ITIL® V4 Foundation Certificate in IT Service Management

The key is always you

V4 Course Note r1.6

TRAINING ORGANIZATION ACCREDITED BY PEOPLECERT ON BEHALF OF AXELOS

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About Digitaleads

- The Company
  - Digitaleads believes in continual development leads to progression and transcendence.
  - We focus on IT related skillsets together with the application of latest digital technologies to assist our participants with maximum efficiency and effectiveness.

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Digitaleads also offer the following courses

- ITIL Intermediate
- Project Management based on PMBOK and PRINCE2
- Agile & Scrum
- Business Analysis
- IT Governance

Before We Start...

- Course timings and breaks
  - Tea
  - Toilets
  - Lunch
- Mobile, Phone Calls etiquette
- Questions and Discussions

Self Introductions

- Your name
- Organization
- Role and Responsibility
- Service Management Experience
- Your Objectives or Issues

Course Objectives

- Upon completion of the course, delegates should be able to:

  Understand how an integrated IT Service Management framework, based on ITIL best practice guidelines, can be adopted and adapted within their own organisations;

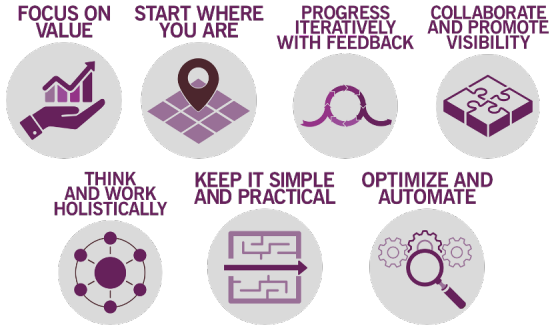
  Provide proven practical guidance on how to successfully introduce an integrated IT Service Management framework based on the ITIL Service Value System, Value Chains and other good practices;

  Prepare for the ITIL V4 Foundation Certificate in IT Service Management examination

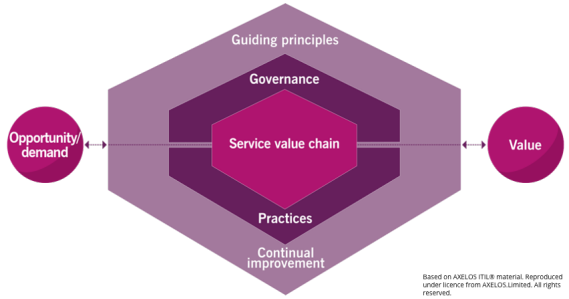
The Foundation Examination

- Multiple choice, 40 questions.
  - Questions are selected from the examination question bank.
  - Pick from 4 choices. Only one is correct
  - No penalty for wrong answers
- Close Book
- Maximum 60 minutes (75 for non-English mother tongue)
- Answers on the Exam Answer Sheet, using pencil
- 26 or more correct to pass (65%)

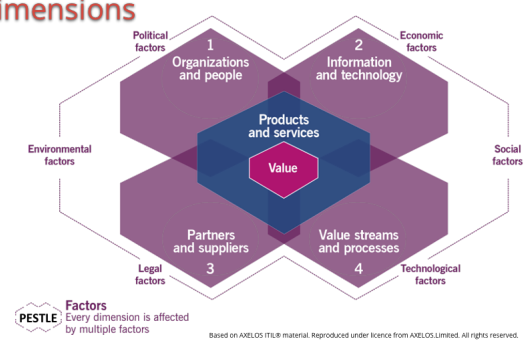
Index



Service Value System

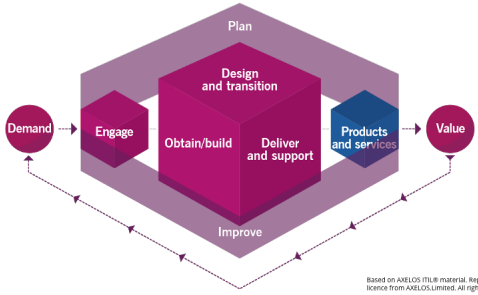


4 Dimensions



ITIL Value Chain Activities

Service Value Chain



ITIL Practices

ITIL V4

Key Practices

What is ITIL?

INFORMATION TECHNOLOGY INFRASTRUCTURE LIBRARY

- ITIL is a public framework that describes Best Practice in IT service management.
- ITIL provides a framework for the governance of IT, the 'service wrap', and focuses on the continual measurement and improvement of the quality of IT service delivered.
- ITIL focuses from both a provider and a customer perspective.

ITIL's History

- **Origin**

  ITIL was first published in 1989 by the Central Communications and Telecommunications Agency (CCTA).

- **Early Releases**

  The initial version of ITIL consisted of a library of 31 associated books covering all aspects of IT service provision.

- **Later Updates**

  2007, ITIL V3 was released

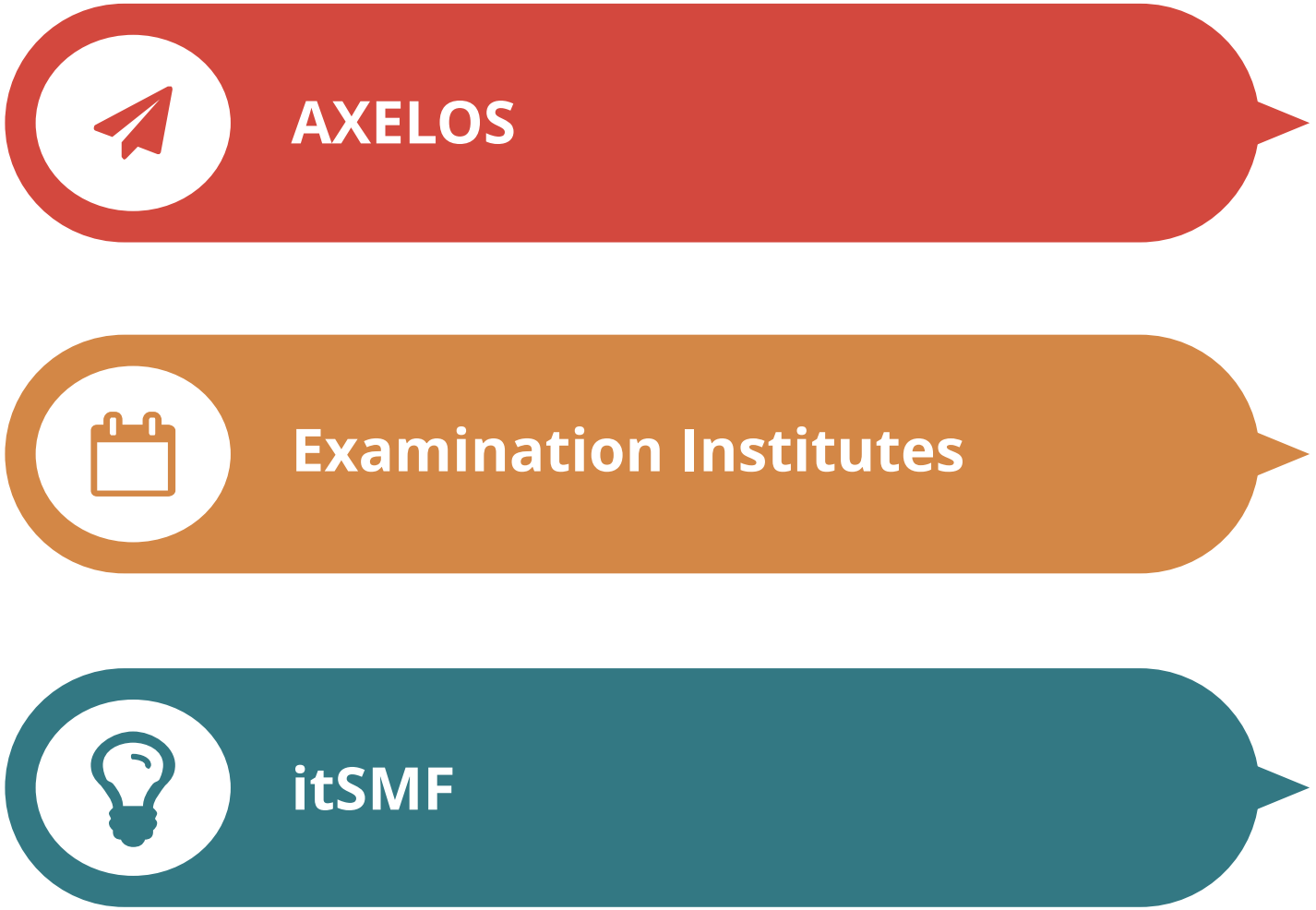
  2011, ITIL V3 was enhanced to "Version 2011"

  2019, ITIL V4 is released

- **Joint Venture**

  In 2013, a JV was formed by Capita and UK Government, named AXELOS which inherited what were owned by the UK Cabinet Office.

Related Organizations



OTHER USEFUL GUIDANCE

Frameworks:

→ COBIT

Control Objectives for Information and related Technology

→ CMMI

Capability Maturity Model Integration

Standards:

→ ISO/IEC 20000

Service Management

→ ISO/IEC 27001

Information Security

Other Best Practices:

- PRINCE2
- Management of Risk (M_o_R®)
- PMBOK
- ISO 21500
- Six Sigma
- Lean
- BABOK
- AgileSHIFT
- DevOps
- ....

How you can use ITIL

- Improve ability to deliver services that meet customers needs
- Benchmarking against peers
- Adopt best practices in wide industry use
- Assessment on standard compliance
- Close gaps in capabilities

ITIL is the most recognized & trusted best practice guidance in the area of ITSM!

ITIL Introduction

Introduction and Key Concepts

VALUE

- **The perceived benefits, usefulness, and importance of something.**

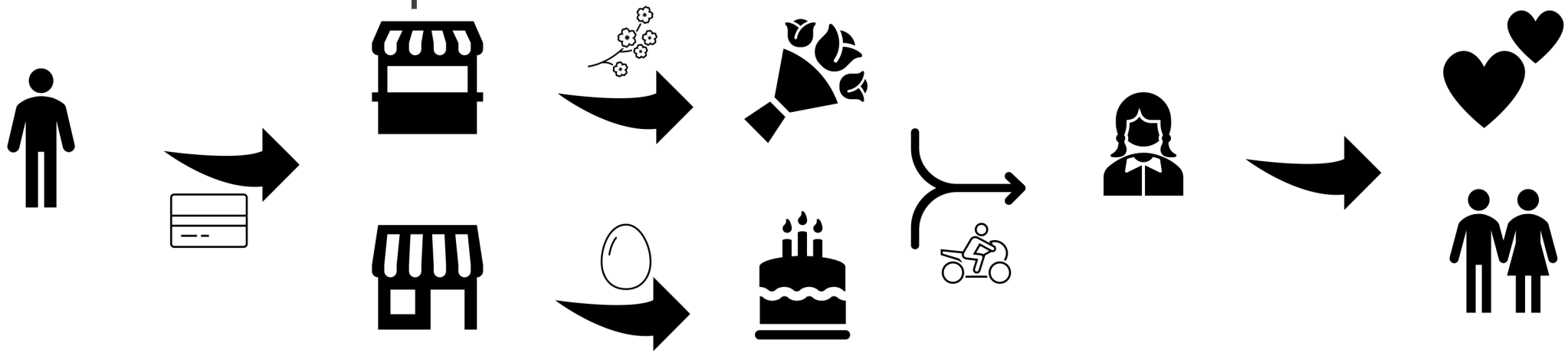
Related Concepts

Value is subject to the perception of the stakeholders (they might be consumers of a service, or part of the service provider)

Value can be (very) **subjective**.

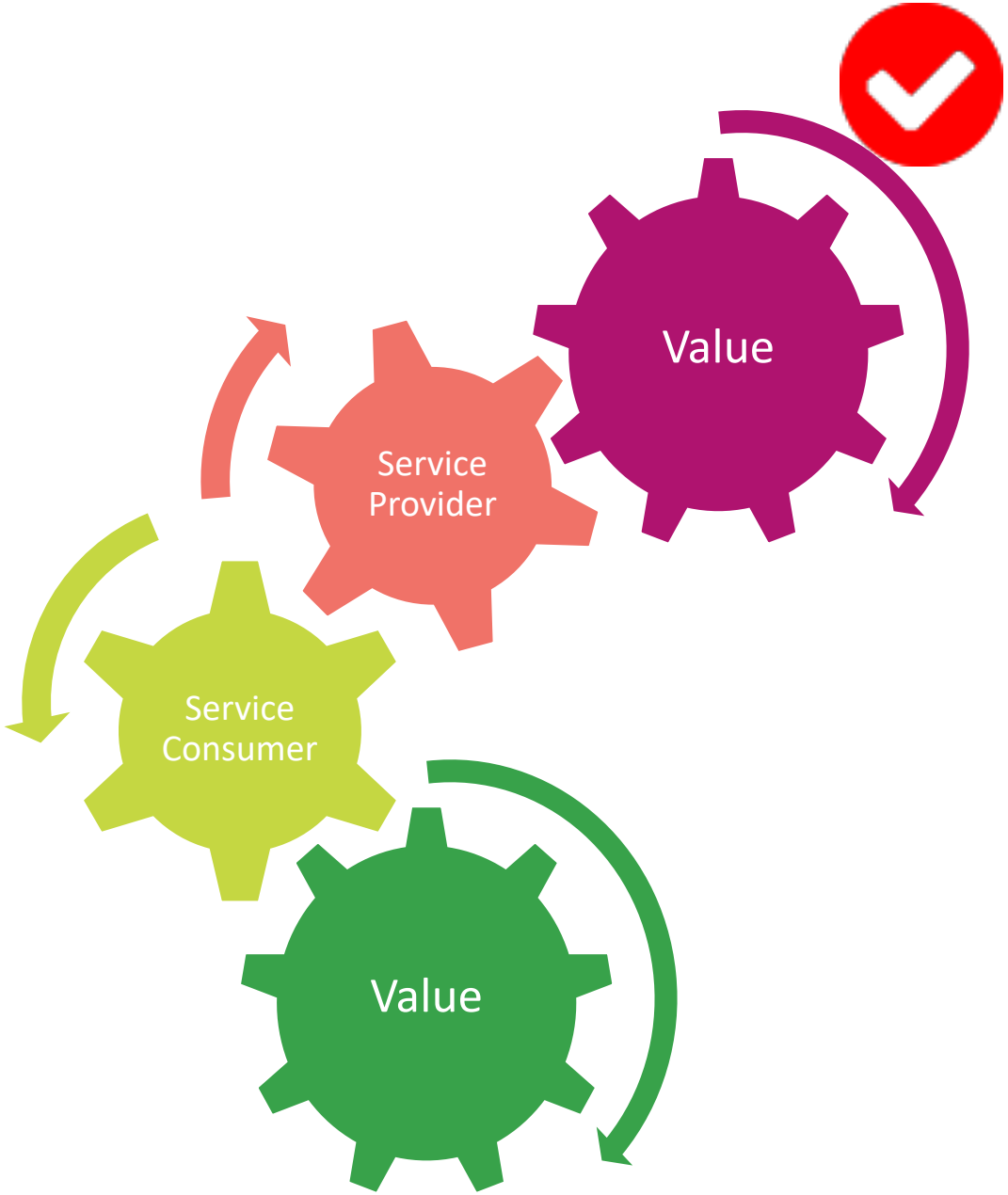
Definition Output and Outcome

- Output
  - A tangible or intangible deliverable of an activity.
- Outcome
  - A result for a stakeholder enabled by one or more outputs.



Definition Service

A **service** is 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

- Service Management is a set of specialized organizational capabilities for enabling value to customers in the form of services

Definition Utility

Fit for Purpose

- Utility is 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.

Definition Warranty

Fit for Use

- Warranty is the **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.

Utility and Warranty Examples

Service	Utility	Warranty
High Speed Printer Rental Service	Printing up to A3 in B/W or Colour Printing speed: n ppm.	Availability 99% Time to swap new toner Repairmen onsite time
Laundry	Washing Dry Cleaning Ironing Pickup and Return	Shop open as stated Work completed on time as committed
UberEats / Deliveroo	?	?
Uber		
Google Photo		

SPONSOR VS CUSTOMER VS USER

Sponsor

- A person who authorizes budget for 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.

- In general, they are all service **consumers**, an organization receiving service.
- It is important to identify these roles in service relationships to ensure effective communication and **stakeholder management**.
- Each of these roles may have different, sometimes even conflicting expectations and definition of value.

A company wishes to purchase mobile phone services for its employees from a wireless carrier (service provider)

Sponsor

- CFO
  - Review the proposed service arrangement
  - Approve the cost of the contract as negotiated.

Customer

- CIO and key communications team members
  - Analyse the mobile communications requirements for the employees
  - Negotiate the contract
  - Monitor the carrier's performance against the contract.

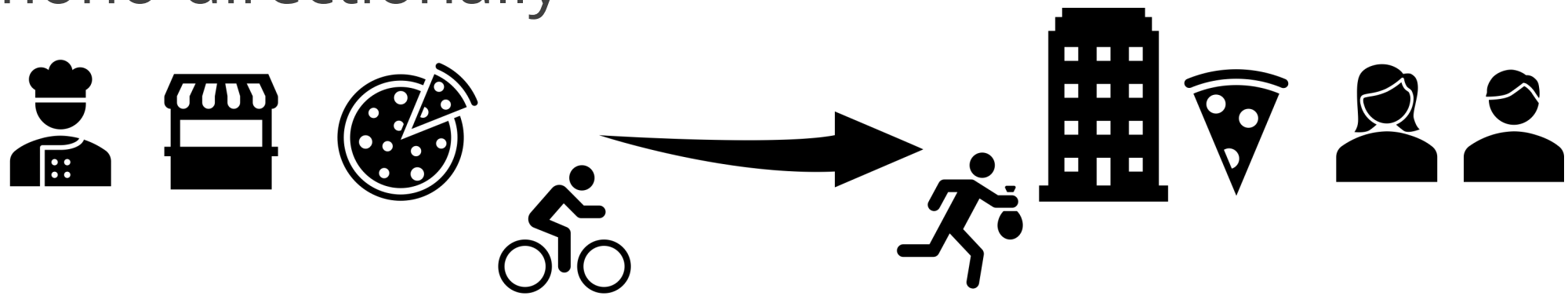
User

- Employees (including CIO, CFO and team members)
  - when they order, receive, and use the mobile phone services as per the agreed contract

Value Co-creation

- Delivering value in the form of service does not equal to delivering a package to a consumer's hand by a delivery company.

→ Under this context, the service provider is distant to the consumer is service is providing mono-directionally



Value Co-creation

- Value is co-created through an **active collaboration** between providers and consumers, as well as other organizations (e.g. vendors and suppliers) that are part of the relevant service relationships.
- Providers should no longer attempt to work in isolation to define what will be of value to their customers and users, but actively seek to establish mutually beneficial, interactive relationships with their consumers, empowering them to be creative collaborators in the **service value chain**.
- Stakeholders across the service value chain contribute to the **definition of requirements**, the **design** of service solutions and even to the service creation and/or **provisioning** itself

Value Co-creation Workshop

- Think about a service that evolved quite a lot
- What is the service? What are the service providers?
- Which provider tops others?

