IT Service Management: Quick Summary

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1. Disclaimer

2. 02 - Information System Governance

- Services comprise the largest and most dynamic component of both developed and developing economies.
- Services are the main way that organizations create value for themselves and their customers.
- Almost all services today are IT-enabled, which means there is tremendous benefit for organizations in creating, expanding, and improving their IT service management capability.

Technology is advancing faster today than ever before.

- We are dealing with the 4th Industrial Revolution
  - Developments such as cloud computing, infrastructure as a service (IaaS), machine learning, and blockchain are source of innovation and competitive advantage

Business context is very dynamic and not definable a priori.

- New forms of business are born
- Not enough time to activate cycles of revision and modification
- Achievable via a paradigm shift allowing the company to easily adapt

A new paradigm makes organizations face a radical change

- Fewer indicators
- Obtain a reasonable consistency with information and costs

IS (Information System) Governance

- is a set of logics and tools aimed at creating a structural set-up and agovernance 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

- naturally tends to good performance
- tries to guide action towards practice
- it tries to balance the Information System towards an optimal setup able to pass the gap between company requirements and its capabilities

The Corporate Governance contains both IS Governance and IT Governance, allowing for governance and management to go in parallel.

- IT Governance takes IT Management (present) and goes into the future
- IS Governance has to work with different degrees and methods
  - According to the level of integration, homogeneity and degree of control

Maturity

- means dealing with problems in new/original ways while learning from mistakes)

It can be defined with different reference models for the organization:

- Deming Cycle (Plan/Do/Check/Act)
- Gartner's scale to predict and avoid problems

- ISO 15504 (SPICE - Software Process Improvement and Capability Determination)
  - Different capability levels
  - Different process attributes
- COSO (Committee of Sponsoring Organizations of the Treadway Commission)
  - Classifies processes according to their level of management
- Kiviat Diagram
  - Allows to see things on different dimensions and make comparisons

There are different levels of it, according to different visions of the previous ones:

- Initial/Chaotic
- Managed/Reactive
- Defined
- Quantitatively managed/Proactive/Service
- Optimizing/Predictive/Value

We also need metrics able to compare maturity in a good way. Examples are:

- CSF – Critical Success Factor, which is required for ensuring the success of a company or an organization
- KPI – Key Performance Indicator, a quantifiable measure of performance over time for a specific objective

Maturity can be achieved through training:

- Effeciency and Effectiveness
- Work ethic
- Problem solving
- Communication skills
- Teamwork

3. 03 - ITIL and ITSM

Service Management

- Definition: “A set of specialized organizational capabilities for enabling value for customers in the form of services”
- It encompasses all activities that an enterprise performs, maintaining control of operations
- Allows products and services to bring value and has to react flexibily to change
- Organizational capabilities understand value, nature and scope of stakeholders, organizing capacity and ability the best way possible
- The provider delivers the service, and the consumer receives value; the consumer plays no role in creating value for themselves, given complex and interdependent relationships
- There are different methodologies and ITIL is one of them, which is process-centric
- Based on 4 P’s: Persons, Processes, Products, Partners

ITIL - (Information Technology Infrastructure Library)

- Definition: “Set of guidelines for IT infrastructures, helping business evaluate services for required improvement, making implementations easy for businesses and crafting strategies to take decisions”
- Born thanks to figures like Margaret Thatcher expressed the importance of getting value from the technology
- Need to standardise IT practices across different government functions
- 4 versions, basically incorporating wider practice standards, being more accessible and adopting a lifecycle approach
- We focus on ITIL 4

Service Management (ITSM) vs ITIL: what’s 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

Between different versions:

- important to connect business with infrastructure management
- each part of the company has its own responsibility
- handling resources the best way requires a credible design, going smoothly and transitioning easily
- different processes overlap, giving value to each other

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; for instance, the incident management process is part of the service operation stage
  - ITIL V4 has dropped most references to the service lifecycle, but continual improvement has remained a key concept

4. 04 - Service Management

ITIL 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

It became wider and wider:

- Based on practices (34) grouped into 3 areas
- Beyond the IT and close to corporate governance
- Principle-centric
- It helps to create the expected value and deliver it
- Preventing risks and measuring/reporting

