

It SErvice Management simple (for real)



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**Disclaimer**

Some reference material for this course in past versions (also Italian ones) [here](http://www.netadm.it/).

Table of Contents

[2 01 - Introduction 3](#_Toc160531984)

[3 02 - Information System Governance 4](#_Toc160531985)

[4 03 - ITSM and ITIL 13](#_Toc160531986)

[5 04 - Service Management Concepts 16](#_Toc160531987)

[6 05 - Four Dimensions of Service Management 17](#_Toc160531988)

[7 06 - Service Value System 18](#_Toc160531989)

[8 07 - Guiding Principles 19](#_Toc160531990)

[8.1 07a - Other philosophies 19](#_Toc160531991)

[9 08 - Service Value Chain 20](#_Toc160531992)

[10 09 - Continual Improvement 21](#_Toc160531993)

[11 10 - ITIL Practices 22](#_Toc160531994)

[12 11 - General Management Practices 23](#_Toc160531995)

[13 12 - Service Management Practices 24](#_Toc160531996)

[14 13 - Software Asset Management (SAM) 25](#_Toc160531997)

[15 14 - FinOps 26](#_Toc160531998)

# 01 - Introduction

You can’t run business without IT and these need to be up themselves up and running. This needs organization and how to do this the best way possible. Many positions are much abstract and will be sought in the next/immediate future, comprehending knowledge from IT but also economics and other means (from engineers of data/robotics up to managers/developers/consultants).

Running a business is understanding the change when it happens and how to embrace it. Famous examples are Nokia, Blockbuster, Motorola (giants now fallen) and other have risen believing in their goals (Apple, Netflix, Tesla). It’s important to understand the dimensions of the challenge and also the role in all of this.

ITSM (IT Service Management, from now on and in header of file) is a very broad subject, for this reason we are going to explore in particular one of the most famous methodologies. In particular:

* The course is designed upon the official ITIL 4 Foundation textbook
* There are different objectives
  + To provide attendees with the ITSM foundation, methods and concepts
  + In a practical workshop environment
  + Using Real life Scenarios and Exams
* There is a lot of material
  + Slides of the course
  + Videos and multimedia
    - Based on ITIL 4
  + Web articles
* Exam methods
  + Multiple choice test (crosses) 🡪 ITIL 4 Foundation Test (prof. says it’s feasible)
  + Production of a small thesis on a real case (oral exam)
* Evaluation criteria
  + The written test evaluates the student's acquisition of the foundational aspects addressed during the course
  + The second test evaluates the student's ability to analyze and evaluate concrete aspects of the methodology taught and their application in real life cases
* ITIL 4 Foundation Test
  + 60 minutes
  + 40 questions, each question is worth 1 mark
    - ‘standardʼ
    - ‘missing wordʼ
    - ‘listʼ (2 correct items)
    - Very rarely, ‘negativeʼ (“what is NOT…”)
  + Pass mark: 65% or higher (26 marks or above)
    - levels 1 and 2 of Bloomʼs Taxonomy (understand/remember)
      * 9 questions at Level 1 (Recall) = 22.5%
      * 31 questions at Level 2 (Understand, Describe, Explain) = 77.5%

He says the order is important: first the test, then the thesis itself.

# 02 - Information System Governance

(Additional resources for chapter: [here](https://youtu.be/fbcMPGyPr8k), [here](https://www.youtube.com/watch?v=5U5f17vO1Y0) and [here](https://www.youtube.com/watch?v=M_8-o-Mvb64))

There are separate roles in the context of ITIL's Information System Governance, giving a company a defined and precise *structure*:

1. *CISO (Chief Information Security Officer):* Responsible for overseeing cybersecurity strategy and implementation to protect the organization's information assets.
2. *CEO (Chief Executive Officer):* Sets strategic direction for the organization, ensuring IT initiatives align with business objectives.
3. *CIO (Chief Information Officer):* Manages IT strategy, systems, and services, ensuring alignment with business goals and compliance with regulations.
4. *CFO (Chief Financial Officer):* Manages financial activities, including budgeting for IT projects and assessing their budgetary impact.
5. *CMO (Chief Marketing Officer):* Develops marketing strategy, increasingly reliant on technology and data, which intersects with IT governance for compliance and strategic alignment.