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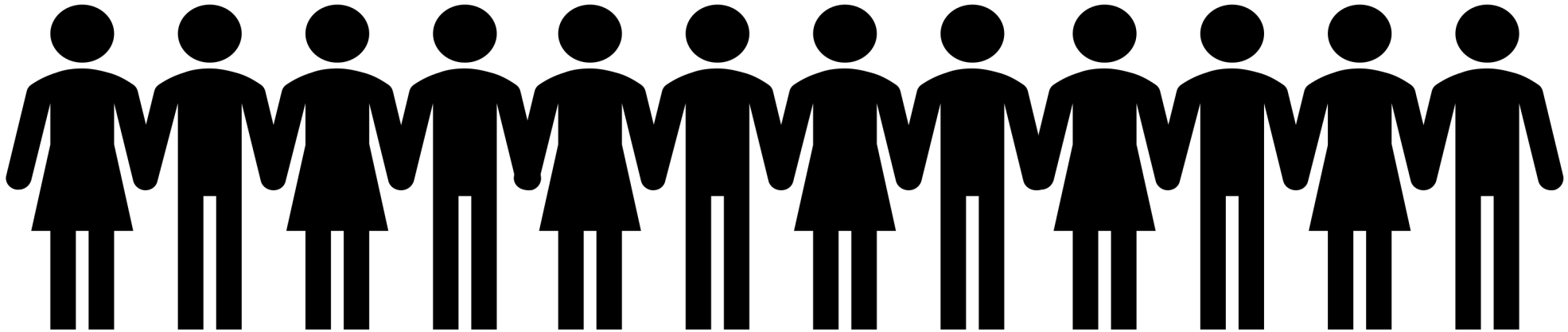
	Value Provided	Value Sought
Service Provider		
Service Consumer		
Other Stakeholders		

Digitaleads education

Definition Organization

- A person or a group of people that has its own functions with responsibilities, authorities, and relations to achieve its objectives.



Definition Cost

- The amount of money spent on a specific activity or resource.

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, and can be used in the context of measuring the probability of positive outcomes as well as negative outcomes.

Outcomes, Costs and Risks

- 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.

→ On the other hand, service relationships **can introduce new** risks and costs, and in some cases, can negatively affect some of the intended outcomes, while supporting others.

Types of Cost

- From the service **consumer's** perspective, there are two types of cost involved in service relationships:

→ **Both** types of cost are considered when the consumer assesses the **value** which they expect the service to create.

→ To ensure that the correct decisions are made about the service relationship, it is important that both types of cost are fully understood.

Types of Cost

- From the **provider's** perspective, a full and correct understanding of the cost of service provision is essential.

→ Providers need to ensure that services are delivered within budget constraints and meet the financial expectations of the organization

→ Sometimes organizations don't care as they are betting for growth in other parts of the organization.

Costs Imposed and Removed

- Total cost of consuming a service includes the price charged by the service provider
- Other costs such as staff training, costs of network utilization, procurement, etc.
- Some consumers describe this as what they have to 'invest' to consume the service.

Cost imposed on a consumer by the service

Consumer Organization

Cost removed from a consumer by the service (part of the service agreement).

- This may include costs of staff, technology, and other resources, which the consumer does not need to provide

Cost taken up by Provider

Types of Risk

- Two types of risk that are of concern to service consumers:

→ Risks **removed** from a consumer by the service (part of the value proposition).

E.g. failure of the consumer's server hardware or lack of staff availability.

In some cases, a service may only **reduce** a consumer's risks, but the consumer may determine that this reduction is sufficient to support the value proposition

→ Risks **imposed** on a consumer by the service (risks of service consumption).

E.g. a service provider ceasing to trade, or experiencing a security breach.

Risks Imposed and Removed

Costs Imposed and Removed

A bank hires a printing company to install inhouse OA printers as well as performing remote large batch account statement printing and mailing.

- Basic monthly charge
- Charge per printout
- 24/7 repair service
- Preventive maintenance
- Account maintenance

Cost imposed on a consumer by the service

Consumer Organization

Cost removed from a consumer by the service (part of the service agreement).

- Cost to acquire printers
- IT support staff costs
- Cost in service outage
- Rental cost for the high-speed printer and letter folder

Cost taken up by Provider

Case Study: Printing Services

A bank hires a printing company to install inhouse OA printers as well as performing remote large batch account statement printing and mailing.

- SP go out of biz
- SP encounters security breach, customer data leaked
- Offsite printing has lower confidentiality

Risks imposed on a consumer by the service

Consumer Organization

Risks removed from a consumer by the service (part of the value proposition).

- Printer failure
- Out of toner
- Inhouse staff sick
- Printer not able to catch up the demand in peak times

Risk taken up by Provider

Risk Management

- It is the duty of the provider to manage the detailed level of risk on behalf of the consumer.

→ Balance of what matters most to the consumer and to the provider.

Risks in Printing Service	
Provider	Consumer
Printer got damaged	Printer causing fire
Printer got stolen	Printer emits hazardous gas
Consumer sue for damages	Unauthorized tapping of print data

Risk Management

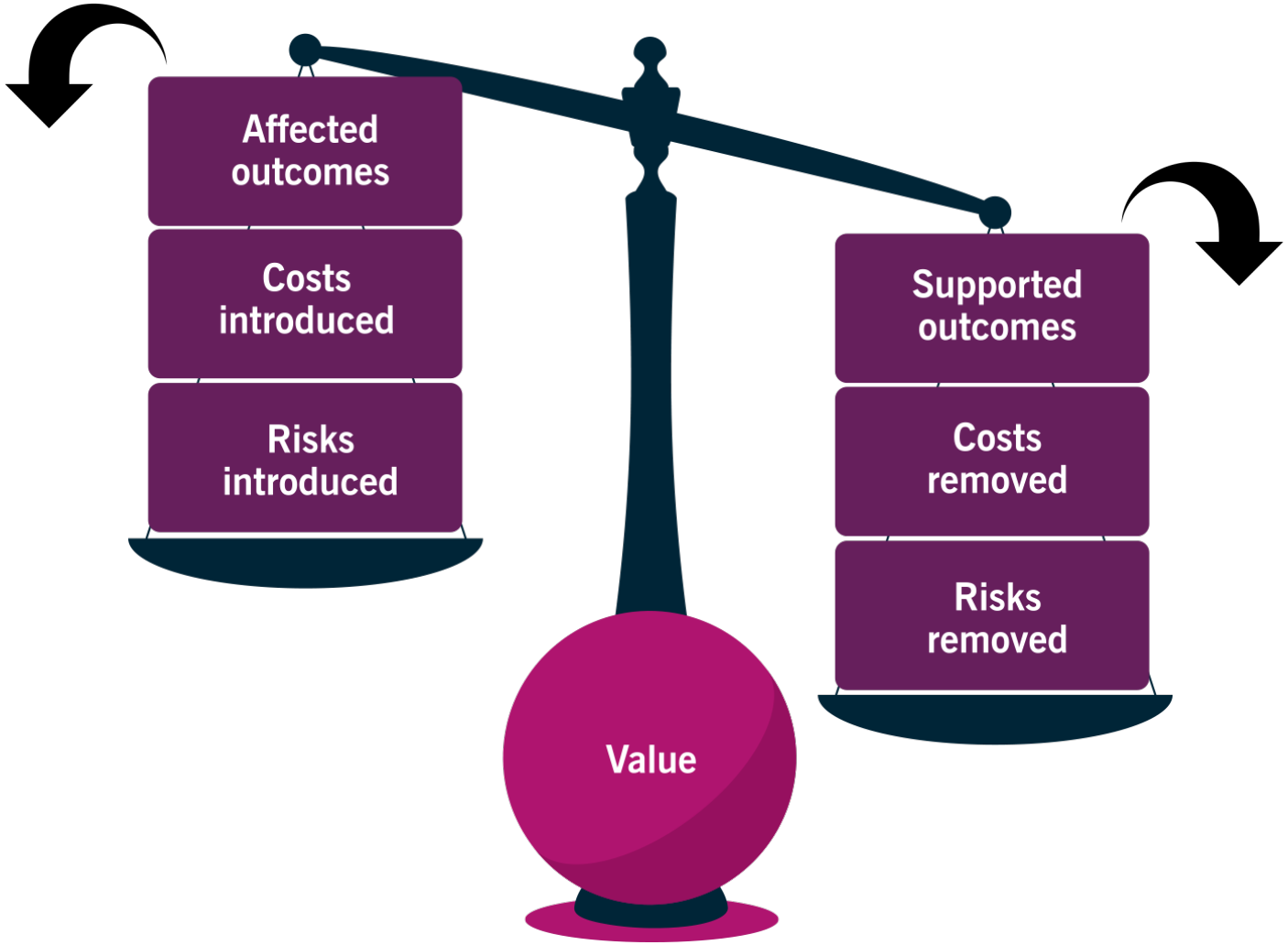
- The **consumer** contributes to the **reduction of risk** through:

→ actively define the requirements of the service and the clarify its required outcomes

→ clearly communicate the critical success factors (CSFs) and constraints that apply to the service

→ ensuring the provider has access to the necessary resources of the consumer throughout the service relationship

Cost and Risk Management



Cost and Risk Workshop

Target Consumer _____

Cost Imposed	Cost Reduced	Risk Reduced	Risk Imposed

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Cost and Risk Workshop

Target Consumer Regular Family Parent

Cost Imposed	Cost Reduced	Risk Reduced	Risk Imposed
• Subscription fee • Playback device • Cannot share F&F • Resell revenue • Unavailable titles (need to get somewhere)	• Purchase/Rental • Travelling (acquire & return) • Wait Time (sold/rent out)	• Safer programs for Kids • Physical damage • Loss • Bad movies/series	• Kids watching adult content • Busy, no time to watch • Losing credit card info

SERVICE OFFERINGS

- **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.**

Service offerings may include:

- **Goods** to be supplied to a consumer.
- **Access to resources** granted or licensed to a consumer under agreed terms and conditions
- **Service actions** performed to address a consumer's need.

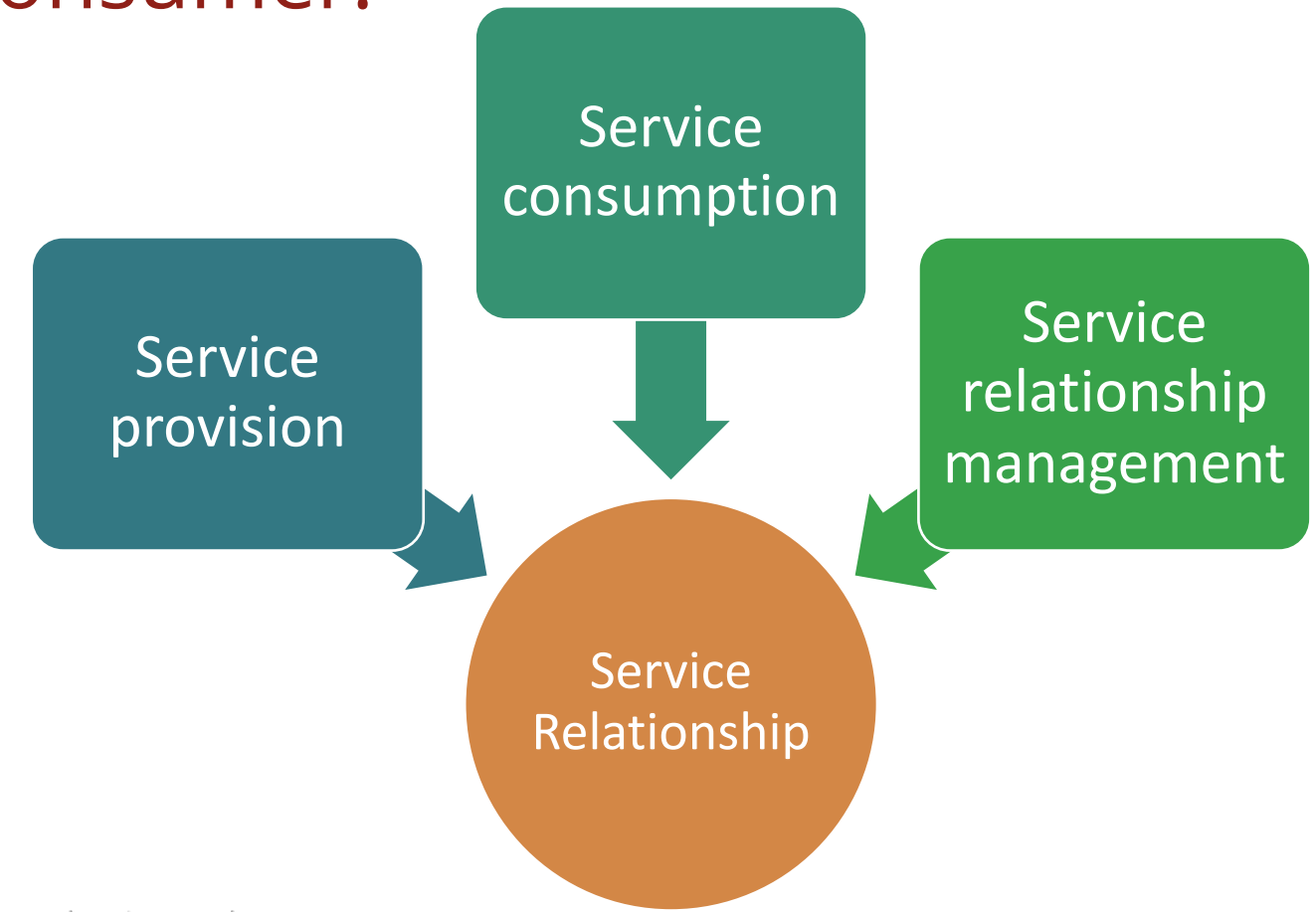
And for most of the times, service offerings consist of a combination of the above.

Components of a Service Offering

Component	Description	Examples
Goods	• Supplied to the consumer • Ownership is transferred to the consumer • Consumer takes responsibility for future use	• A mobile phone • A physical server
Access to resources	• Ownership is not transferred to the consumer • Access is granted or licensed to the consumer under agreed terms and conditions • Consumer can only access the resources during the agreed consumption period and according to other agreed service terms	• Access to the mobile network, • Download and play music • Cloud storage
Service actions	• Performed by the service provider to address a consumer's needs • Performed according to an agreement with the consumer	• User support • Replacement of a piece of equipment • Refill printer toner

Definition Service Relationship

- A cooperation between a service provider and service consumer.



SERVICE RELATIONSHIP

- **To create value, an organization must do more than simply provide a service.**
- **It must also cooperate with the consumers in *service relationships***

Service relationships 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**.

The two roles are not mutually exclusive, and organizations typically both provide and consume a number of services at any given time.

- A Service Provider usually consumes services from other providers while providing services to others.

Definition Service Provision

- Activities performed by an organization to provide services.
- Service provision includes:
  - Management of the provider's resources, configured to deliver the service
  - Ensuring access to these resources for users
  - Fulfilment of the agreed service actions
  - Service level management and continual improvement
  - Service provision may also include the supplying of goods.

Definition Service Consumption

- Activities performed by an organization to consume services
- Service consumption includes:

Management of the consumer's resources needed to use the service

- For IT services: provide power/air conditioning/Internet access for IT equipment

Service actions performed by users, including utilizing the provider's resources, and requesting service actions to be fulfilled.

- Supply new recruits for account creation
- Upload video to YouTube

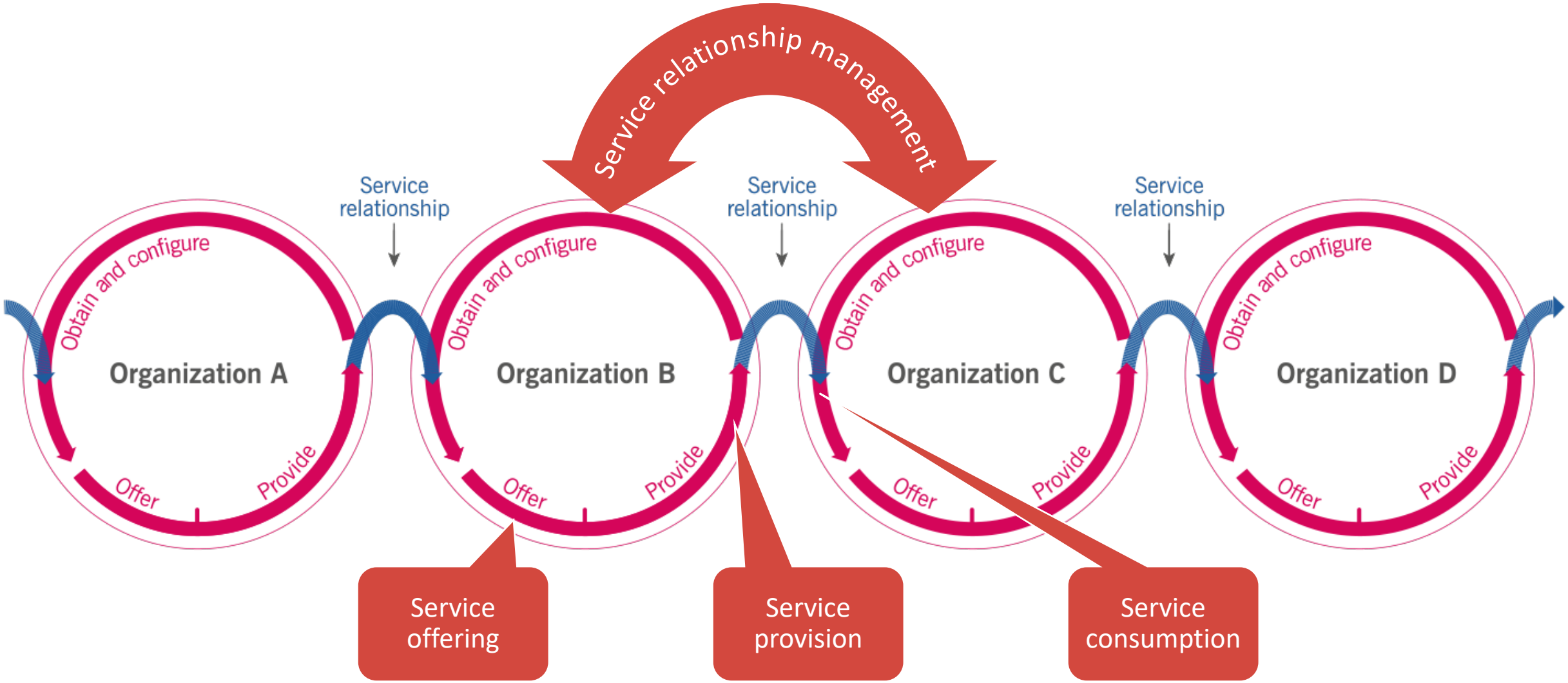
Service consumption may also include the receiving (acquiring) of goods.

- For Netflix, buy an Amazon Fire TV Stick/Google Chromecast/Apple TV.
- For TVB programmes, buy a MyTV Super set-top box.

Definition Service Relationship Management

- **Joint** activities performed by a service provider and a service consumer to **ensure** continual value co-creation based on **agreed** and available service offerings.
  - joint – both sides need to contribute and collaborate
  - ensure – make sure the service continue to provide value, might look for improvements, replacement, or termination.
  - agreed – what is being delivered and at what level

Service Relationship Model



End of Section

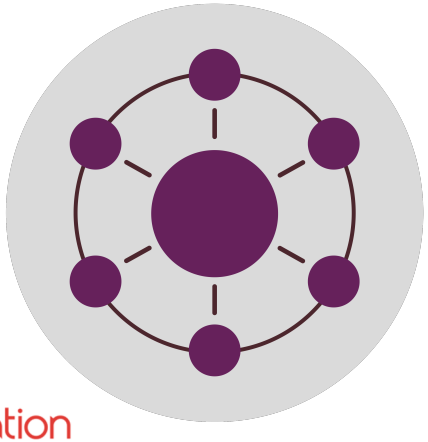
FOCUS ON VALUE

START WHERE YOU ARE

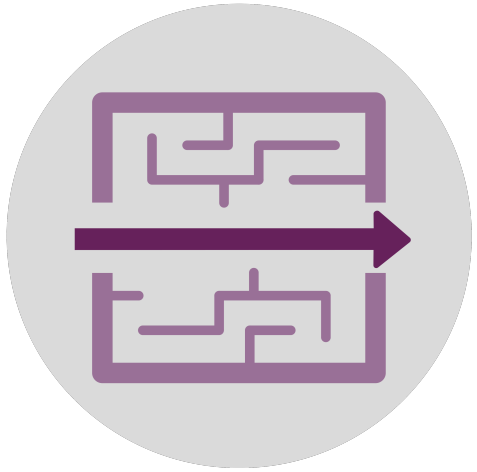
PROGRESS ITERATIVELY WITH FEEDBACK

COLLABORATE AND PROMOTE VISIBILITY

THINK AND WORK HOLISTICALLY



KEEP IT SIMPLE AND PRACTICAL



OPTIMIZE AND AUTOMATE

ITIL 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.