Process

- series of actions which are carried out in order to achieve a particular result
  - input well-defined
  - through following standard procedures
  - output is granted
- objectives are clearly described
- an organization can use multiple processes
- people have to become responsible in using and controlling them
  - to be more efficient/effective
  - to avoid conflicts of interest

Processes vs Procedures:

- Processes
  - they are about what needs to be done
  - structured workflows designed to achieve objectives
  - activities at the highest level and often represent a standard for the entire organization
  - can be divided into series of tasks
  - each one has a process owner
- Procedures
  - they are about how to do it
  - step-by-step instructions on how to perform specific tasks within processes
  - contain a greater level of detail and describe who performs certain activities within a process
  - may change between various departments or activities

In both cases, policies are high-level statements that set the direction, intent, and rules governing an organization's actions and decision-making.

- Quality here helps making continuous improvement according to standards

- One of the main problems for many organizations is that roles and responsibilities are not clearly defined
- Many tasks and risks of confusion

IT Service Management (ITSM)

- Discipline that deals with planning, designing and managing the Information Technology (IT) systems of an organization
- IT service providers must consider the quality of services they provide and focus on the relationship with the customer

Organization

- Definition: "A person or a group of people that has its own functions, responsibilities, and relationships to achieve its objectives"
- The purpose of an organization is to create value for stakeholders
- Vary in size and complexity and hold different roles

Value

- Definition: "The perceived benefits, usefulness, and importance of something"
- Based on the recipient's perception, which determines the final value
- There is *value co-creation*: made through collaboration betwwen service provider and consumer, providing active consumer engagement
- Organizations provide different roles, depending on perspective and discussion

Service Provider

- Definition: "A role performed by an organization in a service relationship to provide services to consumers"
- Clear understanding on who the customers are and understand their role and relationships

Services Consumer

- Definition: "A role performed by an organization in a relationship that uses (or consumes) those services"

Service relationships are different and complicated: one can be both a supplier and a consumer at the same time. There are infact different roles involved in *service consumption*:

- Customer: A person who defines the requirements for a service and takes responsibility for the outcomes of service consumption.
- User: A person who uses services.
- Sponsor: A person who authorizes budget for service consumption

Beyond the consumer and provider roles, there are usually many other stakeholders that are important to value creation.

- Examples include individual employees of the provider organization, partners and suppliers, investors and shareholders, government organizations such as regulators, and social groups

Organizations own or have access to a variety of resources, including people, information and technology, value streams and processes, and suppliers and partners.

Service

- Definition: “A means of enabling value cocreation by facilitating outcomes that customers want to achieve without the customer having to manage specific costs and risks”
- it may be based on a product

Product

- Definition: “A configuration of an organization’s resources designed to offer value for a consumer”
- it combines and simplifies organization’s services
- created with several target consumer groups in mind (not exclsive to one)
- typically complex and not fully visibile to the consumer

Service providers present their services to consumers in the form of service offerings, which describe one or more services based on one or more products.

Service offering

- Definition: “A formal description of one or more services, designed to address the needs of a target consumer group. A service offering may include goods, access to resources, and service actions.”
- these may include goods to be supplied to a consumer, access to resources granted to a consumer and service actions performed to address a consumer’s needs

Service relationship

- Definition: “A corporation between a service provider and service consumer, including service provision, service relationship management”
- They are established between two or more organizations to co-create value
- In a service relationship, organizations will take on the roles of service providers or service consumers (not mutually exclusive)
- Joint activities to ensure continual value co-creation

When services are delivered by the provider, they create new resources for service consumers, or modify their existing ones.

The service consumer can use is new or modified resources to create its products to address the needs of another target consumer group, thus becoming a service provider

Service provision

- Definition: “The activities performed by an organization to provide the services”
- It includes provider resources management, access to those ones, fulfillment of actions and continual improvement

Service consumption

- Definition: “The activities performed by an organization to consume the services”
- It includes management of consumer’s resources and service actions performed by users

Achieving desired outcomes requires resources (and therefore costs) and is often associated with risks. Service providers help their consumers to achieve outcomes, and in doing so, take on some of the associated risks and costs.

Acting as a service provider, an organization produces outputs that help its consumers to achieve certain outcomes.

