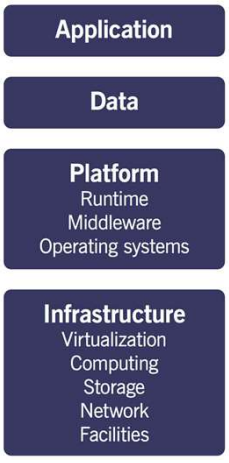



Figure 2.2 Information system technology stack

# Information technology put in a context



Despite IT being such a core concept to organizations worldwide, the term is often misinterpreted. 'IT' can be used to refer to any of the following:

- the organizational IT function (the IT department); here referred to as the 'IT function'
- IT infrastructure, including generic workplace productivity applications (such as word processing), but not the applications that support specific business functions
- an organization's internal information systems
- technical components used to create 'digital products'
- data processing technology (used for storing, retrieving, transmitting, and manipulating data)
- digital technology used to process data in order to digitize and automate business.

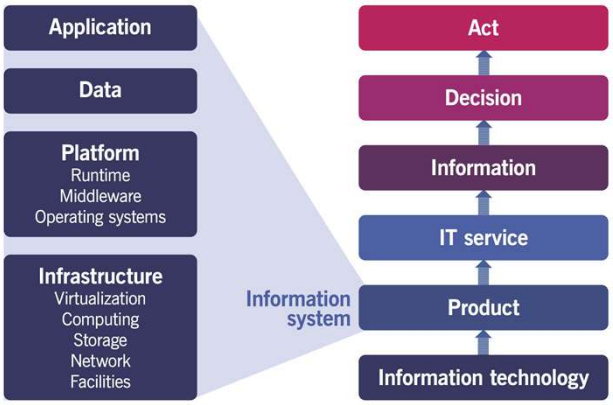



Figure 2.3 demonstrates how the IT stack contributes to the creation of value through informed decision-making.





# Operational technology



OT differs from IT in that it uses digitized data as an internal means to a physical goal, rather than to make information available to users.

'OT' refers to physical devices (for instance, valves and pumps in machinery) in which digitized data is used to take physical action. OT devices can be as small as the engine control module (ECM) of a car or as large as the distributed control network for a national electricity grid.

The OT sphere also includes embedded systems (such as smart instrumentation) and a large subset of scientific data acquisition, control, and computing devices.

OT devices are supported by the Internet of Things (IoT), allowing them to connect both to each other and to information systems.

# Digital organization



Digital organizations are enabled by digital technology. Digital technology is a significant underpinning enabler for these organizations' internal processes, and is often part of their products and services.

As such, digital technology is a strategic part of a digital organization's business model. The digitization of an organization has significant implications for its **operating model** (in other words, ***the resources it needs and how they interact***).

A major consideration for organizational operating models is the ***centralization or decentralization of the IT function***, and how each of these options will affect the organization's effectiveness and efficiency.

***It is important that a digital organization's operating model is based on the co-creation of value by both the service provider and the service consumer*** to make sure that value from IT investments is properly realized.

| | |
|---|---|
| Definition: **Digital organization** | An organization that is enabled by digital technology to do business significantly differently, or to do significantly different business. |





# Digitalization vs digitization



Digital transformation is sometimes referred to as '***digitalization***'. However, the use of this term is not recommended because of the potential confusion with ***digitization***, which **is the technical process of changing something from analogue form to digital form**.

| | |
|---|---|
| Definition: **Digitization** | The process of transforming something (e.g. text, sound, or images) from analogue to digital form by expressing the information in binary digits. |

The term '***transformation***', used correctly, **means major change**. Despite this, transformation does not necessarily imply a single, large change. Based on the approach an organization selects, transformation can be achieved just as successfully with a few big changes, or many smaller ones. In many cases, a series of smaller changes can even be the more successful approach.