FOCUS ON VALUE

- Everything that the organization does needs to map, directly or indirectly, to **value** for the stakeholders.
- Focus on value principle encompasses many perspectives, including the experience of customers and users.

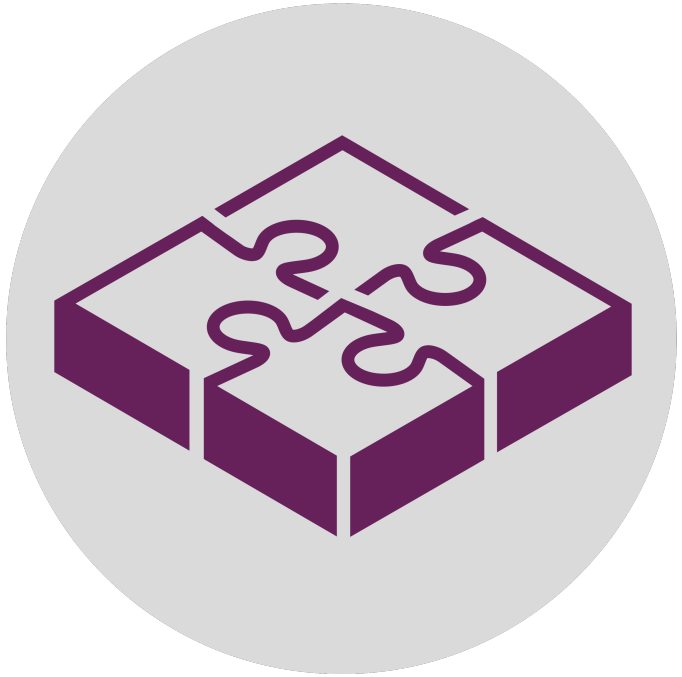
START WHERE YOU ARE

- 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.
- Using feedback before, throughout, and after each iteration will ensure that actions are focused and appropriate, even if circumstances change.

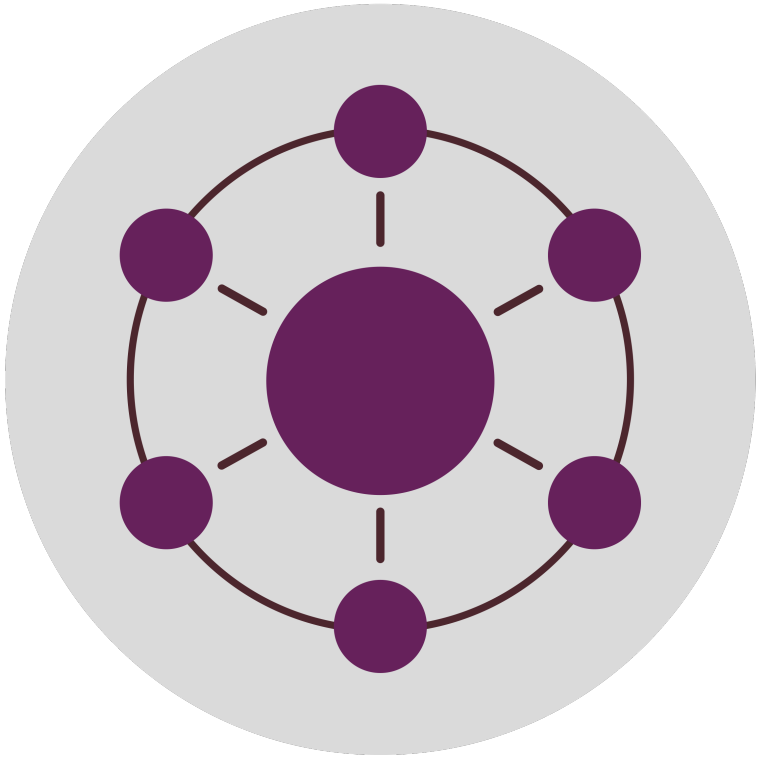
COLLABORATE AND PROMOTE VISIBILITY



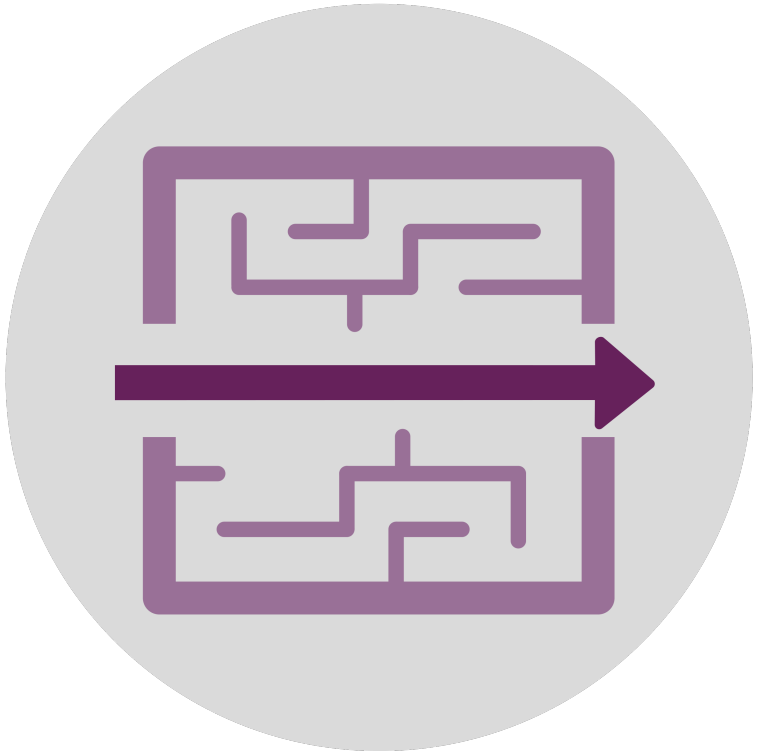
- Working together across boundaries produces results that have greater buy-in, more relevance to objectives, and increased likelihood of long-term success.
- Work and consequences should be made visible, hidden agendas avoided, and information shared to the greatest degree possible.

THINK AND WORK HOLISTICALLY

- No service, or element used to provide a service, stands alone.
- The outcomes achieved by the service provider and service consumer will suffer unless the organization works on the service as a whole, not just on its parts.



KEEP IT SIMPLE AND PRACTICAL



- In a process or procedure, use the minimum number of steps necessary to accomplish the objective(s).
- 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.

Principle Interaction

- It is also important to recognize that principles interact with and depend upon each other. For example

  If an organization is committed to **progressing iteratively with feedback**, it should also **think and work holistically** to ensure that each iteration of an improvement includes all the elements necessary to deliver real valuable results.

  Making use of appropriate **feedback** is key to **collaboration**, and focusing on what will truly be **valuable to the customer** makes it easier to keep things **simple and practical**.

- Organizations should not use just one or two of the principles, but should consider the relevance of **every one of them** and how they apply together.

  Not all principles will be critical in every situation, but they should all be reviewed on each occasion to determine how appropriate they are.

ITIL Guiding Principles in Details

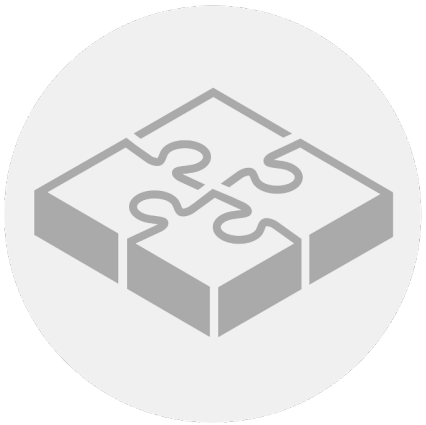
ITIL Principles

FOCUS ON VALUE

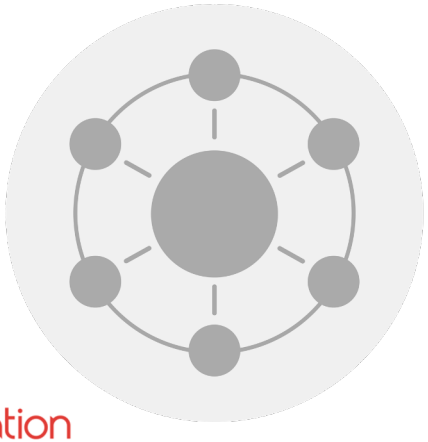
START WHERE YOU ARE

PROGRESS ITERATIVELY WITH FEEDBACK

COLLABORATE AND PROMOTE VISIBILITY



THINK AND WORK HOLISTICALLY



KEEP IT SIMPLE AND PRACTICAL

OPTIMIZE AND AUTOMATE

Focus on value

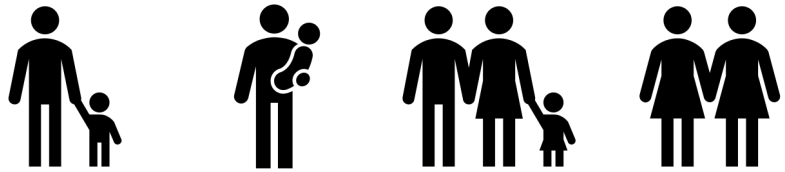
- All activities conducted by the organization should link back, directly or indirectly, to value for the organization itself, its customers, and other stakeholders.
- Focus on the creation of value for service consumers.
- Value may come in various forms:

revenue	customer loyalty	lower cost	growth opportunities

Focus on value - Activities

1. Identify consumers

- Determine who the service consumer is and who the key stakeholders are.
- Consider who will receive value from what is being delivered or improved.



Focus on value - Activities

2. Understand consumer's perspectives of value

→ What is truly of value to the consumer.

→ Identify:

- why the consumer uses the services
- what the services help them to do
- how the services help them achieve their goals
- the role of cost/financial consequences for the consumer
- risk involved

→ Value for the consumer is:

- ❤️ defined by their own needs
- ❤️ achieved through the support of intended outcomes whil optimize the cost and risk
- ❤️ changing over time and context

Focus on value - Activities

3. Manage customer experience(CX)

- CX is the entirety of the interactions a customer has with an organization and its products.
- CX determines how the customer feels about the provider.
- CX is both objective and subjective

Applying the Principle

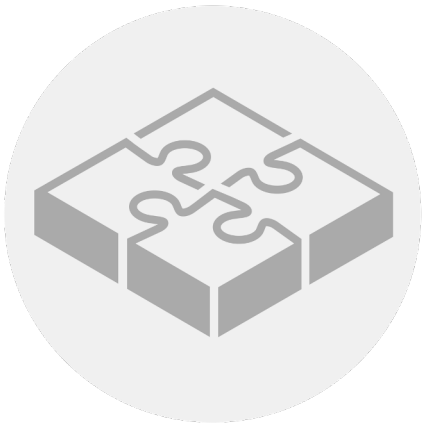
- Know how service consumers use each service
- Encourage a focus on value among all staff in service provider
- Focus on value during normal operational activity as well as during improvement initiatives
- Include focus on value in every step of any improvement initiative

FOCUS ON VALUE

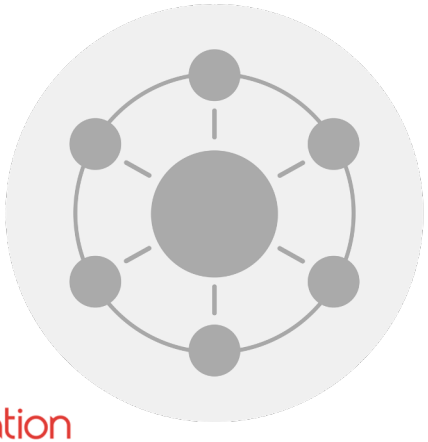
START WHERE YOU ARE

PROGRESS ITERATIVELY WITH FEEDBACK

COLLABORATE AND PROMOTE VISIBILITY



THINK AND WORK HOLISTICALLY



KEEP IT SIMPLE AND PRACTICAL

OPTIMIZE AND AUTOMATE

Start where you are

- When eliminating old, unsuccessful methods or services and creating something better, people might be tempted to remove existing and build something completely from scratch.
  - → Especially true when a large chunk of budget was approved.
  - → This is rarely necessary, or a wise decision.
- Building something new can be extremely wasteful
  - → Waste in time,
  - → Loss of existing services, processes, people, and tools that could still have value.
- **Do not start over without first considering what is already available to be leveraged.**

Start where you are - Activities

1. Assess where you are

- → Services and methods already in place should be measured and/or observed directly to properly understand their current state and what can be reused.
- → Decisions on how to proceed should be based on information that is as accurate as possible.
- → Within organizations there is frequently a discrepancy between reports and reality.

  This is due to the difficulty of accurately measuring certain data, or the unintentional bias or distortion of data that is produced through reports.

Start where you are - Activities

1. Assess where you are (cont')

- → Getting data from the **source** helps to avoid assumptions (not just readying from existing reports).
- → Unfounded can be disastrous to timelines, budgets, and the quality of results.
- → Those observing an activity should not be afraid to ask what may seem to be stupid questions.

  It can sometimes be beneficial for a **person with little or no prior knowledge** of the service to be part of the observation, as they have no preconceptions of the service, and may spot things that those more closely involved with it would miss.

Start where you are - Activities

2. Revisiting existing measurement

- ➜ Over-reliance on data analytics and reporting can unintentionally introduce biases and risks in decision-making.
- ➜ Organizations should consider a variety of techniques to develop knowledge of the environments in which they work.
- ➜ Although it is true that some things can only be understood through measuring their effect, direct observation should always be the preferred option.

  Too often existing data is used with no consideration of direct personal investigation.
- ➜ It should be noted that the act of measuring can sometimes affect the results, making them inaccurate.

  People are very creative in finding ways to meet the metrics they are measured against. Therefore, metrics need to be meaningful and directly relate to the desired outcome.

"When a measure becomes a target, it ceases to be a good measure" Goodhart's Law

Applying the principle

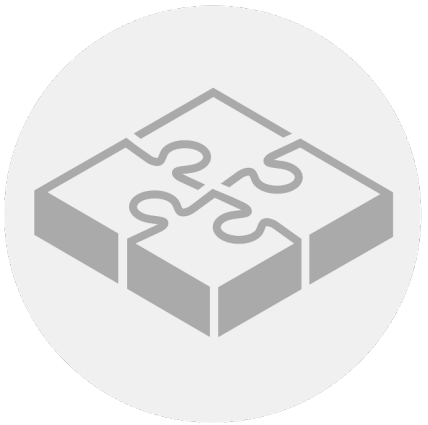
- Look at what exists as **objectively** as possible.
- Using the **customer or the desired outcome** as the starting point.
- Replicate or expand existing **successful** practices or services found in current state.
- Identify and evaluate **risks** associated with:
  - → Re-using existing practices and processes; as well as
  - → Changes might introduce.
- Although very rare, there might be times when the only way to achieve the desired result is to start over entirely.

FOCUS ON VALUE

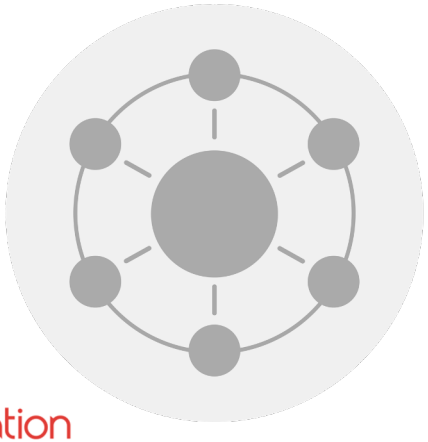
START WHERE YOU ARE

PROGRESS ITERATIVELY WITH FEEDBACK

COLLABORATE AND PROMOTE VISIBILITY



THINK AND WORK HOLISTICALLY



KEEP IT SIMPLE AND PRACTICAL

OPTIMIZE AND AUTOMATE

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**.
- Improvement iterations can be **sequential** or **simultaneous**, based on the requirements of the improvement and what resources are available.
- Each individual iteration should be both **manageable** and managed, ensuring that tangible results are returned in a timely manner and built upon to create further improvement.

Progress iteratively with feedback

- A major improvement initiative or programme may be organized into several significant improvement initiatives, and each of these may, in turn, comprise smaller improvement efforts.
- The overall initiative or programme, as well as its component iterations, must be **continually re-evaluated and potentially revised** to reflect any changes in circumstances and ensure that the focus on value has not been lost.

→ **Re-evaluation** should make use of a wide range of feedback channels and methods to ensure that the status of the initiative and its progress are properly understood.

Progress iteratively with feedback

Manage Feedback

- While iteration is being undertaken, circumstances can change and new priorities can arise, and the need for the iteration may be altered or even eliminated.
- Seek and use feedback to ensure actions are focused and appropriate.
- **Actively** collect and process feedback along the value chain.

Progress iteratively with feedback

Manage Feedback (cont')

→ Well constructed feedback mechanisms help to understand:

- ✓ End user and customer perception of the value created
- ✓ Efficiency and effectiveness of value chain activities
- ✓ Effectiveness of service governance and management controls
- ✓ The interfaces between the organization and its partners and suppliers
- ✓ The demand for products and services

→ Received feedbacks can be analysed to identify improvement opportunities, risks and issues.

Progress iteratively with feedback

Iteration and **feedback** together

- Timeboxed, iterative work with feedback loops allows:
  - → Greater flexibility
  - → **Faster responses to customer and business needs**
  - → Able to discover and response to failure earlier
  - → Improvement in quality
- Appropriate feedback loops help the participants of an activity to better understanding of where their work comes from; where their output goes and how the outputs affect the outcomes.
  - → Result in better decision making

Applying the Principle

- Comprehend the whole, but do **something(not all)**
  - → Making progress is equally important to understanding the big picture
- Ecosystem is constantly changing, so feedback is essential
  - → **Seek and use feedback at all times and at all levels**.
- Fast does not mean incomplete
  - → understand and aim for **minimum viable product** – a version of the final product which allows maximum amount of validated learning with the least effort.

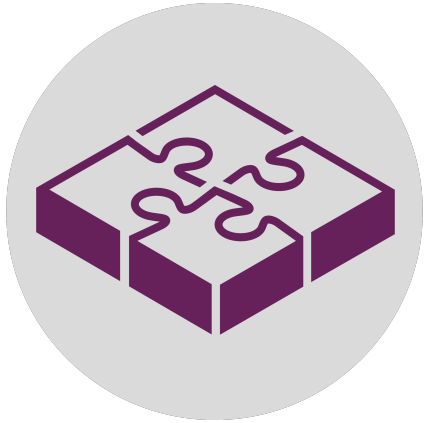
Done is better than perfect

FOCUS ON VALUE

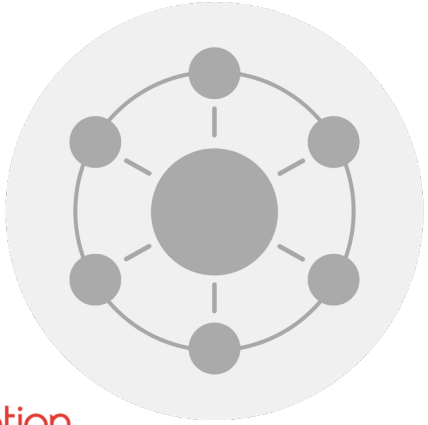
START WHERE YOU ARE

PROGRESS ITERATIVELY WITH FEEDBACK

COLLABORATE AND PROMOTE VISIBILITY



THINK AND WORK HOLISTICALLY

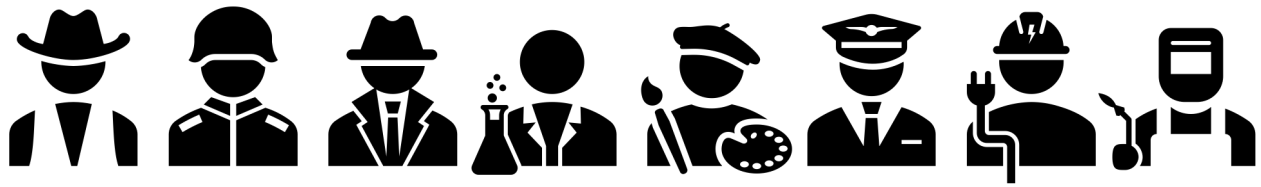


KEEP IT SIMPLE AND PRACTICAL

OPTIMIZE AND AUTOMATE

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

- Creative solutions, enthusiastic contributions, and important perspectives can be obtained from unexpected sources, so **inclusion is generally a better policy than exclusion**.
- Cooperation and collaboration are better than isolated work, which is frequently referred to as 'silo activity'.
  - → Silos can occur through the behaviour of individuals and teams, but also through structural causes.
  - → This typically happens where functions or business units in an organization are impeded or unable to collaborate, because their processes, systems, documentation, and communications are designed to fulfil the needs of only a specific part of the organization.
- Recognition of the need for genuine collaboration has been one of the driving factors in the evolution of what is now known as DevOps.
  - → Without effective collaboration, neither Agile, Lean, nor any other ITSM framework or method will work.