Output

- Definition: “A tangible or intangible deliverable of an activity”

Outcome

- Definition: “A result for a stakeholder enabled by one or more outputs”
- Services facilitate outcomes through one or more outputs
- One should care more about the outcome for this reason, creating metrics measuring those
- These allow for balancing between value achievement, enabling cost reduction if there is value co-creation
  - This allows for changing in value proposition, allowing to fully understand the outcomes a consumer wants to achieve

Cost

- Definition: “The amount of money spent on a specific activity or resource”
- There are costs removed or imposed from the consumer by the service

Risk

- Definition: “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, and can be used in the context of measuring the probability of positive outcomes as well as negative outcomes.”
- It should be avoided (removed from service) but also accepted (when cost is considered low), transfering it but also mitigating it.

To evaluate whether a service or service offering will facilitate the outcomes desired by the consumers and therefore create value for them, the overall utility and warranty of the service should be assessed.

Utility

- Definition: “The functionality offered by a product or service to meet a particular need”
- Utility can be summarized as ‘what the service does’ and can be used to determine whether a service is ‘fit for purpose’
- To have utility, a service must either support the performance of the consumer or remove constraints from the consumer. Many services do both.

Warranty

- Definition: “Assurance that a product or service will meet agreed requirements”
- Warranty can be summarized as ‘how the service performs’ and can be used to determine whether a service is ‘fit for use’
- Warranty often relates to service levels aligned with the needs of service consumers. This may be based on a formal agreement, or it may be a marketing message or brand image
- Warranty typically addresses such areas as the availability of the service, its capacity, levels of security and continuity
  - A service may be said to provide acceptable assurance, or ‘warranty’, if all defined and agreed conditions are met

5. 05 - Dimensions of Service Management

To achieve their desired outcomes and work as effectively as possible, organizations should consider all aspects of their behaviour. In practice, however, organizations often become too focused on one area of their initiatives and neglect the others.

To support a *holistic approach* to service management, ITIL defines four dimensions that collectively are critical to customers and stakeholders value:

- organizations and people
- information and technology
- partners and suppliers
- value streams and processes

These are perspectives and constraints influenced by several factors. If one fails to address them all, it may result in services becoming undeliverable and not meeting expectations. These apply to both service management and services being managed.

1° Dimension - Organizations and People

- Key message: "The complexity of organizations is growing, and it is important to ensure that the way an organization is structured and managed, as well as its roles, responsibilities, and systems of authority and communication, is well defined and supports its overall strategy and operating model"
- There needs to be a culture of shared values supporting the organization's objectives, starting at the top then funneling down throughout the company
- Every person should have a clear understanding of their contribution
- Focus on value is a key for an organization, covering all roles, responsibilities, culture and competencies as a whole

2° Dimension - Information and Technology

- Key message: "When applied to the Service Value System - SVS, the information and technology dimension includes the information and knowledge necessary for the management of services, as well as the technologies required. It also incorporates the relationships between different components of the SVS, such as the inputs and outputs of activities and practices."
- For many services, Information Management is the primary means of enabling customer value
- Requires different tools and knowledge bases, collaborating across different platforms
- Information role changes, depending on the nature of IT services and considering emerging technologies
- Technology has to incorporate inputs and outputs precisely, ensuring all inside of a business can function properly

3° Dimension - Partners and Suppliers

- Key message: "The partners and suppliers dimension encompasses an organization's relationships with other organizations that are involved in the design, development, deployment, delivery, support, and/or continual improvement of services. It also incorporates contracts and other agreements between the organization and its partners or suppliers"
- This may involve several relationships with contracts and partnerships
- An organization can both act as a service provider and a service consumer

- When using those ones, an organization's strategy should be based on its goals, culture and business environment
- Service integration allows for coordination of service relationships, which may be kept inside of an organization but also delegated to trusted partners

Different factors may influence an organization's strategy:

- *Strategic focus* (on organization's core competencies)
- *Corporate culture* (cultural/historical bias)
- *Resource scarcity* (without having suppliers)
- *Cost concerns* (by decisions of service provider)
- *Subject matter expertise* (less risky to use experts)
- *External constraints* (e.g., policies)
- *Demand patterns* (seasonal or high degrees of availability)