Like industrial revolution, things constantly changed and, overtime, industrial revolution brought different waves of change. We’ve come to a 4th as of now, with intelligent system interconnected between them and other means of electronics and traditional industry, up to discussion of a 5th, based on AI and gathering of data.

Let's start by understanding what the *current global scenario* is. Why?

* Because the issues we are going to deal with are typical of extremely complex environments where it is never immediate to give an answer
  + complex questions are often followed by equally complex answers
  + each change and revolution was a disruptive change compared to the past
* The aim is to rationalize and simplify needs and the Information System

Inside the *business context*, there are several factors to consider:

* Dynamism and complexity as structural elements
  + Cannot have proper control of all elements
* Scenarios not definable a priori
  + Blind in a period of next ½ years
* New forms of business
* Collapse of the myth of planning as an antidote to complexity
* Multiple actors involved (e.g., shareholders, stakeholders, globalization ...)
* Management not ready to define requirements and operationally describe "strong" choices
* Digital economy (IT as a productive factor)
* Permanence of a gap between company needs and the Information System

There are different *consequences for company information systems*:

* There is not enough time to activate cycles of revision and modification of the information system that are consistent with company times
* The changing pace of business scenarios give little space to management processes of information systems that are strongly oriented towards planning
* It is necessary to design information systems with a high degree of "self-adaptation" to changed business conditions
* This result can only be achieved thanks to a radical paradigm shift in information systems and their management

Immagine che contiene testo, diagramma, schermata, linea

Descrizione generata automaticamenteThink about vaccines: prevent the problem and give a cure. Governance revolves around common principles. Consider this *business dynamics example*:

* In this system, there are reinforcing loops represented by the roosters and hens producing eggs, which in turn leads to more foxes due to increased food supply
  + This loop is denoted by the "+" sign, indicating a positive reinforcement
* However, there are also balancing loops present. The presence of hunters can control the fox population, indicated by the balancing loop denoted by the "+" and "-" signs, reflecting the dynamic equilibrium between foxes and hunters

The *new paradigm* is to spend money the good/best way:

* Less planning and more accountability
* Less budget and more cost-effectiveness
* The «Information Systems» (IS) faces a radical change
* More adaptation systems and fewer synthetic performance indicators
  + Consider for example KPI = Key Performance Indicators, which allow to measure efficiency and effectiveness and it’s a measure of objective quality
* From managing IS to setting the conditions for their correct development (IS governance logic)

Immagine che contiene testo, Carattere, schermata, linea

Descrizione generata automaticamenteWe can give the following definition:

What is the Governance of Information Systems (IS Governance)?

* It is a set of logics and tools aimed at creating a structural set-up and a governance context of the Company Information System that make it constantly consistent with the business needs in environments characterized by a high level of complexity

The *Governance Logic* is the following:

* The Information System is configured and managed in such a way as to “naturally” tend to provide good performance
* We renounce to anticipate single phenomena, we try to make the Information System structurally adequate to a complex environment
* Theories and ideas as tools for guiding action and not as the antithesis to doing
* (theory 🡪 practice and not theory vs practice)

Immagine che contiene testo, schermata, Carattere, linea

Descrizione generata automaticamenteThe “traditional” logic goes this way: the effort goes continuously to align with business needs.

Immagine che contiene testo, linea, schermata, diagramma

Descrizione generata automaticamenteInstead, the “new” logic tries to adapt naturally towards the system we want to align upon:

Immagine che contiene testo, cerchio, schermata, Carattere

Descrizione generata automaticamente

Different types of governance intersect between each other:

* IT is technology and tools
* IS is about culture, made directly on our employees what to do (e.g. use a VPN – do not play games)

In particular:

* *Corporate Governance*
  + Deals with overall management, accountability, and ethical behavior within a company, ensuring alignment with stakeholder interests
* *Information Systems (IS) Governance*
  + Focuses on governing the use of information systems to align with business objectives,
    - emphasizing effective management, risk mitigation, and value creation from information assets
* *Information Technology (IT) Governance*
  + Encompasses broader aspects of IT management, including infrastructure, applications, and services
    - ensuring efficient use of IT resources to support business goals and manage IT-related risks

Immagine che contiene testo, schermata, Carattere, diagramma

Descrizione generata automaticamenteGovernance and management go in parallel according to the specific conditions:

In implementing the IS Governance, some considerations need to be made:

* Within an articulated system (group of companies or complex companies) it is necessary to think of different degrees and methods of applying the IS governance system
* The diffusion and applicability of an IS Governance system must be modulated by considering some factors:
  + Level of integration in the group (financial vs industrial only)
  + Homogeneity level of the business system
  + Company life cycle (own or with respect to the Group)
  + Corporate governance and results measurement system
  + Areas of managerial independence
* Depending on these characteristics, each company / area is assigned to a different "IS Governance Layer"
* The differentiation may also take place at the level of individual aspects of IS Governance

Immagine che contiene testo, cerchio, diagramma, schermata

Descrizione generata automaticamenteThe reference model is the following, defining policies and a matrix what to do for a specific company:

While management looks at current, governance looks at the future, maintaining all the positions and business-oriented practices towards common goals:  
Immagine che contiene testo, schermata, Carattere, diagramma

Descrizione generata automaticamente

Degree of maturity comes with different expectations; in the context of a company, it measures how to deal with problems had in the past and confront them in new/original ways (the geniuses) or with some more careful yet corporate approach.

Immagine che contiene testo, diagramma, Carattere, schermata

Descrizione generata automaticamenteTo maintain quality, constant effort is needed. This is what the *Deming Cycle* is all about: given quality is a function of the time, resources should be aligned going towards a common direction. This needs to be automatized, checking the quality of the jobs and processes:

Immagine che contiene testo, schermata, design

Descrizione generata automaticamenteMaturity is learning from our mistakes, and we can divide the management in different levels according to the level of control we want to have over the company’s activities:

Immagine che contiene testo, schermata, Carattere, design

Descrizione generata automaticamente

Quality means measurement over performance, guaranteeing one can be able to manage resources effectively, going backwards and in the future (e.g., capacity management).

Immagine che contiene testo, menu, schermata, Carattere

Descrizione generata automaticamenteWe can measure how quality can be perceived by the final user, according to different levels. The chain needs to be preserved in its entirety:

Immagine che contiene testo, schermata, Carattere, numero

Descrizione generata automaticamenteConsider for instance the Gartner maturity scale, which tries to characterize and categorize each one of these, trying to predict and avoid problems to infrastructures:

ISO 15504 and COSO (Committee of Sponsoring Organizations of the Treadway Commission) are two distinct frameworks used in different domains.

* ISO 15504, also known as *SPICE (Software Process Improvement and Capability Determination)*, is a standard for assessing and improving software development processes
  + The first one was ISO 12207 which described the lifecycle of an application
  + The SPICE revision was ISO 33001
* On the other hand, COSO is a framework for internal control used by organizations to enhance their operations
* Both anyway try to improve the processes while determining capability, ultimately enhancing performance and managing risks carefully in a systematic way

Immagine che contiene testo, schermata, Carattere, Parallelo

Descrizione generata automaticamenteHere we can see the comparison between the two different documentations:

Immagine che contiene diagramma, linea

Descrizione generata automaticamenteA Kiviat diagram, also known as a radar chart or spider chart, is a graphical method used to display multivariate data.

The value of each variable is then plotted along its respective axis, and the points are connected to form a polygon or shape that represents the overall pattern or profile of the data, representing complex information.

Immagine che contiene diagramma, testo, schermata, linea

Descrizione generata automaticamenteWe can use them to make comparisons, as you can see here:

It’s always a mistake to compare companies measuring their level of maturity, because each company is different and other points of view are personal and not objective. We can do it on our company instead, comparing maturity year by year.

There are different metrics for service management, tracking and reporting metrics according to strategies and requirements. Consider for example:

* *CSF – Critical Success Factor,* which is required for ensuring the success of a company or an organization. This is done during the design phase
* KPI – Key Performance Indicator, a quantifiable measure of performance over time for a specific objective.
* Immagine che contiene cerchio, diagramma, schermata

  Descrizione generata automaticamenteEach operation has different governance, transitions and strategies

Maturity is definitely achieved by *training*, which gives competitive advantage and trust to the consumers:

* It is no longer possible to think of being professionals in your own sector by making use only of your own experience
  + It’s important to use the tools already available in a good way
* Need for training 🡪 doable using standards
* Efficiency and Effectiveness in Service Management 🡪 ITIL
  + Spending well and using thing better
* Think about the efficiency margins achievable in Project management
* Experience means also cost-effective management; amateurs might do more damages, given their inexperience and more time needed in order to do more

For the world of work of the 21st century, in addition to knowing how to do a job, it is necessary:

* *Work Ethic*: being responsible without the need for someone to control you
* *Problem Solving*: knowing how to go forward even when faced with problems
* *Communication Skills*: the world of work is related to service
* *Teamwork*: one-man-bands no longer exist

Management has different fundamentals, based on decision-making and different solutions choice according to capabilities (left). Each area will be analyzed thoroughly (right), giving different perspectives and ideas.