Visibility

- Working together in a way that leads to real accomplishment requires information, understanding, and trust.
  - → Work and its results should be made visible, hidden agendas should be avoided, and information should be shared to the greatest degree possible.
  - → The more people are aware of what is happening and why, the more they will be willing to help.
- When improvement activity occurs in relative silence, or with only a small group being aware of the details, assumptions and rumours can prevail.
  - → Resistance to change will often arise as staff members **speculate** about what is changing and how it might impact them.

aka transparency

Stakeholder Engagement

- A stakeholder is **anyone who has a stake** in the activities of the organization, including the organization itself, its customers and/or users, and many others.
- Identifying and managing **all the stakeholder groups** that an organization deals with is important
  - → The people and perspectives necessary for successful collaboration can be sourced within these stakeholder groups.
- Scope of stakeholders can be extensive. The first and most obvious stakeholder group is the customers.
  - → The main goal of a service provider is to facilitate outcomes that its customers are interested in, so the customers have a large stake in the service provider's ability to manage services effectively.

Poor Stakeholder Engagement

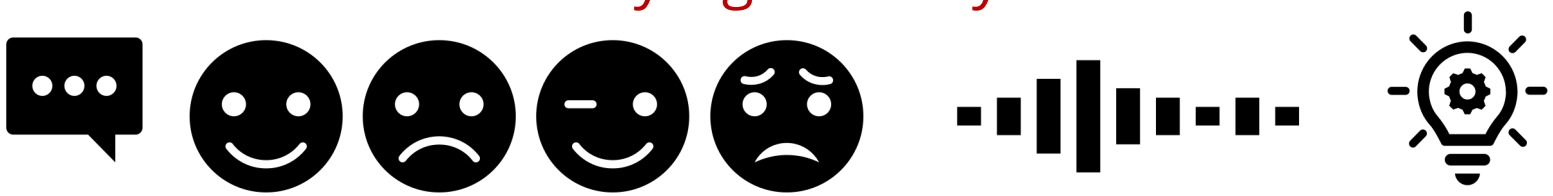
- Some organizations do a **poor job of interacting** with customers.
  - → Service provider may feel that it is too difficult to get input or feedback from the customer, and that the resulting delays are a waste of time.
  - → Customers may feel that, after they have defined their requirements, the service provider can be left to deliver the service with no further contact needed.
  - → Therefore, when it comes to the improvement of a service provider's practices, the customer may not see any need to be involved at all.

Stakeholder Collaboration Examples

- Developers working with other internal teams to ensure that what is being developed can be operated efficiently and effectively.
- Developers work with operations teams to investigate defects (problems) and to develop workarounds or permanent fixes to resolve these defects
- Suppliers collaborating with the organization to define its requirements and brainstorm solutions to customer problems
- Relationship managers collaborating with service consumers to understand service consumer needs and priorities
- Customers collaborating with each other to create a shared understanding of their business issues
- Internal and external suppliers collaborating with each other to review shared processes and identify opportunities for optimization and potential automation.

Communication for Improvement

- The contribution to improvement of each stakeholder group at each level should be understood; it is also important to define the most effective methods to engage with them.
  - → For example, the contribution to improvement from customers of a public cloud service may be through a survey or checklist of options for different functionalities.
  - → For an internal customer group, the contribution to improvement may come from feedback solicited via a workshop or a collaboration tool on the organization's intranet.
- Some contributors may need to be involved at a very detailed level, while others can simply be involved as reviewers or approvers.
- Depending on the service and the relationship between the service provider and the service consumer, the expectations about the level and type of collaboration can vary significantly.



Issues with Poor Visibility

- When stakeholders (whether internal or external) have poor visibility of the workload and progression of work, there is a risk of creating the impression that the work is not a priority.
- If an initiative is communicated to a team, department, or another organization and then is never, or rarely, mentioned again, the perception will be that the change is not important.
- Equally, when staff members attempt to prioritize improvement work versus other tasks that have daily urgency, improvement work may seem to be a low-priority activity unless its importance has been made transparent and it is supported by the organization's management.

Increasing urgency through visibility

- Insufficient visibility of work leads to poor decision-making, which in turn impacts the organization's ability to improve internal capabilities.
  - → Become difficult to drive improvements as not sure which ones are likely to have the greatest positive impact on results.
- To avoid this, the organization needs to perform critical analysis activities like:
  - → understanding the flow of work in progress
  - → identifying bottlenecks, as well as excess capacity
  - → uncovering waste.
- It is important to involve and address the needs of stakeholders at all levels.
  - → Leaders at various levels should also provide appropriate information relating to the improvement work in their own communications to others.
  - → Together, these actions will serve to reinforce what is being done, why it is being done, and how it relates to the stated vision, mission, goals, and objectives of the organization.
- Determining the type, method, and frequency of messaging is one of the central activities related to communication.

Applying the principle

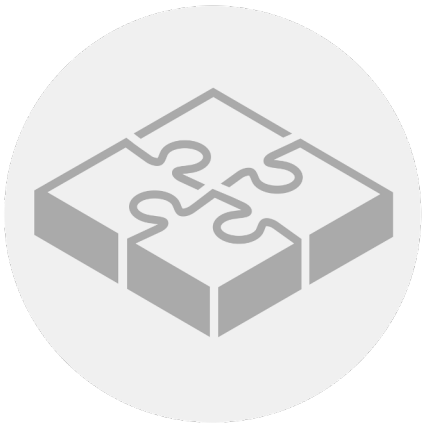
- **Collaboration does not mean consensus**
  - → It is not necessary, or even always wise, to get consensus from everyone involved in an initiative before proceeding.
  - → Some organizations are so concerned with getting consensus that they try to make everyone happy and end up either doing nothing or producing something that does not properly suit anyone's needs.
- **Communicate in a way the audience can hear**
  - → In an attempt to bring different stakeholders into the loop, many organizations use very traditional methods of communication, or they use the same method for all communication.
  - → Selecting the right method and message for each audience is critical for success.
- **Decisions can only be made on visible data**
  - → Making decisions in the absence of data is risky.
  - → Decisions should be made about what data is needed, and therefore what work needs to be made visible.
  - → There may be a cost to collecting data, and the organization must balance that cost against the benefit and intended usage of the data.

FOCUS ON VALUE

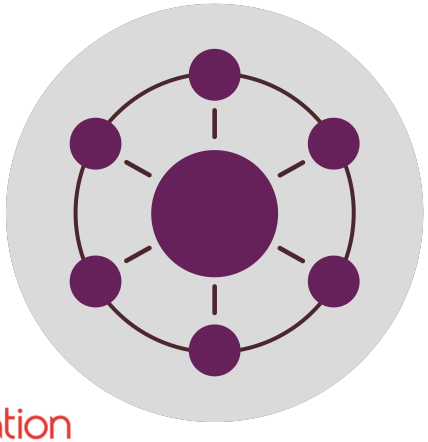
START WHERE YOU ARE

PROGRESS ITERATIVELY WITH FEEDBACK

COLLABORATE AND PROMOTE VISIBILITY



THINK AND WORK HOLISTICALLY



KEEP IT SIMPLE AND PRACTICAL

OPTIMIZE AND AUTOMATE

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.
- Services are delivered to internal and external service consumers through the coordination and integration of the four dimensions of service management.
- Taking a holistic approach to service management includes establishing an understanding of how all the parts of an organization work together in an integrated way.
  - → It requires **end-to-end visibility** of how demand is captured and translated into outcomes.
  - → In a complex system, the alteration of one element can impact others and, where possible, these impacts need to be identified, analysed and planned for.

Applying the principle

- Recognize the **complexity** of the systems
  - → Different levels of complexity require different heuristics for decision-making. Applying methods and rules designed for a simple system can be ineffective or even harmful in a complex system.
- **Collaboration** is key to thinking and working holistically
  - → If the right mechanisms are put in place for all relevant stakeholders to collaborate in a timely manner, it will be possible to address any issue holistically without being unduly delayed.
- Where possible, look for **patterns** in the needs of and interactions between system elements
  - → Draw on knowledge in each area to identify what is essential for success, and which relationships between elements influence the outcomes.
  - → With this information, needs can be anticipated, standards can be set, and a holistic view point can be achieved.
- **Automation** can facilitate working holistically
  - → Where the opportunity and sufficient resources are available, automation can support end-to-end visibility for the organization and provide an efficient means of integrated management.

FOCUS ON VALUE

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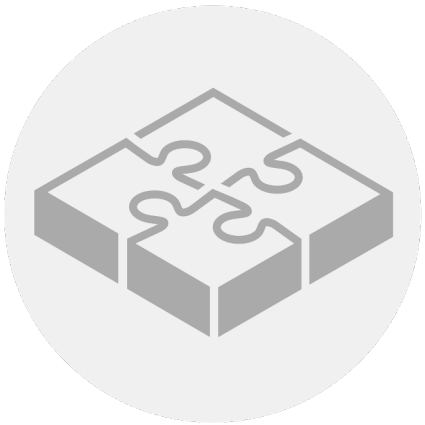

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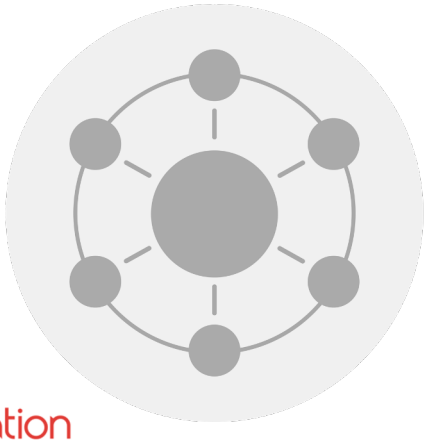
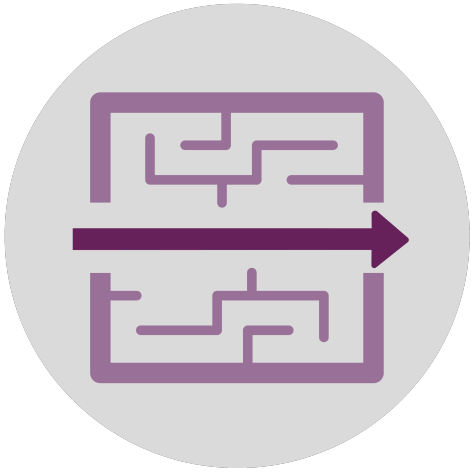


KEEP IT SIMPLE AND PRACTICAL



OPTIMIZE AND AUTOMATE

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.
- Trying to provide a solution for **every exception** will often lead to over-complication. When creating a process or a service, designers need to think about exceptions, but they cannot cover them all.

→ Instead, rules should be designed that can be used to handle exceptions generally.

Judging what to keep

- When analysing a practice, process, service, metric, or other improvement target, always ask whether it contributes to value creation.
- When designing or improving service management, it is better to start with an **uncomplicated approach** and then carefully **add** controls, activities, or metrics when it is seen that they are truly needed.
- Critical to keeping service management simple and practical is understanding exactly how something contributes to value creation.
  - → For example, a step in a process may be perceived by the operational staff involved as a waste of time.
  - → However, from a corporate perspective, the same step may be important for **regulatory compliance** and therefore valuable in an indirect, but nevertheless important, way.
- It is necessary to establish and communicate a holistic view of the organization's work so that individual teams or groups can think holistically about how their work is being influenced by, and in turn influences, others.

Conflicting Objectives

- When designing, managing, or operating practices, be mindful of conflicting objectives. E.g.

→ Management may want to collect a **large amount of data** to make decisions, whereas the people who do the record-keeping may want a simpler process that does not require as much data entry.

→ Through the application of this and the other guiding principles, the organization should agree on a **balance** between its competing objectives.

→ In this example, this could mean that services should only generate data that will truly provide value to the decision-making process, and record-keeping should be simplified and automated where possible to maximize value and reduce non-value-adding work.

Applying the principle

- **Ensure value**
  - → Every activity should contribute to the creation of value.
- **Simplicity is the ultimate sophistication**
  - → It may seem harder to simplify, but it is often more effective.
- **Do fewer things, but do them better**
  - → Minimizing activities to include only those with value for one or more stakeholders will allow more focus on the quality of those actions.
- **Respect the time of the people involved**
  - → A process that is too complicated and bureaucratic is a poor use of the time of the people involved.
- **Easier to understand, more likely to adopt**
  - → To embed a practice, make sure it is easy to follow.
- **Simplicity is the best route to achieving quick wins**
  - → Whether in a project, or when improving daily operations activities, quick win s allow organizations to demonstrate progress and manage stakeholder expectations.
  - → Working in an iterative way with feedback will quickly deliver incremental value at regular intervals.

FOCUS ON VALUE

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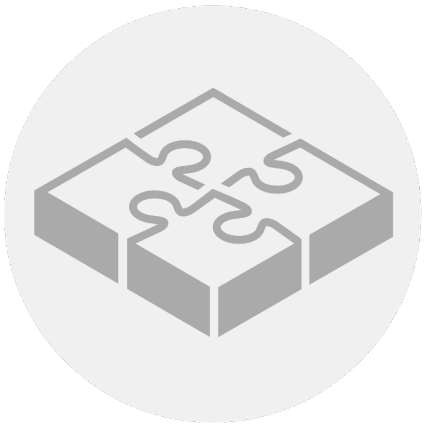
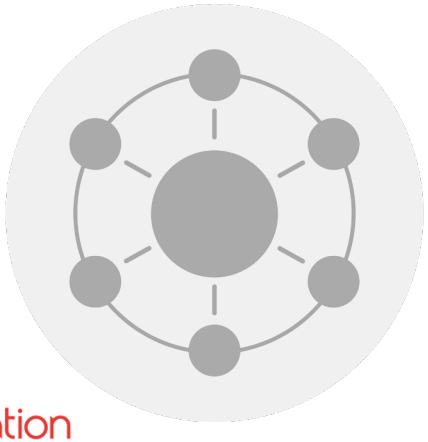


THINK AND WORK HOLISTICALLY



KEEP IT SIMPLE AND PRACTICAL

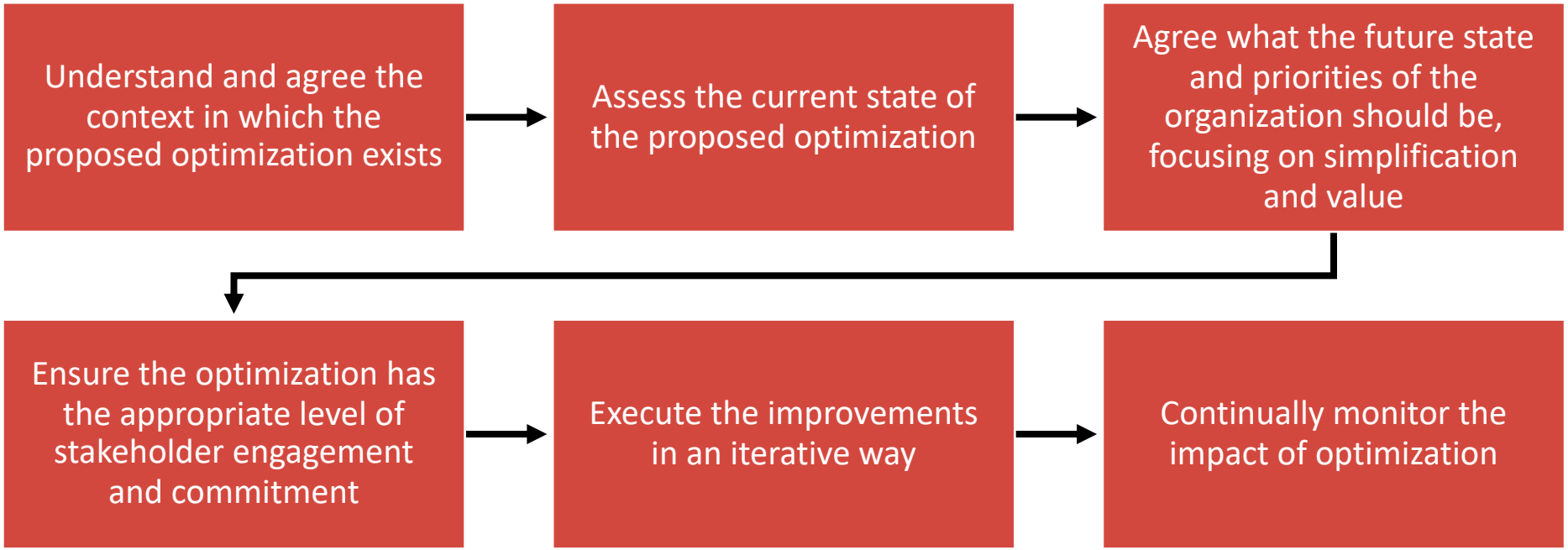
OPTIMIZE AND AUTOMATE

Optimize and automate

- Organizations must **maximize the value** of the work carried out by their human and technical resources.
- Four dimensions model provides a holistic view of the various constraints, resource types, and other areas that should be considered when designing, managing, or operating an organization.
- Technology can help 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.
- Optimization means to make something as effective and useful as it needs to be.
  - → Before an activity can be effectively automated, it should be optimized to whatever degree is possible and reasonable.
  - → It is essential that **limits** are set on the optimization of services and practices, as they exist within a set of **constraints** which may include financial limitations, compliance requirements, time constraints, and resource availability.

The Road To Optimization

- There are many ways in which practices and services can be optimized.
- → The concepts and practices described in ITIL, particularly the practices of continual improvement, and measurement and reporting, are essential to this effort.
- → The specific practices an organization uses to improve and optimize performance may draw upon guidance from ITIL, **Lean**, **DevOps**, **Kanban** , and other sources.



Automation

- Automation typically refers to the use of technology to perform a step or series of steps correctly and consistently with limited or no human intervention.
  - → E.g., in organizations adopting continuous deployment , it refers to the automatic and continuous release of code from development through to live, and often automatic testing occurring in each environment.
- Automation could also mean the standardization and streamlining of manual tasks, such as defining the rules of part of a process to **allow decisions to be made 'automatically'**.
  - → Efficiency can be greatly increased by reducing the need for human involvement to stop and evaluate each part of a process.
  - → Opportunities for automation can be found across the entire organization. Looking for opportunities to automate standard and repeating tasks can help save the organization costs, reduce human error, and improve employee experience.

Applying the Principle

- **Simplify and/or optimize before automating**
- Define your metrics
- Use the other guiding principles when applying this one

→ Progress iteratively with feedback

Iterative optimization and automation will make progress visible and increase stakeholder buy-in for future iterations.

→ Keep it simple and practical

It is possible for something to be simple, but not optimized, so use these two principles together when selecting improvements.