4° Dimension - Value Streams and Processes

- Key message: "Applied to the organization and its SVS, the value streams and processes dimension is concerned with the various parts of the organization work in an integrated and coordinated way to enable value creation through products and services. The dimension focuses on what activities the organization undertakes and how they are organized, as well as how the organization ensures that it is enabling value creation for all stakeholders efficiently and effectively"
- A *value stream* is a series of steps taken to create and deliver products and services to consumers
- A *process* is a set of interrelated or interacting activities that transforms inputs into outputs
- A *well-defined process* can improve productivity, be optimized and automated

Service providers do not operate in isolation. They are affected by many external factors, and work in dynamic and complex environments that can exhibit high degrees of volatility and uncertainty and impose constraints on how the service provider can work.

To analyse these external factors, frameworks such as the PESTLE (or PESTEL) model are used.

- PESTLE is an acronym for the Political, Economic, Social, Technological, Legal, and Environmental factors that constrain or influence how a service provider operates

Some examples:

- Environmental concerns may lead to investing in green technologies, partnering with eco-friendly providers
- Economic and social factors may drive creating different product/service tiers for different consumer segments (e.g. free vs premium streaming services)
- Data protection laws/regulations like GDPR impact how customer data is collected, processed, accessed, stored and how companies work with partners/suppliers
- Political factors, social attitudes can shape organizational policies and practices

6. 06 - Service Value System

For Service Management to function properly, it needs to work as a system.

- Key message: “The ITIL SVS describes how all the components and activities of the organization work together as a system to enable value creation. Each organization’s SVS has interfaces with other organizations, forming an ecosystem that can in turn facilitate value for those organizations, their customers, and other stakeholders”.
- To avoid the presence of organizational silos (fragmentation in precise parts of organization which may reduce efficiency), requiring integration between teams and activities
- Has to ensure te organization continuously co-creates value with all stakeholders through use of products and services
- Supports various work approaches which regards the whole organization

The key inputs to the SVS are:

- *Opportunities* represent options or possibilities to add value for stakeholders or otherwise improve the organization
- *Demand* is the need or desire for products and services among internal and external consumers

Opportunity and demand trigger activities within the ITIL SVS, and these activities lead to the creation of value. Opportunity and demand are always entering into the system, but the organization does not automatically accept all opportunities or satisfy all demand.

The outcome of the SVS is *value*, that is, the perceived benefits, usefulness, and importance of something. The ITIL SVS can enable the creation of many different types of value for a wide group of stakeholders.

The ITIL SVS includes the following components:

- *Guiding principles*: Recommendations that can guide an organization in all circumstances
- *Governance*: The means by which an organization is directed and controlled
- *Service value chain*: A set of interconnected activities that an organization performs to deliver a valuable product or service to its consumers and to facilitate value realization.
- *Practices*: Sets of organizational resources designed for performing work or accomplishing an objective.
- *Continual improvement*: A recurring organizational activity performed at all levels to ensure that an organization’s performance continually meets stakeholders’ expectations

7. 07 - Guiding Principles

A guiding principle

- is a recommendation that guides an organization in all circumstances, regardless of changes in its goals, strategies, type of work, or management structure. A guiding principle is universal and enduring

The *guiding principles* embody the core messages of ITIL and service management in general, supporting successful actions and good decisions of all types and at all levels

- These are incorporated in many frameworks
- Organization should apply them considering how they are relevant and how they apply together
- They apply to any initiative and to all relationships/groups

1° Principle - Focus on value

- All activities conducted by the organization should link back, directly or indirectly, to value for itself, its customers, and other stakeholders
- Understand who the consumer is, his perspectives of value, his experience and how to bring operational activity at best during initiatives

2° Principle - Start where you are

- Don't remove what was done in the past, instead use what's already available to be leveraged
- Assess where you are now and measure precisely how to be accurate with what you have, applying skills and re-use

3° Principle - Progress iteratively with feedback

- Resist the temptation to do everything at once. Even huge initiatives must be accomplished iteratively
- By organizing work into smaller, manageable sections that can be executed and completed in a timely manner, the focus on each effort will be sharper and easier to maintain
- Working in a time-boxed and embedded feedback loops allows for greater flexibility, faster responses to needs, the ability to respond to failure earlier, and an overall improvement in quality
- *Feedback loop* occurs when part of the output of an activity is used as a new input
  - Feedback is essential, comprehending the whole but doing things precisely and completely
  - This has to be done flexibly and together