# Digital transformation



| | |
|---|---|
| Definition: **Digital transformation** | The use of digital technology to enable a significant improvement in the realization of an organization's objectives that could not feasibly have been achieved by non-digital means. |

***Transformation*** **is about doing things differently**, or doing different things. It is also about reframing work to think about things differently, or think about different things.

'***Digital transformation***' **is often used to indicate major investment in digitizing, robotizing, and other forms of automation** that enable organizations to do business significantly differently, or do significantly different business. This technological change often requires organizational change in how the organization uses the digital solutions.

The term 'digital transformation' is not specific to a particular type of transformation, and can be used to refer to any transformation that is digitally enabled. The transformed entity is often a combination of the organization's customer experience, products or services, business model, operating model (for example, the value stream), and employee experience.





# IT transformation



In organizations where business and IT are regarded as separate organizational functions, 'IT transformation' is often used to denote major change that improves how IT services are provided. IT transformation is focused on how IT services and information systems are developed, run, and supported. This can include decentralizing the IT function and integrating it into digital lines of business.

Before they undergo a digital transformation, organizations are managed separately from their IT service providers, whether internal or external. An IT service provider is focused on the management of IT resources to create and deliver IT products and services, whereas a service consumer is focused on the management of its products, services, and resources, including those delivered or supported by the IT service provider. Acting as a consumer, this organization may influence the management of the service provider.

This is shown as **Model 1 in Figure 2.4**.

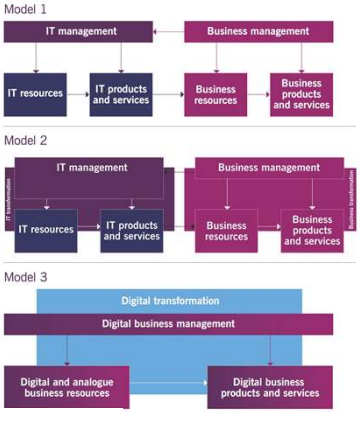



Figure 2.4 Digital transformation and IT transformation

# IT transformation



The IT service provider and service consumer can both transform their management, resources, products, and services.

These transformations can be interrelated, but they do not significantly change the way these organizations work together, or the role of IT in the service consumer organization.

This is shown as **Model 2 in Figure 2.4**.

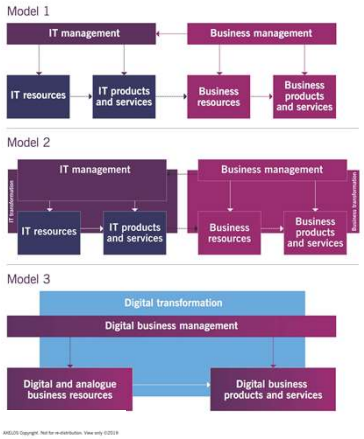



Figure 2.4 Digital transformation and IT transformation





# IT transformation



When the organizations undergo a digital transformation, the role of digital technology in the business of the service consumer significantly changes.

This includes some or all of the following:

- digitization of the organization's products and services
- digitization of the organization's management practices
- digitization of a significant part of the organization's resources
- integration of IT management into business management; development of a partnership with the IT service provider or the merging of management practices.

This digital transformation is shown as **Model 3 in Figure 2.4**.

**Where business and IT are not regarded as separate organizational functions, as is the case in most digital organizations, '*IT transformation*' is not an appropriate term to use. '*Digital transformation*' would be used instead.**

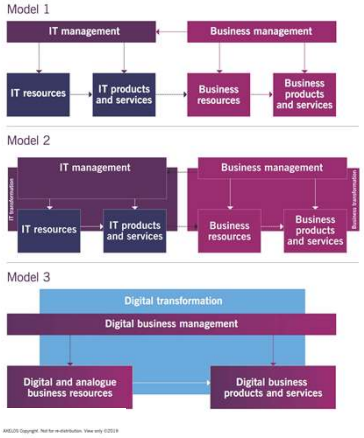



Figure 2.4 Digital transformation and IT transformation