→ Focus on value

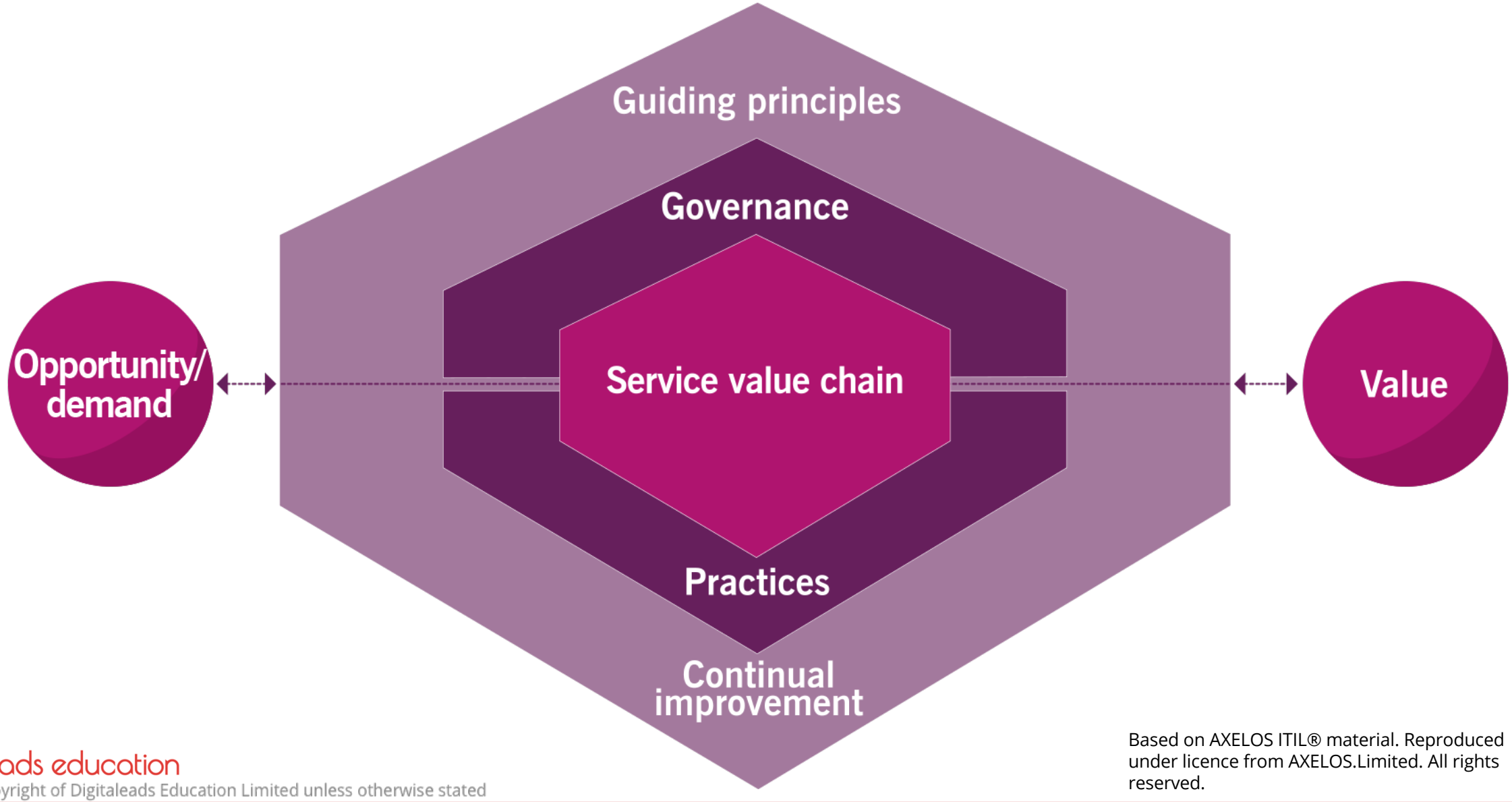
Selecting what to optimize and automate and how to do so should be based on what will create the best value for the organization.

→ Start where you are

The technology already available in the organization may have features and functionalities that are currently untapped or under-utilized. Make use of what is already there to implement opportunities for optimization and automation quickly and economically.

End of Section

Service Value System



Service Value System (SVS)

- It 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.

Opportunity & Demand and Value

Opportunities

- Represent options or possibilities to add value for stakeholders or otherwise improve the organization.

Demand

- The need or desire for products and services among internal and external consumers.

Value

- The outcome of the SVS is **value**, that is, the perceived benefits, usefulness, and importance of something.

Opportunity and Demand Workshop

- For the service _____, list the followings:
- Demand

- Opportunities

https://bit.ly/dleitilod

Five Components in SVS

1. Guiding principles

   Recommendations that can **guide** an organization in all circumstances, regardless of changes in its goals, strategies, type of work, or management structure.

2. Governance

   The means by which an organization is **directed and controlled**.

Five Components in SVS

3. 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.

4. Practices

Sets of organizational resources designed for performing work or accomplishing an objective.

Five Components in SVS

5. Continual improvement

A recurring organizational activity performed at all levels to ensure that an organization's performance continually meets stakeholders' expectations. ITIL 4 supports continual improvement with the ITIL continual improvement model.

Organizational Agility And Organizational Resilience

- For an organization to be successful, it must
  - → Achieve organizational **agility** to support internal changes, and
  - → Have organizational **resilience** to withstand and even thrive in changing external circumstances.
- The organization must also be considered as part of a larger ecosystem of organizations, all delivering, coordinating, and consuming products and services.

Organizational Agility And Organizational Resilience

- **Organizational agility** is the ability of an organization to move and adapt quickly, flexibly, and decisively to support **internal** changes. These might include changes like:

→ scope of the organization
→ mergers and acquisitions
→ organizational practices
→ technologies requiring different skills or organizational structure
→ relationships with partners and suppliers

Organizational Agility And Organizational Resilience

- **Organizational resilience** is the ability of an organization to anticipate, prepare for, respond to, and adapt to both incremental changes and sudden disruptions from an external perspective.

→ External influences could be political, economic, social, technological, legal or environmental.

→ Resilience cannot be achieved without a common understanding of the organization's priorities and objectives, which sets the direction and promotes alignment even as external circumstances change.

Organizational Agility And Organizational Resilience

- ITIL Service Value System provides the means to achieve organizational agility and resilience and to facilitate the adoption of

→ a strong unified direction

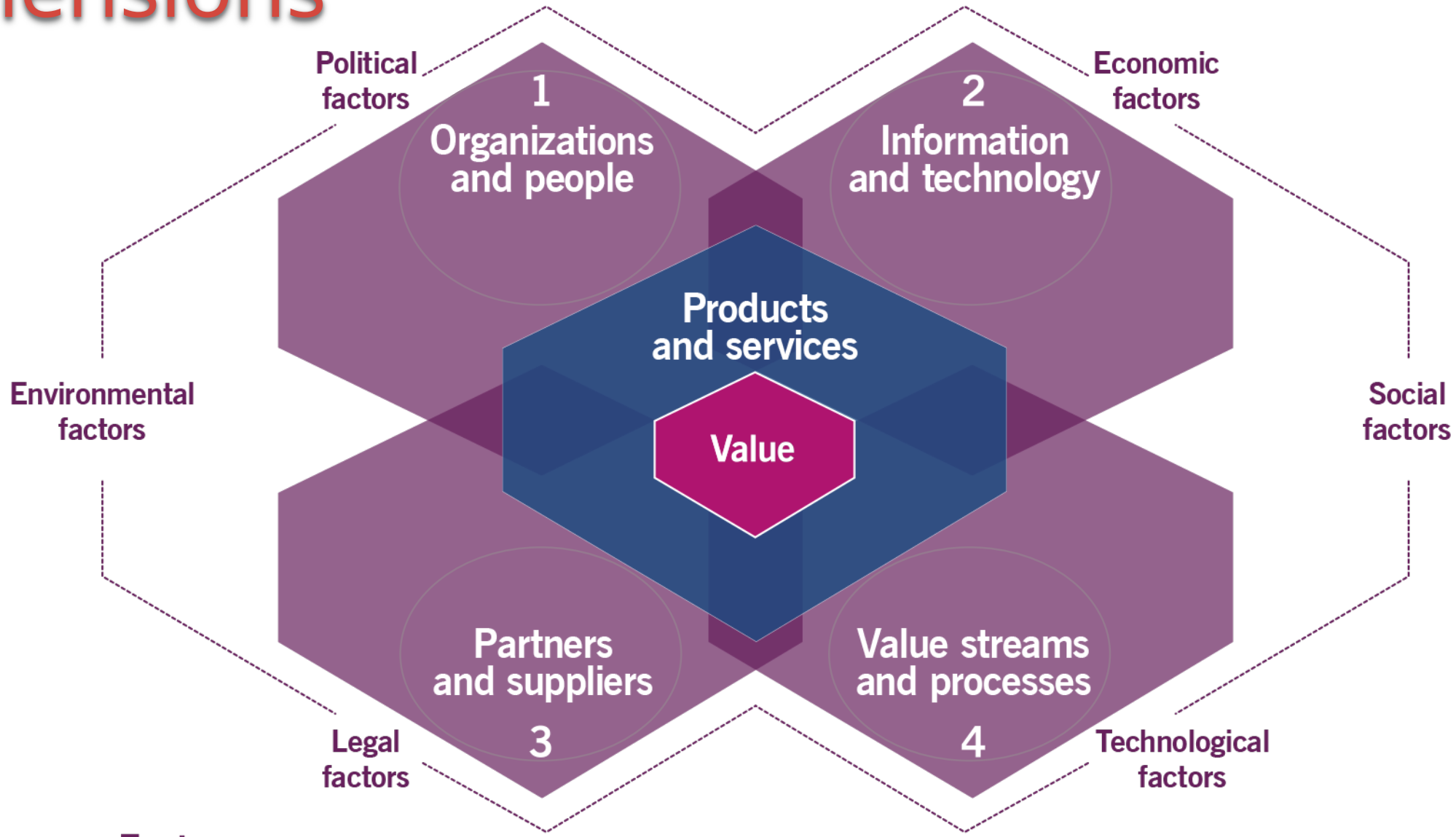
→ focused on value

→ understood by everyone in the organization

→ enables continual improvement throughout the organization

End of Section

4 Dimensions



PESTLE

Factors
Every dimension is affected by multiple factors

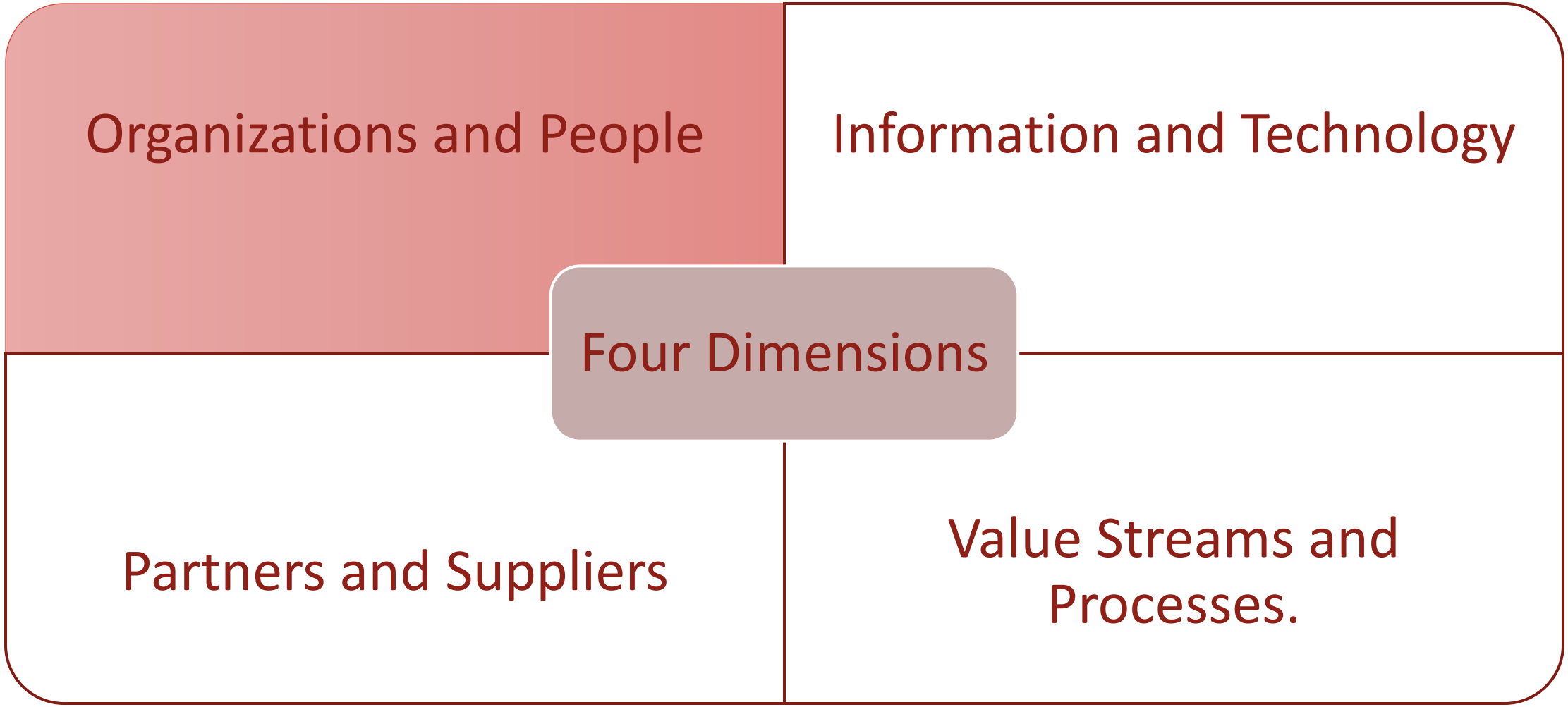
Four Dimensions of Service Management

- To support a holistic approach to service management, ITIL defines four dimensions that collectively are critical to the effective and efficient facilitation of value for customers and other stakeholders in the form of products and services.

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

- The four dimensions represent perspectives which are relevant to the whole SVS, including the entirety of the service value chain and all ITIL practices.

→ They are constrained or influenced by several external factors that are often beyond the control of the SVS (PESTLE).



Organizations and People

- 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.
- → As an example, it is useful to promote a culture of trust and transparency in an organization that encourages its members to **raise and escalate issues and facilitates corrective actions** before any issues have an impact on customers.
- Adopting the ITIL guiding principles can be a good starting point for **establishing a healthy organizational**.

Organizations and People

- Organizations and people dimension of a service covers below areas, all of which are related to the creation, delivery, and improvement of a service.

Roles and responsibilities	Formal organizational structures	Culture	Required staffing and competencies

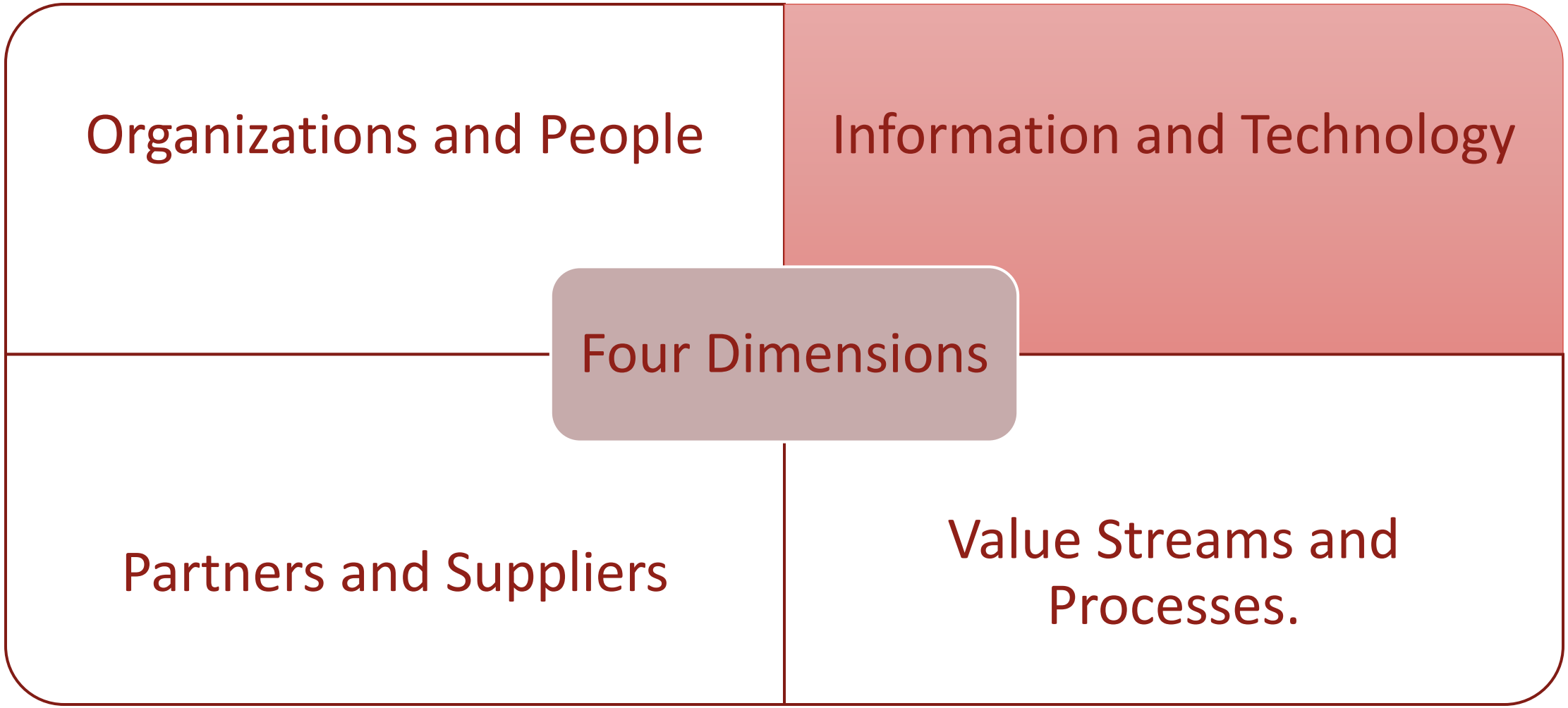
Organizations and People

- People (whether customers, employees of suppliers, employees of the service provider, or any other stakeholder in the service relationship) are a key element in this dimension.

→ Attention should be paid not only to the skills and competencies of teams or individual members, but also to management and leadership styles, and to communication and collaboration skills.

Organizations and People

- As **practices evolve**, people also need to **update** their skills and competencies.
- It is becoming increasingly important for people to understand the **interfaces** between their specializations and roles and those of others in the organization, to ensure proper levels of collaboration and coordination.
  - → E.g in some areas of IT (such as software development or user support), everyone should have a broad general knowledge of the other areas of the organization, combined with a deep specialization in certain fields.
  - → Every person in the organization should have **a clear understanding of their contribution** towards creating value for the organization, its customers, and other stakeholders.
- Promoting a **focus on value creation** is an effective method of breaking down organizational silos.



Information and Technology

- In SVS, the information and technology dimension includes:

The information and knowledge necessary for the management of services

The technologies required

The relationships between different components of the SVS, such as the inputs and outputs of activities and practices.

Information and Technology

- The technologies that support service management include, but are not limited to, workflow management systems, knowledge bases, inventory systems, communication systems, and analytical tools.
- Service management increasingly benefits from developments in technology.
  - → Artificial intelligence, machine learning, and other cognitive computing solutions are used at all levels, from strategic planning and portfolio optimization to system monitoring and user support.
  - → Mobile platforms, cloud solutions, remote collaboration tools, automated testing, and deployment solutions have become common practices.

Information and Technology

- In the context of a specific IT service , this dimension includes the information created, managed, and used in the course of service provision and consumption, and the technologies that support and enable that service.
- The specific information and technologies depend on the nature of the services being provided and usually cover all levels of IT architecture, including applications, databases, communication systems, and their integrations.
- In many areas, IT services use the latest technology developments, such as blockchain, artificial intelligence, and cognitive computing.

→ These services provide a business differentiation potential to early adopters, especially in highly competitive industries.

- Other technology solutions, such as cloud computing or mobile apps, have become common practice across many industries globally.