4° Principle - Collaborate and promote visibility

- When initiatives involve the right people in the correct roles, efforts benefit from better buy-in, more relevance (because better information is available for decision-making) and increased likelihood of long-term success
- Collaboration is about working together and increasing visibility and does not mean generally consensus
- Improvement may take a lower priority, but requires collaborative and holistic work
- Communication should be done the right way and decisions only made on visible data, communicating in a way audience can hear
- Data should be clearly understandable (e.g., kanban boards, information radiators)

5° Principle - Think and work holistically

- No service, practice, process, department, or supplier stands alone. The outputs that the organization delivers to itself, its customers, and other stakeholders will suffer unless it works in an integrated way to handle its activities as a whole, rather than as separate parts. All the organization's activities should be focused on the delivery of value
- Recognize the system complexity, work through collaboration and look for patterns between elements, facilitating work

6° Principle - Keep it simple and practical

- Always use the minimum number of steps to accomplish an objective. Outcome-based thinking should be used to produce practical solutions that deliver valuable outcomes
- If a process, service, action, or metric fails to provide value or produce a useful outcome, then eliminate it. Although this principle may seem obvious, it is frequently ignored, resulting in overly complex methods of work that rarely maximize outcomes or minimize cost
- Judge what to keep, find conflicting objectives and ensure better value at all levels, with the right people and with the right number of things, achieving goals simply

7° Principle - Optimize and automate

- Organizations must maximize the value of the work carried out by their human and technical resources
- *Optimize* means taking something to make it as effective and useful as it can be
- *Automate* means using technology to perform a step or series of steps correctly and consistently, automating frequent and repetitive tasks
- Technology can helwith limited or no human interventionp organizations to scale up and take on frequent and repetitive tasks, allowing human resources to be used for more complex decision-making
- However, technology should not always be relied upon without the capability of human intervention, as automation for automation's sake can increase costs and reduce organizational robustness and resilience
- When applying this principle, follow the previous ones wisely

7.1. 07.a - Other philosophies

ITIL Guiding Principles are reflected in many other frameworks, methods, standards, philosophies, and/or bodies of knowledge, such as Lean, Agile, DevOps, and COBIT. This allows organizations to effectively integrate multiple methods into an overall approach to service management.

Lean approach

- Value is defined from the customer's perspective
- Only what the customer is willing to pay for adds value
- Everything else is considered waste (called *muda*)
- It applies to all fields of business and identifies several types of waste in all production levels and applies in IT to products and services as well
- Ensures information flows smoothly and eliminates bottlenecks
- Linkages between elements sometimes create a cascade of waste (the so-called domino effect)

Agile approach

- Instead of having one big project approached together (big bang), an agile team delivers work in small, consumable increments
- Requirements, plans, and results are evaluated continuously so teams have a natural mechanism for responding to change quickly
- Based on 12 principles of the Agile manifesto
- Key concepts include cross-functional teams, prioritizing user stories by business value, timeboxed sprints or iterations, daily standups, and continuous customer feedback

Scrum approach

- One of the most popular implementations of the Agile process. In Scrum, cross-functional teams work in short, timeboxed sprints (usually 2-4 weeks) to achieve specific goals
- It uses some form of kanban system to visualize and limit work in progress, and follows the PDCA cycle, and continuous improvements, that is the base of Lean
- Has different roles and planning reviews to accompany the organization work

DevOps approach

- A set of practices that combines software development (Dev) and IT operations (Ops) to shorten the life cycle from developing a plan to releasing and operating software products and services. The goal is to rapidly deliver applications and services iteratively through automation
- Basically, DevOps is when Dev teams that make stuff are also the ones responsible for the support of their own software in production - end to end ownership

8. 08 - Service Value Chain

The central element of the SVS is the service value chain, an operating model which outlines the key activities required to respond to demand and facilitate value realization through the creation and management of products and services.

9. 09 - Continual Improvement

10. 10 - ITIL Practices

11. 11 - General Management Practices

12. 12 - Service Management Practices

13. Software Asset Management (SAM)

14. FinOps (SAM on Cloud)