Immagine che contiene testo, biglietto da visita, Carattere, schermata

Descrizione generata automaticamenteImmagine che contiene testo, schermata, Carattere

Descrizione generata automaticamente

# 03 - ITSM and ITIL

(Additional resources of chapter: [here](https://youtu.be/vp2wfoVRMDE))

Service Management (ITSM) refers to the way you manage the information systems that deliver value to your customers:

* It is a generic term, indicates the subject area
* Service Management encompasses all activities (including policies, processes, and procedures) that an enterprise performs in order to design, plan, deliver, operate, maintain, and control IT-enabled services

There are different ITSM methodologies:

* ITIL (IT Infrastructure Library)
  + we will see this in detail during the course
* COBIT (Control Objectives for Information and Related Technologies)
  + a framework for managing and governing enterprise IT
  + gives different objectives, practices, activities and inputs
* ISO/IEC 20000
  + a framework from the International Organization of Standardization (ISO) and considered the international standard for IT
* MOF (Microsoft Operations Framework)
  + compiled documents to guide businesses through everything involved in IT service, with a focus on Microsoft technology
* Six Sigma
  + a framework developed by Motorola with tools for data analysis to support process improvement and reduce service flaws
  + it defines different opportunities for improvement, measurement and control
* TOGAF (The Open Group Architecture Framework)
  + a framework designed to give businesses a structure and methodology when implementing technology, especially software
  + it tries to develop architecture and find planning and define governance
* USMBOK (Universal Service Management Body of Knowledge)
  + this isn’t a framework but provides additional information and documentation for ITSM resources

Immagine che contiene testo, schermata, diagramma

Descrizione generata automaticamente

Choosing the right method depends on the specific situation, deciding between abstraction and relevancy. Each ISO norm specifies something which complements the other, never in contrast in between.

Consider the case of Margaret Thatcher, Prime Minister of the United Kingdom from 1979 to 1990 and Leader of the Conservative Party from 1975 to 1990.

* As prime minister, she implemented policies that became known as Thatcherism
* A Soviet journalist dubbed her the "Iron Lady", a nickname that became associated with her uncompromising politics and leadership style
* When Margaret Thatcher was prime minster of the United Kingdom, she instructed government IT departments to document best practices
  + The reason for this was simple. The British government did not think it was getting value for money from its technology
* Consequently, the effort was not a theoretical exercise but a practical one.
  + The basic commandment from the Iron Lady could be paraphrased as, "Document, do not invent." That lead to the first release of ITIL® in 1989
* Responding to growing dependence on IT, the UK Government's Central Computer and Telecommunications Agency (CCTA) in the 1980s developed a set of recommendations designed to standardize IT management practices across government functions, built around a process model-based view of controlling and managing operations
* In April 2001, the CCTA was merged into the Office of Government Commerce (OGC), an office of the UK Treasury

There is a [video](https://www.youtube.com/watch?v=vp2wfoVRMDE) about a restaurant example to make understand ITIL (Information Technology Infrastructure Library), which is a set of guidelines for IT infrastructures, helping business evaluate services for required improvement, making implementations easy for businesses and crafting strategies to take decisions.

Immagine che contiene testo, schermata, linea, Carattere

Descrizione generata automaticamenteA quick overview of ITIL History here. The versions have definitely improved over time and the usage depends on maturity level reached, in two different versions.

Immagine che contiene testo, schermata, scatola, design

Descrizione generata automaticamente

Service Management (ITSM) vs ITIL: *whatʼs the difference?*

* Service Management relates to how you manage the services you deliver to your business partners or customers
* ITIL is simply one of many items you may have in your toolbox to help you do this well
  + We have good choice IT management is good

Before we go any further, letʼs makes sure we are on the same page about both service management as a discipline and ITIL as a good practice framework. It’s important to connect business with infrastructure management, as can be seen here:

Immagine che contiene testo, schermata, cerchio, compact disk

Descrizione generata automaticamente

Each part of the company has its own responsibility, which is supported by the business itself and everything is managed separately. From hardware to software, we go to CMDB – Configuration Management Database, working with Continuous Integration. This is service-centric, changing processes between lifecycles, improving resources operationally continuously starting from existing knowledge.