Information Management

- For the information component, organizations should consider the following questions:
  - → What **information** is managed by the services?
  - → What **supporting information and knowledge** are needed to deliver and manage the services?
  - → How will the information and knowledge **assets** be protected, managed, archived, and disposed of?
- For many services, information management is the primary means of enabling customer value.
- **Information is generally the key output** of the majority of IT services which are consumed by business customers.

Information Requirements

Information Exchange

- How information is exchanged between different services and service components?
- Information architecture of the various services needs to be well understood and continually optimized, taking into account such criteria as the **availability**, **reliability** , **accessibility**, **timeliness**, **accuracy**, and **relevance** of the information provided to users and exchanged between services.

Information Requirements (cont')

Compliance Requirement

- The challenges of information management, such as those presented by security and regulatory compliance requirements, are also a focus of this dimension. E.g.

  European Union's General Data Protection Regulation (GDPR), which influences its information management policies and practices.

- Other industries or countries may have regulations that impose constraints on the collection and management of data of multinational corporations. E.g.

  The US Health Insurance Portability and Accountability Act of 1996 provides data privacy and security provisions for safeguarding medical information.

Technical and Operational Considerations

- Most services nowadays are based on IT, and are heavily dependent on it.
- When considering a technology for use in the planning, design, transition, or operation of a product or service, questions an organization may ask include:

Compatibility	Compliance	Viability (Life span)	Strategic Alignment
Staff/Supplier Skills and Competence	Automation	Extensibility	Risk and Constraints

Technical and Operational Considerations

Compatibility

→ Is this technology compatible with the current architecture of the organization and its customers? Can different existing technology products work together? How are emerging technologies (ML, IoT, AI) likely to disrupt the service or the organization?

Compliance

→ Does this technology raise any regulatory or other compliance issues with the organization's policies and information security controls, or those of its customers?

Viability (Life span)

→ Is this a technology that will continue to be viable in the foreseeable future? Is the organization willing to accept the risk of using aging technology, or of embracing emerging or unproven technology?

Strategic Alignment

→ Does this technology align with the strategy of the service provider, or its service consumers?

Staff/Supplier Skills and Competence

→ Does the organization have the right skills across its staff and suppliers to support and maintain the technology?

Automation

→ Does this technology have sufficient automation capabilities to ensure it can be efficiently developed, deployed, and operated?

Extensibility

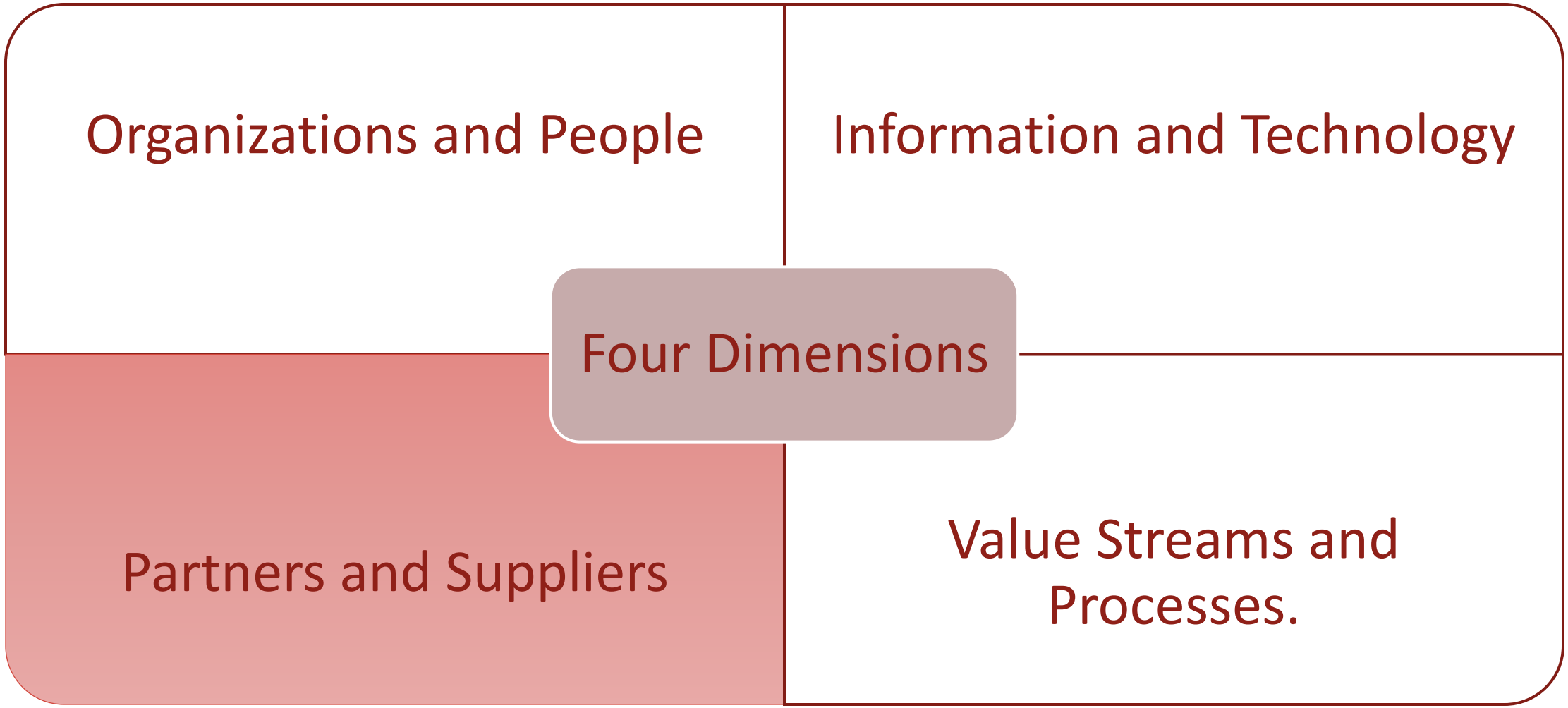
→ Does this technology offer additional capabilities that might be leveraged for other products or services?

Risk

→ Does this technology introduce new risks or constraints to the organization (for example, locking it into a specific vendor)?

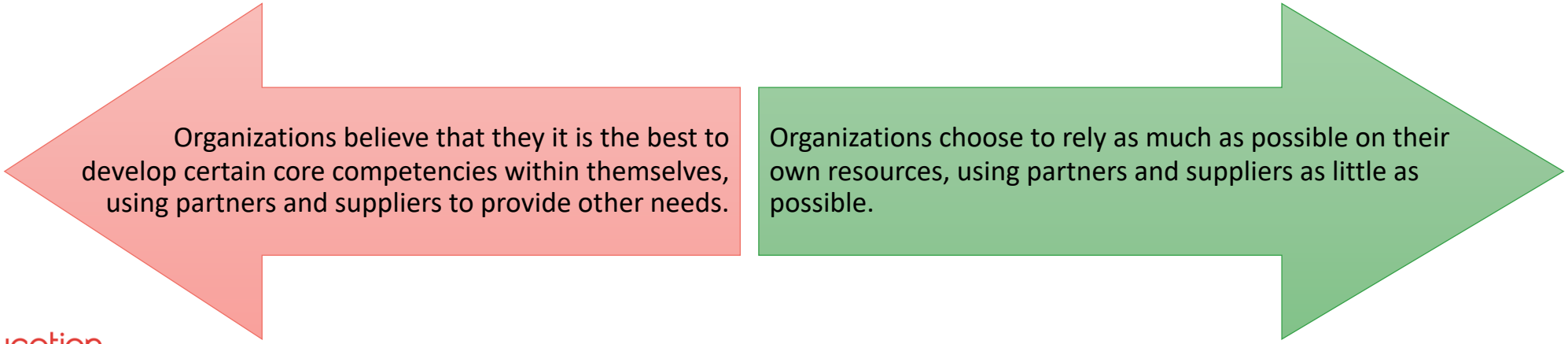
Culture, Business and Other Considerations

- The culture of an organization may have a significant impact on the **technologies** it chooses to use. That is:
  - → Some organizations may have more of an interest in being at the cutting edge of technological advances than others. Equally the culture of some organizations may be more traditional.
  - → One company may be keen to take advantage of artificial intelligence, while another may barely be ready for advanced data analysis tools.
- The nature of the business will also affect the technology it makes use of.
  - → For example, a company that does significant business with government clients may have restrictions on the use of some technologies, or have significantly higher security concerns that must be addressed. (Huawei in the US)
- Other industries, such as finance or life sciences, are also subject to restrictions around their use of technology.
  - → For example, they usually cannot use open source and public services when dealing with sensitive data.
- How about political? Look at PESTLE.



Partners And Suppliers

- 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.
- Relationships between organizations may involve various levels of integration and formality. This ranges from formal contracts with clear separation of responsibilities, to flexible partnership s where parties share common goals and risks, and collaborate to achieve desired outcomes.
- When it comes to using partners and suppliers, an organization's strategy should be based on its goals, culture, and business environment. They might fall within the spectrum below.



Different Relationships between Organizations

Form of cooperation	Outputs	Responsibility for the outputs	Responsibility for achievement of the outcomes	Level of formality	Examples
Goods supply	Goods supplied	Supplier	Customer	Formal supply contract/invoices	Procurement of computers and phones
Service delivery	Services delivered	Provider	Customer	Formal agreements and flexible cases	Cloud computing (Infrastructure of platform as a service)
Service partnership	Value co-created	Shared between provider and customer	Shared between provider and customer	Shared goals, generic agreements, flexible case-based arrangements	Employee onboarding (shared between HR, facilities and IT)

Service Integration and Management

- One method an organization may use to address the partners and suppliers dimension is service integration and management.
- This involves the use of a specially established integrator to ensure that service relationships are properly coordinated.
- Service integration and management may be kept within the organization, but can also be delegated to a trusted partner.

Factors influence Supplier Strategy

Strategic focus

- Some may prefer to focus on their core competency and to outsource non-core supporting functions to third parties; others may prefer to stay as self-sufficient as possible, retaining full control over all important functions.

Subject matter expertise

- Service provider may believe that it is less risky to use a supplier that already has expertise in a required area, rather than trying to develop and maintain the subject matter expertise in house.

Demand patterns

- Customer activity or demand for services may be seasonal or demonstrate high degrees of variability. These patterns may impact the extent to which organizations use external service providers to cope with variable demand.

Corporate culture

- Organizations have a historical preference for one approach over another. Long-standing cultural bias is difficult to change without compelling reasons.

Resource scarcity

- If a required resource or skillset is in short supply, it may be difficult for the service provider to acquire what is needed without engaging a supplier.

External constraints

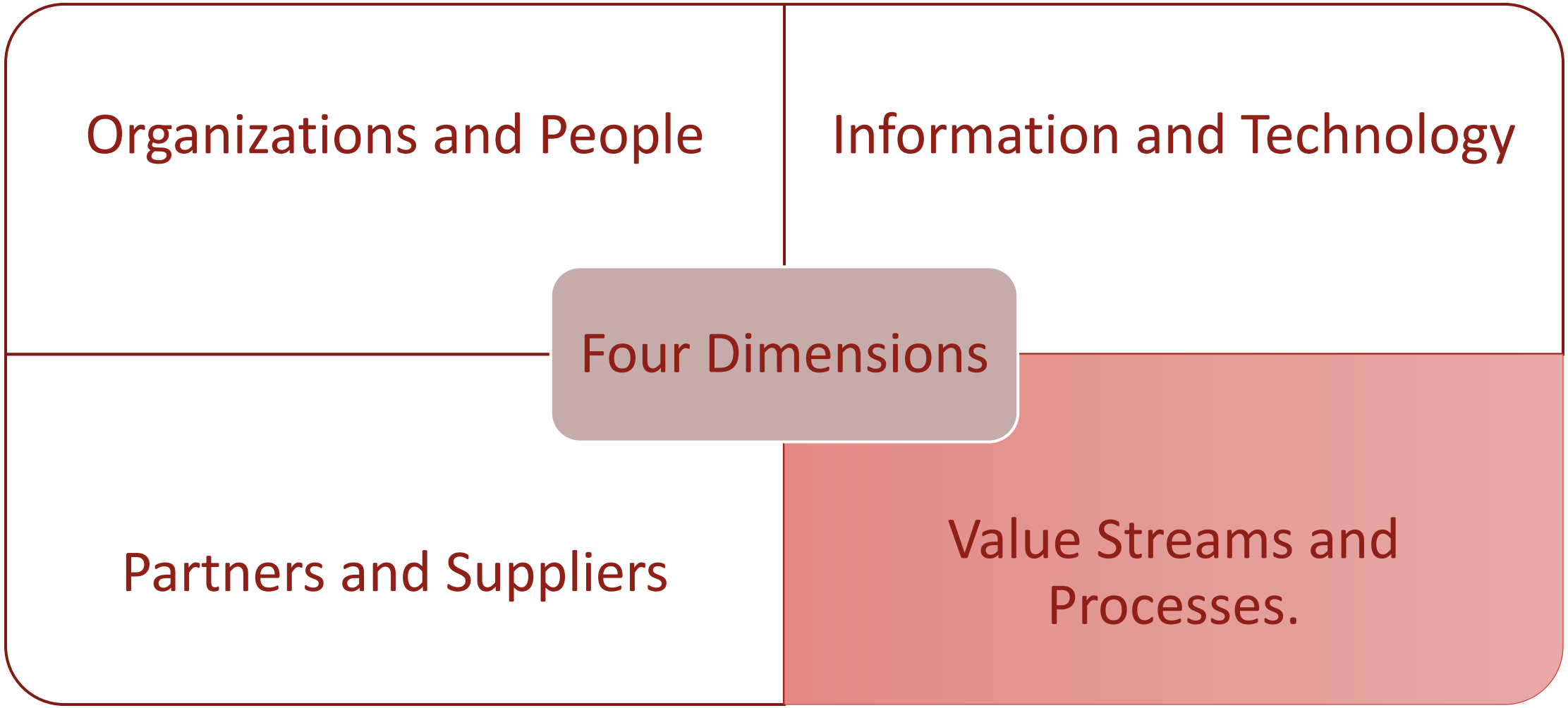
- Government regulation or policy , industry codes of conduct, and social, political or legal constraints may impact an organization's supplier strategy.

Cost concerns

- A decision may be influenced by whether the service provider believes that it is more economical to source a particular requirement from a supplier.

Latest Trend in Supplier Offerings

- The last decade has seen an explosion in companies that offer technical resources (infrastructure) or capabilities (platforms, software) '**as a service**'.
- These companies bundle goods and services into a single product offering that can be consumed as a utility, and is typically accounted for as operating expenditure.
- This frees companies from investing in costly infrastructure and software assets that need to be accounted for as capital expenditure.

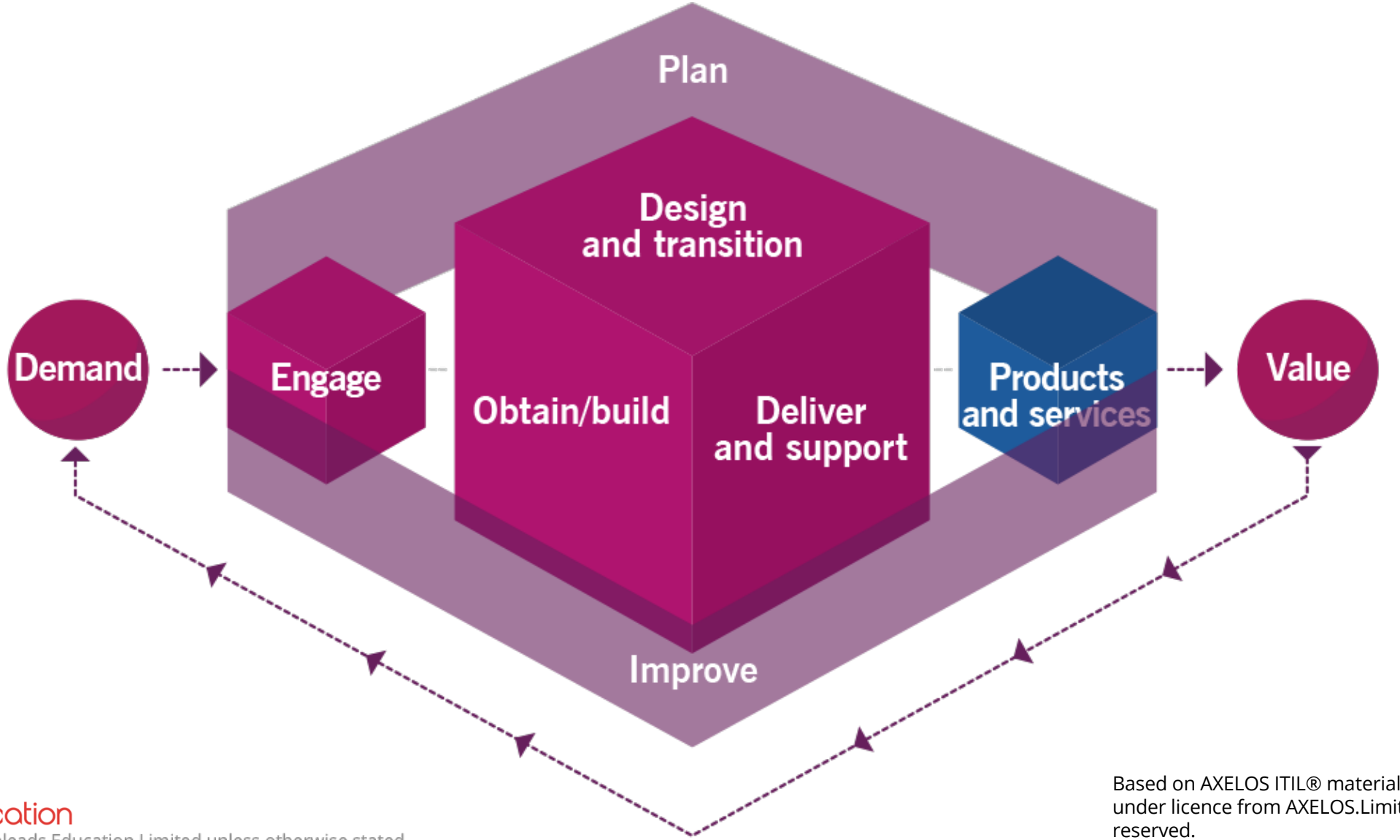


Value Streams and Processes

- This dimension is concerned with how the various parts of the organization work in an integrated and coordinated way to enable value creation through products and services.
- 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.
- ITIL provides an operating model that covers all the key activities required by a Service Provider to manage products and services effectively. This is referred to as the **ITIL service value chain**.

  The service value chain **operating model** is generic and in practice it can follow different patterns. These patterns within the value chain operation are called value streams.

ITIL Service Value Chain



VALUE STREAMS

- **A value stream is a series of steps that an organization uses to create and deliver products and services to a service consumer.**
- **A value stream is a combination of the organization's value chain activities**

Identify and Evaluate Value Streams

- Organizations should structure their activities in the form of value streams allows it to have a clear picture of what it delivers and how, and to make continual improvements to its services.
- Organizations should examine how they perform work and map all the value streams they can identify.
- This will enable them to analyse their current state and identify any barriers to workflow and non-value-adding activities, i.e. waste.
  - Wasteful activities should be eliminated to increase productivity.

Value Stream Definition

- To describe what should happen in a specific situation. This type of value stream is used in planning or making improvement.
- For example, for “adding new IT hardware/software” :

Not Tested in Exam

Workshop: http://bit.ly/dleitilvs

Engage Through a service desk practice, captures all the information you need, and sets user expectations (remember this may be a portal, the service desk practice is more than just people and phones).

Obtain/build From the IT asset management, change management, and deployment management practices may be invoked to procure the necessary hardware/software, and configure the necessary settings within the infrastructure.

Deliver and support From the request fulfilment management practice to arrange the necessary installation by in-house or external suppliers. In some cases, trainings or briefings might be required.

Engage From the service desk practice ensures that the user is satisfied with the new setup and that value has been created (e.g. do they know how to operate).

Improve From the incident management or problem management may identify that there is an underlying issue when setting up new hardware that should be resolved.

Improve Value Streams

- Opportunities to increase value-adding activities can be found across the service value chain.
- These may be new activities or modifications to existing ones, which can make the organization more productive.
- Value stream optimization may include process automation or adoption of emerging technologies and ways of working to gain efficiencies or enhance user experience.
- Value streams should be defined by organizations for each of their products and services.
- Depending on the organization's strategy, value streams can be redefined to react to changing demand and other circumstances, or remain stable for a significant amount of time.
- In any case, they should be continually improved to ensure that the organization achieves its objectives in an optimal way.

Value stream mapping is described in more detail in other ITIL 4 publications.

PROCESSES

- **A process is a set of activities that transform inputs to outputs.**
- **Processes describe what is done to accomplish an objective.**
- **Well-defined processes can improve productivity within and across organizations.**
- **Usually detailed in:**

→ **procedures**, which outline who is involved in the process, and

→ **work instructions**, which explain how they are carried out.

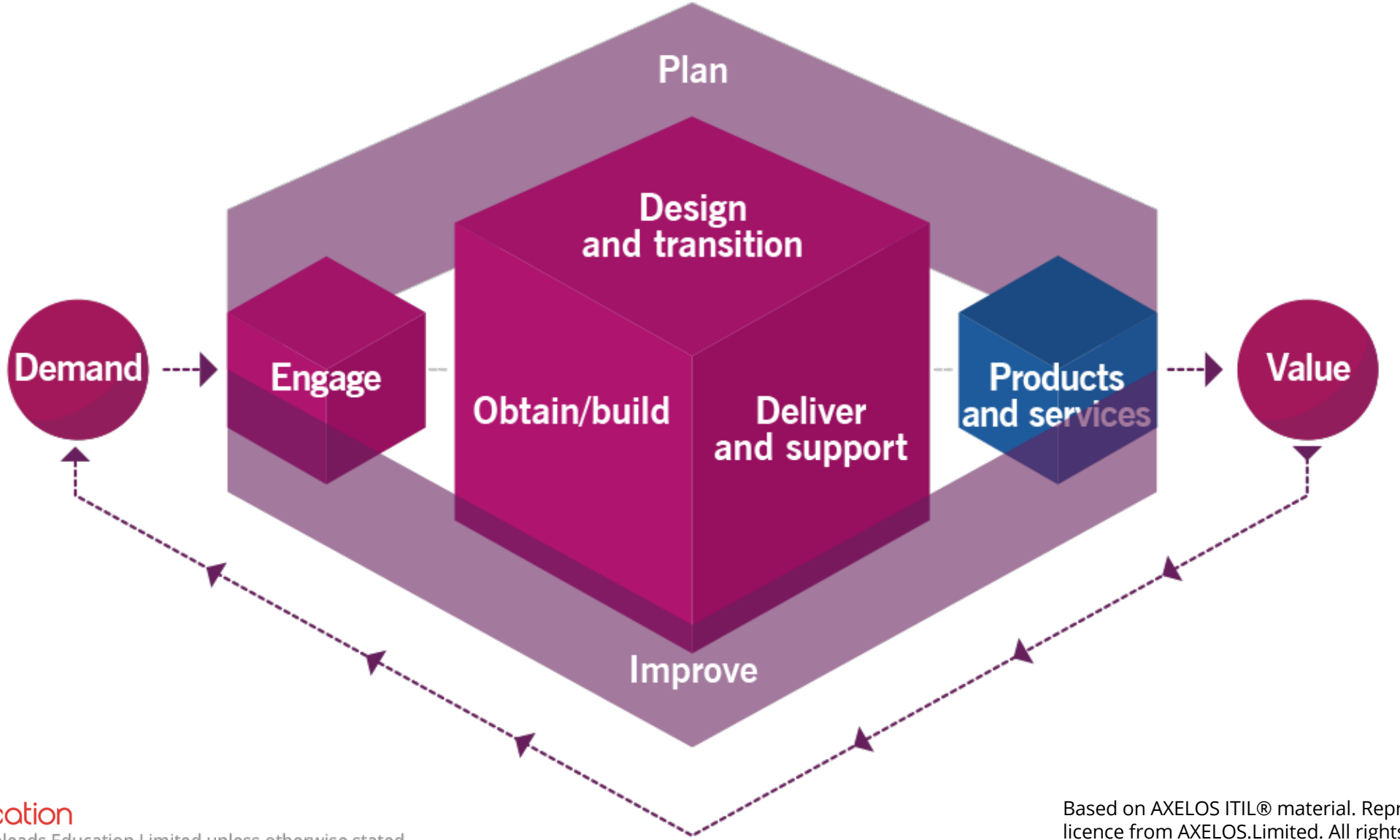
Definition: Process

A set of interrelated or interacting activities that transform inputs into outputs. A process takes one or more defined inputs and turns them into defined outputs. Processes define the sequence of actions and their dependencies.

- When applied to products and services, this dimension helps to answer the following questions, critical to service design, delivery, and improvement:
  - What is the generic delivery model for the service, and how does the service work?
  - What are the value streams involved in delivering the agreed outputs of the service?
  - Who, or what, performs the required service actions?
- Specific answers to these questions will vary depending on the nature and architecture of the service.

End of Section

Service Value Chain



Value Stream vs Value Chain

- A value stream is a specific journey through the service value chain, starting with demand and ending with value creation.
- **There is only one value chain**, but each organization may have **many different** value streams, and these are likely to be completely different to the value streams in another organization.
- Each value stream may loop around the value chain, involving many different types of engage activity for example, before finally resulting in value creation.
- Each value stream may also include contributions from many different practices, for example one value stream may involve relationship management, service desk, deployment management, service request management, service configuration management, IT asset management.

Service Value Chain

- These activities represent the steps an organization takes in the creation of value.

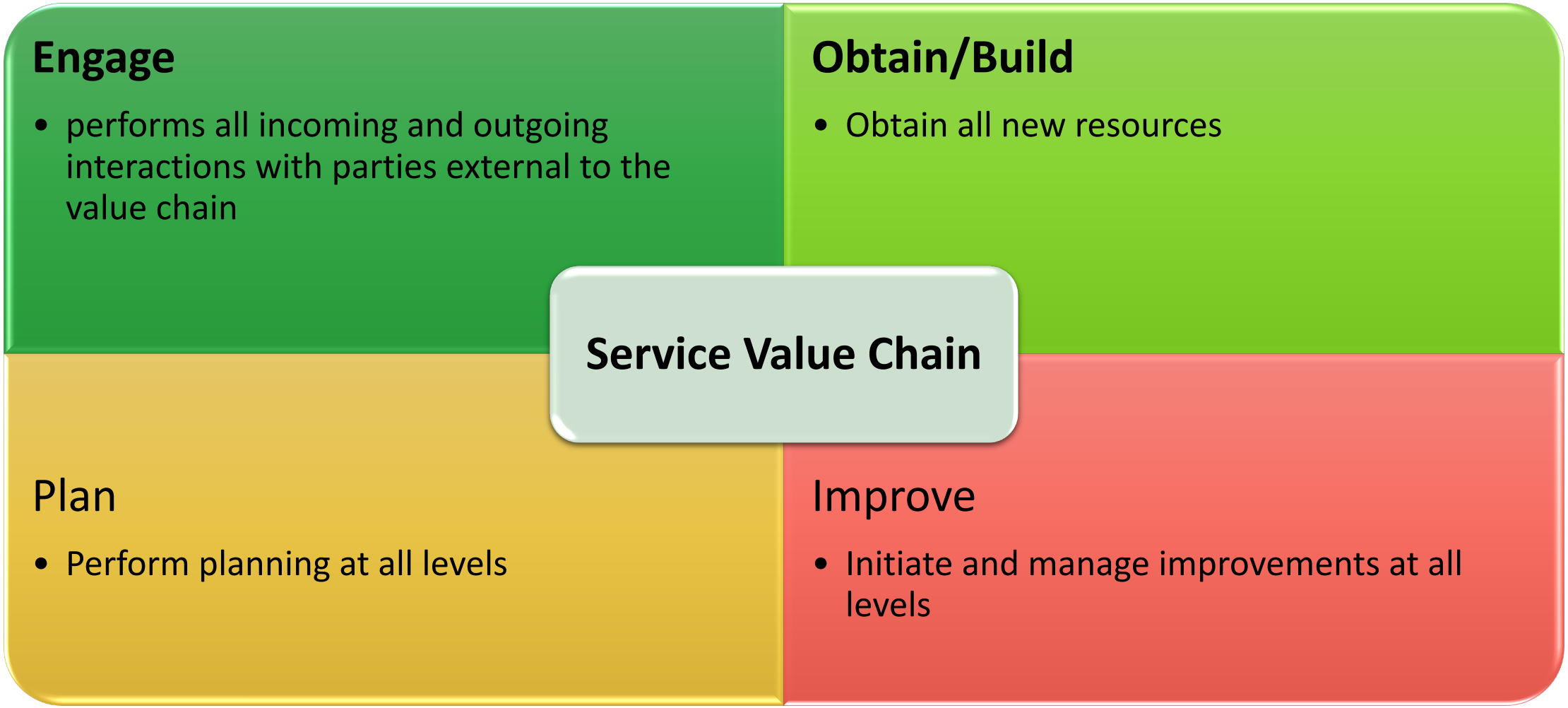
  Each activity transforms inputs into outputs.

  These inputs can be demand from outside the value chain or outputs of other activities.

  All the activities are interconnected, with each activity receiving and providing triggers for further action.

- To convert inputs into outputs, the value chain activities use different combinations of ITIL practices (sets of resources for performing certain types of work), drawing on internal or third-party resources, processes, skills, and competencies as required.

Service Value Chain Common Rules



PLAN

Ensure a shared understanding of the vision, current status, and improvement direction for all four dimensions and all products and services across the organization.

Key Inputs (Source)

- policies, requirements, and constraints (the organization's governing body)
- consolidated demands and opportunities (Engage)
- value chain performance information, improvement status reports, and improvement initiatives (Improve)
- knowledge and information about new and changed products and services (Design and Transition | Obtain/Build)
- knowledge and information about third-party service components (Engage)

PLAN

Ensure a shared understanding of the vision, current status, and improvement direction for all four dimensions and all products and services across the organization.

Key Output

- strategic, tactical, and operational plans
- portfolio decisions for design and transition
- architectures and policies for design and transition
- improvement opportunities for improve
- a product and service portfolio for engage
- contract and agreement requirements for engage

IMPROVE

Ensure continual improvement of products, services, and practices across all value chain activities and the four dimensions of service management.

Key Inputs (Source)

- product and service performance information (Deliver and Support)
- stakeholders' feedback (Engage)
- performance information and improvement opportunities (all)
- knowledge and information about new and changed products and services (Design and Transition | Obtain/Build)
- knowledge and information about third-party service components (Engage)

IMPROVE

Ensure continual improvement of products, services, and practices across all value chain activities and the four dimensions of service management.

Key Output

- improvement initiatives for all value chain activities
- value chain performance information for plan and the governing body
- improvement status reports for all value chain activities
- contract and agreement requirements for engage
- service performance information for design and transition

ENGAGE

Provide a good understanding of stakeholder needs, transparency, and continual engagement and good relationships with all stakeholders.

Key Inputs (Source)

- a product and service portfolio (Plan)
- high-level demand for services and products (internal and external customers)
- detailed requirements for services and products (customers)
- requests and feedback (customers)
- incidents, service requests, and feedback (users)
- information on the completion of user support tasks (Deliver and Support)
- marketing opportunities (current and potential customers and users)
- cooperation opportunities and feedback (partners and suppliers)
- contract and agreement requirements (all)
- knowledge and information about new and changed products and services (Design and Transition | Obtain/Build)
- knowledge and information about third-party service components (suppliers and partners)
- product and service performance information (Deliver and Support)
- improvement initiatives, improvement status reports (Improve)

ENGAGE

Provide a good understanding of stakeholder needs, transparency, and continual engagement and good relationships with all stakeholders.

Key Output

- consolidated demands and opportunities for plan
- product and service requirements for design and transition
- user support tasks for deliver and support
- improvement opportunities and stakeholders' feedback for improve
- change or project initiation requests for obtain/build
- contracts and agreements with external and internal suppliers and partners for design and transition , and obtain/build
- knowledge and information about third-party service components for all value chain activities
- service performance reports for customers.

DESIGN AND TRANSITION

Ensure that products and services continually meet stakeholder expectations for quality, costs, and time to market.

Key Inputs (Source)

- portfolio decisions (Plan)
- architectures and policies (Plan)
- product and service requirements (Engage)
- improvement initiatives (Improve)
- improvement status reports (Improve)
- service performance information (Deliver and Support | Improve)
- service components (Obtain/Build)
- knowledge and information about third-party service components (Engage)
- knowledge and information about new and changed products and services (Obtain/Build)
- contracts and agreements with external and internal suppliers and partners (Engage)

DESIGN AND TRANSITION

Ensure that products and services continually meet stakeholder expectations for quality, costs, and time to market.

Key Output

- requirements and specification s for obtain/build
- contract and agreement requirements for engage
- new and changed products and services for deliver and support
- knowledge and information about new and changed products and services to all value chain activities
- performance information and improvement opportunities for improve .

OBTAIN/BUILD

- **Ensure that service components are available when and where they are needed, and meet agreed specifications.**

Key Inputs (Source)

architectures and policies (Plan)

contracts and agreements with external and internal suppliers and partners (Engage)

goods and services (external and internal suppliers and partners)

requirements and specifications (Design and transition)

improvement initiatives (Improve)

improvement status reports (Improve)

change or project initiation requests (Engage)

change requests (Deliver and Support)

knowledge and information about new and changed products and services (Design and Transition)

knowledge and information about third-party service components (Engage)

OBTAIN/BUILD

Ensure that service components are available when and where they are needed, and meet agreed specifications.

Key Output

- service components for deliver and support
- service components for design and transition
- knowledge and information about new and changed service components to all value chain activities
- contract and agreement requirements for engage
- performance information and improvement opportunities for improve

DELIVER AND SUPPORT

- **Ensure that services are delivered and supported according to agreed specifications and stakeholders' expectations.**

Key Inputs (Source)

new and changed products and services (Design and Transition)

service components (Obtain/Build)

improvement initiatives (Improve)

improvement status reports (Improve)

user support tasks (Engage)

knowledge and information about new and changed service components and services (Design and Transition, and Obtain/Build)

knowledge and information about third-party service components (Engage)

DELIVER AND SUPPORT

Ensure that services are delivered and supported according to agreed specifications and stakeholders' expectations.

Key Output

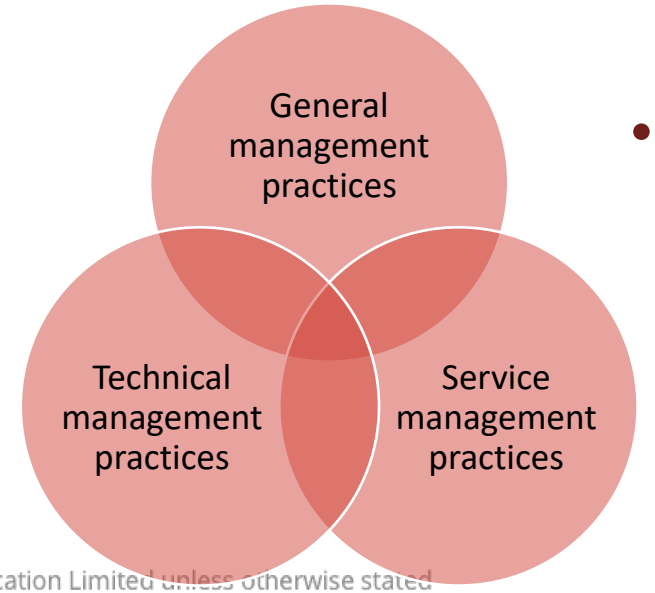
- services delivered to customers and users
- information on the completion of user support tasks for engage
- product and service performance information for engage and improve
- improvement opportunities for improve
- contract and agreement requirements for engage
- change requests for obtain/build
- service performance information for design and transition

End of Section

ITIL Practices

ITIL MANAGEMENT PRACTICES

An ITIL management practice is a set of organizational resources designed for performing work or accomplishing an objective.



Origins of the Practices

- General management practices (14)
  - Adopted and adapted for service management from general business management domains.
- Service management practices (17)
  - Developed in service management and ITSM industries.
- Technical management practices (3)
  - Adapted from technology management domains for service management purposes by expanding or shifting their focus from technology solutions to IT services.

ITIL General Management Practices

- Architecture management
- Continual improvement
- Information security management
- Knowledge management
- Measurement and reporting
- Organizational change management
- Portfolio management
- Project management
- Relationship management
- Risk management
- Service financial management
- Strategy management
- Supplier management
- Workforce and talent management

new in V4

ITIL Service Management Practices

Availability management	Business analysis	Capacity and performance management	Change Enablement	Incident management
IT asset management	Monitoring and event management	Problem management	Release management	Service catalogue management
Service configuration management	Service continuity management	Service design	Service desk	Service level management
	Service request management	Service validation and testing		

ITIL Technical Management Practices

Deployment management

Infrastructure and platform management

Software development and management

ITIL Key Practices

- **Continual improvement (5.1.2)**
- Information security management (5.1.3)
- Relationship management (5.1.9)
- Supplier management (5.1.13)
- **Change Enablement (5.2.4)**
- **Incident management (5.2.5)**
- IT asset management (5.2.6)
- Monitoring and event management (5.2.7)
- **Problem management (5.2.8)**
- Release management (5.2.9)
- Service configuration management (5.2.11)
- **Service desk (5.2.14)**
- **Service level management (5.2.15)**
- **Service request management (5.2.16)**
- Deployment management (5.3.1)

Bolded practices will be detailly discussed in the next chapter

INFORMATION SECURITY MANAGEMENT

- **Protect the information needed by the organization to conduct its business.**
- **Includes understanding and managing risks to the confidentiality , integrity , and availability of information, as well as other aspects of information security such as**

→ authentication (ensuring someone is who they claim to be) and

→ non-repudiation (ensuring that someone can't deny that they took an action).

Quality Criteria

Required security is established by means of policies, processes, behaviours, risk management, and controls, which must maintain a balance between:

- Prevention
  - Ensuring that security incidents don't occur
- Detection
  - Rapidly and reliably detecting incidents that can't be prevented
- Correction
  - Recovering from incidents after they are detected.

RELATIONSHIP MANAGEMENT

- **Establish and nurture the links between the organization and its stakeholders at strategic and tactical levels.**
- **Includes the identification, analysis, monitoring, and continual improvement of relationships with and between stakeholders.**

Quality Criteria

- stakeholders' needs and drivers are understood, and products and services are prioritized appropriately
- stakeholders' satisfaction is high and a constructive relationship between the organization and stakeholders is established and maintained
- customers' priorities for new or changed products and services, in alignment with desired business outcomes, are effectively established and articulated
- any stakeholders' complaints and escalations are handled well through a sympathetic (yet formal) process
- products and services facilitate value creation for the service consumers as well as for the organization
- the organization facilitates value creation for all stakeholders, in line with its strategy and priorities
- conflicting stakeholder requirements are mediated appropriately.

SUPPLIER MANAGEMENT

- **Ensure that the organization's suppliers and their performances are managed appropriately to support the seamless provision of quality products and services.**
- **Includes creating closer, more collaborative relationships with key suppliers to uncover and realize new value and reduce the risk of failure.**

Key activities

- Creating a single point of visibility and control to ensure consistency
- Maintaining a supplier strategy, policy, and contract management information
- Negotiating and agreeing contracts and arrangements
- Managing relationships and contracts with internal and external suppliers
- Managing supplier performance

IT ASSET MANAGEMENT

Plan and manage the full lifecycle of all IT assets, to help the organization:

→ maximize value

→ control costs

→ manage risks

→ support decision-making about purchase, re-use, retirement, and disposal of assets

→ meet regulatory and contractual requirements.