Immagine che contiene testo, schermata, Carattere, diagramma

Descrizione generata automaticamenteTo handle resources the best way, strategy needs a credible design, which tries to control smoothly with transitions the operations between devices, while getting continual improvements.

Immagine che contiene testo, schermata, Sito Web, Pagina Web

Descrizione generata automaticamenteWe’re doing ITSM to provide solutions for demands of business, producing value for them. Each problem has to be thought with a different solution each time. The action to implement to solve problems drive the creation of the value chain, this way crafting new services and activities. A service needs to be served and also maintained over time, maintaining with current goals and quality.

Immagine che contiene testo, schermata, diagramma, linea

Descrizione generata automaticamenteOvertime, different processes exist going with different practices, going in common with other parts of the company, all overlapping with each other and strictly related.

*Has ITIL V4 dropped the ITIL V3 service lifecycle?*

* A key innovation of ITIL V3 was the introduction of the service lifecycle, consisting of five service lifecycle stages
  + The ITIL V3 processes are distributed across this service lifecycle
    - e.g., the incident management process is part of service operation stage.
  + The idea behind organizing the ITIL processes in this way was to establish a Deming-like plan-do-check-act cycle focused on continual improvement
* ITIL V4 has dropped most references to the service lifecycle, but continual improvement has remained a key concept
  + For example, continual improvement is an element of the service value system, and the service value chain with its six activities is very reminiscent of the ITIL V3 service lifecycle

*Where in ITIL 4 are the ITIL V3 processes?*

* ITIL V3 defines 26 processes across the service lifecycle. In ITIL 4, these 26 processes have been replaced by 34 "practices"
* Some of them are new, but many of these practices were formerly known as processes.
  + So the ITIL V3 processes are still alive, and what is more, the authors of ITIL 4 state that ITIL V3 is still valid guidance that can be used for defining service management processes
* But it is also worth noting that ITIL 4 is not prescriptive about processes and gives service providers more freedom to design tailor-made processes that work for the organization
* This presents an opportunity for a fresh start with ITIL 4 processes, in line with the advice in ITIL 4 to "keep things simple and practical”

Following observations come from [here](https://www.youtube.com/watch?v=1ZqhiwEAtTA):

* ITIL 4 wants to provide value to the modern service economy, configuring in a valuable way resources and addressing the needs of consumers, considering quality, prices and offerings, both organizations and individuals
* Different dimensions overlap and interact with each other, leveraging different values and components, while keeping everything under control
* Value chain ensures the product will be working and functioning each time

Just for completeness, the qualification roadmaps for both versions of ITIL follow here, doing thinkgs the quick way for your company:

Immagine che contiene testo, schermata, Carattere, numero

Descrizione generata automaticamente

# 04 – Service Management Concepts

(Additional resources for chapter: [here](https://www.axelos.com/resource-hub/blog/itil-4-foundation-universal-guide-to-service-management) and [here](https://www.axelos.com/resource-hub/blog/behaviour-and-itil-4))

Immagine che contiene testo, schermata, cerchio, diagramma

Descrizione generata automaticamenteITIL v4 expanded scope compared to previous versions, approaching with the correct logic problems in a different way, acting directly on the organizational culture and operational practices. Overtime, the ITIL scope became wider and wider, creating a chain between services and users, determining how to control CI – Continuous Integration.

Just a brief example of how organizational aspects impact the business – it’s only a matter of approach and tools to use to solve problems.

* An improvement project failed to create the expected value because the team did not spend enough time thinking about how successful the solution would be
* What would have helped to prevent this failure?
  + Kanban
  + Risk management
  + Measurement and reporting
  + Cascading objectives

# 05 - Four Dimensions of Service Management

# 06 - Service Value System

# 07 - Guiding Principles

## 07a - Other philosophies

# 08 - Service Value Chain

# 09 - Continual Improvement

# 10 - ITIL Practices

# 11 - General Management Practices

# 12 - Service Management Practices

# 13 - Software Asset Management (SAM)

# 14 - FinOps