- **Definition: IT asset**
  - Any financially valuable component that can contribute to the delivery of an IT product or service.
- IT asset management typically includes all software, hardware, networking, cloud services, and client devices.
  - In some cases, it may also include non-IT assets such as buildings or information where these have a financial value and are required to deliver an IT service.

SERVICE CONFIGURATION MANAGEMENT

- **Ensure that accurate and reliable information about the configuration of services, and the CIs that support them, is available when and where it is needed.**
- **Includes information on how CIs are configured and the relationships between them.**

- **Definition: Configuration item**
  - Any component that needs to be managed in order to deliver an IT service.
- Service configuration management collects and manages information about a wide variety of CIs, typically including hardware, software, networks, buildings, people, suppliers, and documentation.
- Services are also treated as CIs, and configuration management helps the organization to understand how the many CIs that contribute to each service work together.

MONITORING AND EVENT MANAGEMENT

- **Systematically observe services and service components, and record and report selected changes of state identified as events.**
- **Identifies and prioritizes infrastructure, services, business processes, and information security events, and establishes the appropriate response to those events, including responding to conditions that could lead to potential faults or incidents.**

- **Definition: Event**
  - Any change of state that has significance for the management of a service or other configuration item (CI).
  - Events are typically recognized through notifications created by an IT service, CI, or monitoring tool.
- Manages events throughout their lifecycle to prevent, minimize, or eliminate their negative impact on the business.

RELEASE MANAGEMENT

Make new and changed services and features available for use.

- **Definition: Release**
  - A version of a service or other configuration item, or a collection of configuration items, that is made available for use.
- A release may comprise many different infrastructure and application components that work together to deliver new or changed functionality.
- It may also include documentation, training (for users or IT staff), updated processes or tools, and any other components that are required.
- Each component of a release may be developed by the service provider or procured from a third party and integrated by the service provider.

DEPLOYMENT MANAGEMENT

- **Move new or changed hardware, software, documentation, processes, or any other component to live environments.**
- **May also be involved in deploying components to other environments for testing or staging.**

Deployment management works closely with release management and Change Enablement, but is a separate practice.

In some organizations the term ‘provisioning’ is used to describe the deployment of infrastructure, and deployment is only used to mean software deployment, but in this case the term deployment is used to mean both.

End of Section

Key Practices

Change Enablement

Key Practices

CHANGE ENABLEMENT

Maximize the number of successful service and product changes by ensuring that risks have been properly assessed, authorizing changes to proceed, and managing the change schedule.

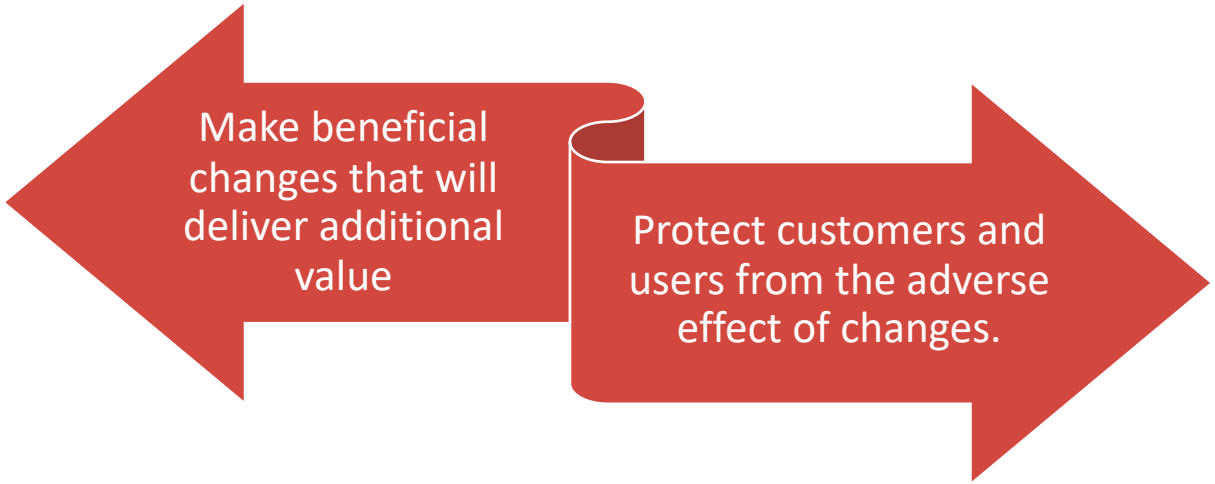
- **Definition: Change**
  - The addition, modification, or removal of anything that could have a direct or indirect effect on services.

Scope of Change Enablement

- Each organization **shall** define the **scope** of Change Enablement
- Typically include all IT infrastructure, applications, documentation, processes, supplier relationships, and anything else that might directly or indirectly impact a product or service.
- It is important to distinguish Change Enablement from **organizational change management**.
  - Organizational change management manages the people aspects of changes to ensure that improvements and organizational transformation initiatives are implemented successfully.
  - Change Enablement is usually focused on changes in products and services.

Balance in Change Enablement

- Change Enablement must balance the needs



- All changes should be assessed by people who are able to understand the risks and the expected benefits; the changes **must then be authorized** before they are deployed.
  - This assessment, however, should not introduce unnecessary delay.

Change Authority

- The person or group who authorizes a change is known as a change authority .
- It is essential that the correct change authority is assigned to each type of change to ensure that Change Enablement is both efficient and effective.
- In high-velocity organizations, it is a common practice to **decentralize change approval**, making the peer review a top predictor of high performance.

Types of Change

Standard Changes

Normal Changes

Emergency Changes

STANDARD CHANGES

Low-risk, pre-authorized changes that are well understood and fully documented, and can be implemented without needing additional authorization.

- Standard Changes are often initiated as service requests, but may also be operational changes.
- When the procedure for a standard change is created or modified, there should be a full risk assessment and authorization as for any other change.
  - This risk assessment does not need to be repeated each time the standard change is implemented;
  - Only needs to be done if there is a modification to the way it is carried out.

NORMAL CHANGES

- **Changes that need to be scheduled, assessed, and authorized following a process.**
- **Change models based on the type of change determine the roles for assessment and authorization.**

- Some normal changes are low risk, and the change authority for these is usually someone who can make rapid decisions, often using automation to speed up the change.
- Other normal changes are very major and the **change authority** could be as high as the management board (or equivalent).
- Initiation of a normal change is triggered by the creation of a change request.
  - This may be created manually, but organizations that have an automated pipeline for continuous integration and continuous deployment often automate most steps of the Change Enablement process.

EMERGENCY CHANGES

- **These are changes that must be implemented as soon as possible; for example, to resolve an incident or implement a security patch.**
- **Emergency changes are not typically included in a change schedule, and the process for assessment and authorization is expedited to ensure they can be implemented quickly.**

As far as possible, emergency changes should be **subject to the same testing, assessment, and authorization** as normal changes, but it may be acceptable to **defer some documentation** until after the change has been implemented, and sometimes it will be necessary to implement the change with **less testing due to time constraints**.

There may also be a **separate change authority for emergency changes**, typically including a small number of senior managers who understand the business risks involved.

Change Schedule

- To help plan changes, assist in communication, avoid conflicts, and assign resources.
- After changes have been deployed, it provides information needed for incident management, problem management, and improvement planning.
- Regardless of who the change authority is, they may need to communicate widely across the organization.
  - There is usually a need to communicate information about the change to ensure people are fully prepared before the change is deployed.

Incident management

Key Practices

Definitions

Incident	An unplanned interruption to a service or reduction in the quality of a service.
Problem	A cause, or potential cause, of one or more incidents.
Known error	A problem that has been analysed but has not been resolved.

INCIDENT MANAGEMENT

- **Minimize the negative impact of incidents by restoring normal service operation as quickly as possible.**
- **Can have an enormous impact on customer and user satisfaction, and on how customers and users perceive the service provider.**

Quality Criteria

Every incident should be logged and managed to ensure that it is resolved in a time that meets the expectations of the customer and user.

Target resolution times are agreed, documented, and communicated to ensure that expectations are realistic.

Incidents are prioritized based on an agreed classification to ensure that incidents with the highest business impact are resolved first.

Organizations should design their incident management practice to provide appropriate management and resource allocation to different types of incident.

Incident Categorization, Prioritization

- Incidents with a low impact must be managed efficiently to ensure that they do not consume too many resources.
- Incidents with a larger impact may require more resources and more complex management.
- There are usually **separate processes for managing major incidents, and for managing information security incidents**.
- Information about incidents should be stored in incident records in a suitable tool.

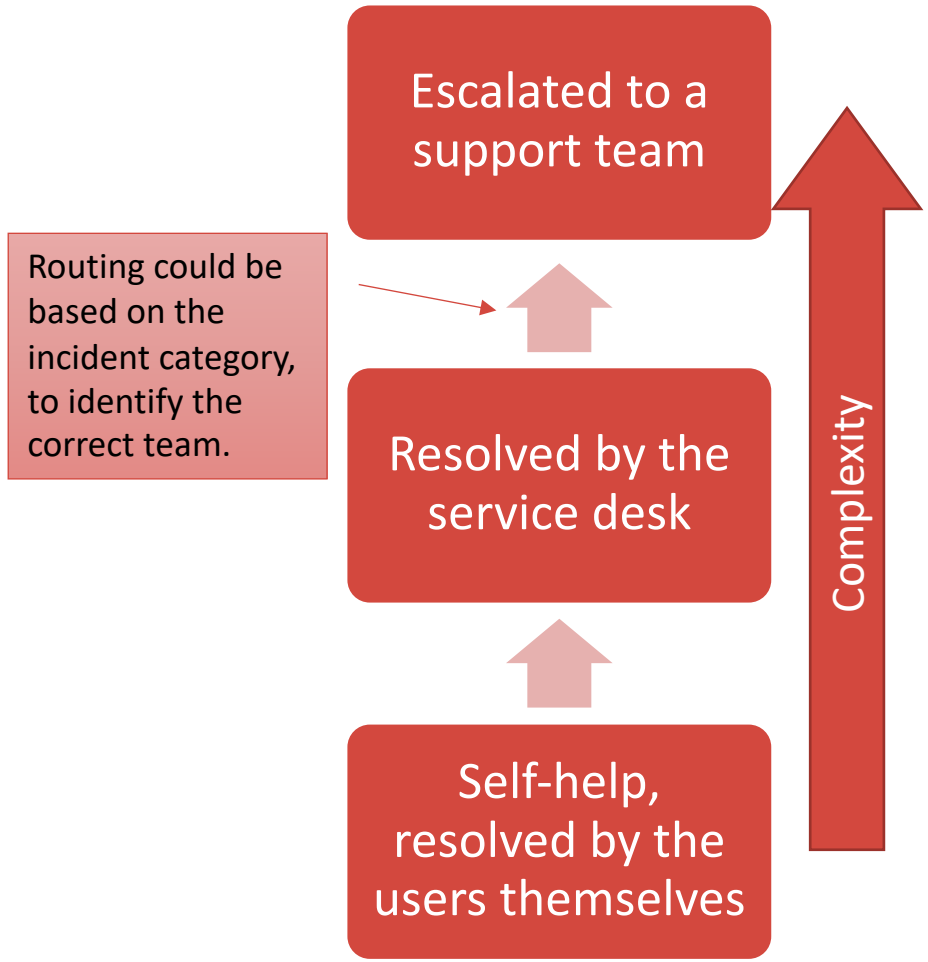
→ Ideally, this tool should also provide links to related CIs, changes, problems, known errors, and other knowledge to enable quick and efficient diagnosis and recovery .

Managing Incidents

- Modern IT service management tools can provide **automated matching of incidents** to other incidents, problems, or known errors, and can even provide intelligent analysis of incident data to generate recommendations for helping with future incidents.
- It is important that people working on an incident provide **good-quality updates in a timely fashion**.
  - → These updates should include information about symptoms, business impact, CIs affected, actions completed, and actions planned.
  - → Each of these should have a timestamp and information about the people involved, so that the people involved or interested can be kept informed.

Diagnosis and Resolution

- Incidents may be diagnosed and resolved by people in many different groups, depending on the complexity of the issue or the incident type. (see diagram)
- Incidents can be escalated to suppliers or partners, who offer support for their products and services.
- All of these groups need to understand the incident management process, and how their contribution to this helps to manage the value, outcomes, costs, and risks of the services provided:
- Most complex incidents, and all major incidents, often require a temporary team to work together to identify the resolution.
- In some extreme cases, disaster recovery plans may be invoked to resolve an incident.



Collaboration

- Effective incident management often requires a **high level of collaboration** within and between teams. These teams may include:
  - Service desk
  - Technical support
  - Application support
  - Vendors
- Collaboration can facilitate information-sharing and learning, as well as helping to solve the incident more efficiently and effectively.
  - **Swarming**: An incident management technique which involves many different stakeholders working together initially, until it becomes clear which of them is best placed to continue and which can move on to other tasks

Logging and Managing Incidents

- There should be a **formal process** for logging and managing incidents.
  - → This process **does not** usually include **detailed procedures** for how to diagnose, investigate, and resolve incidents.
  - → But it can provide **techniques for making investigation and diagnosis** more efficient.
- **Scripts** may be used to collect information from users during initial contact
  - → May lead directly to diagnosis and resolution of simple incidents.
- However, investigation of more complicated incidents often requires knowledge and expertise, rather than procedural steps.

Problem management

Key Practices

PROBLEM MANAGEMENT

Reduce the likelihood and impact of incidents by identifying actual and potential causes of incidents, and managing workarounds and known errors.

Definitions

- Problem
  - A cause, or potential cause, of one or more incidents.
- Known error
  - A problem that has been analysed but has not been resolved.

Errors and Problems

- Every service has errors, flaws, or vulnerabilities that may cause incidents.
- May include errors in any of the four dimensions of service management.
- Many errors are identified and resolved before a service goes live.
- Some remain unidentified or unresolved, and may be a risk to live services.
- In ITIL, these errors are called problems.

Problem vs Incident

- Problems are related to incidents, but should be distinguished as they are managed in different ways:

→ Incidents have an impact on users or business processes

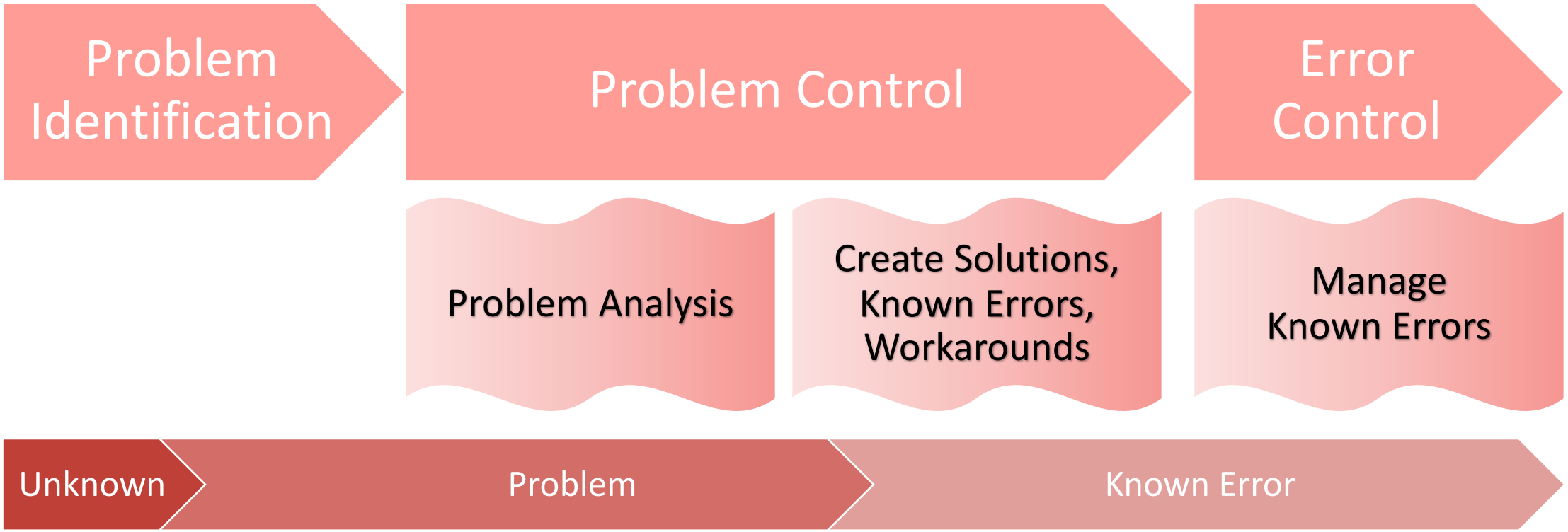
Must be resolved so that normal business activity can take place.

→ Problems are the causes of incidents.

Performs investigation and analysis to identify the causes, develop workarounds, and recommend longer-term resolution. This reduces the number and impact of future incidents.

Problem Management Phases

From Problem to Solutions



Problem Identification

- Problem identification activities identify and log problems.
  - → performing trend analysis of incident records
  - → detection of duplicate and recurring issues by users, service desk, and technical support staff
  - → during major incident management, identifying a risk that an incident could recur
  - → analysing information received from suppliers and partners
  - → analysing information received from internal software developers, test teams, and project teams.
  - → Or any other sources of information could lead to problem being identified

Problem Management 3 Phases		
Problem Identification	Problem Control	Error Control

Problem Control – Problem Analysis

- Problems are prioritized for analysis based on the risk that they pose, and are managed as risks based on their potential impact and probability.
  - → It is not essential to analyse every problem; it is more valuable to make significant progress on the highest-priority problems than to investigate every minor problem that the organization is aware of.
- Incidents typically have many interrelated causes, and the relationships between them can be complex.
  - → Problem control should consider all contributory causes, including causes that contributed to the duration and impact of incidents, as well as those that led to the incidents happening.
- It is important to analyse problems from the perspective of all four dimensions of service management.
  - → For example, an incident that was caused by inaccurate documentation may require not only a correction to that documentation but also training and awareness for support personnel, suppliers, and users.

Problem Control – Workarounds

- Definition: Workaround A solution that reduces or eliminates the impact of an incident or problem for which a full resolution is not yet available.
- When a problem cannot be resolved quickly, it is often useful to find and document a workaround for future incidents, based on an understanding of the problem.
- Workarounds are documented in problem records.
  - → This can be done at any stage; it doesn't need to wait for analysis to be complete.
  - → If a workaround has been documented early in problem control, then this should be reviewed and improved after problem analysis has been completed.
- Some workarounds reduce the likelihood of incidents.

Problem Management 3 Phases		
Problem Identification	Problem Control	Error Control

Problem Control – Known errors

- An effective incident workaround can become a permanent way of dealing with some problems when resolving the problem is not **viable or cost-effective**.

→ In this case, the problem remains in the known error status, and the documented workaround is applied should related incidents occur.

- Every documented workaround should include a clear definition of the symptoms to which it applies.
- In some cases, workaround application can be automated.
- For other problems, a way to fix the error should be found. This is a part of error control (see next page).

Error Control

- **Error control activities manage known errors**, which are problems initial analysis has been completed.

→ It **usually** means that faulty components have been identified.

- Error control also includes identification of potential permanent solutions which may result in a change request for implementation of a solution, but only if this can be justified in terms of cost, risks, and benefits.
- Error control regularly re-assesses the status of known errors that have not been resolved, including overall impact on customers, availability and cost of permanent resolutions, and effectiveness of workarounds.
- The **effectiveness of workarounds should be evaluated each time a workaround is used**, as the workaround may be improved based on the assessment.

Problem Management 3 Phases		
Problem Identification	Problem Control	Error Control

Interface With Other Activities

- Problem management activities are very closely related to incident management.
- These two practices need to be designed to work together within the value chain.

→ Activities from these two practices may complement each other (for example, identifying the causes of an incident is a problem management activity that may lead to incident resolution),

→ But they may also conflict (for example, investigating the cause of an incident may delay actions needed to restore service).

Interface With Other Activities

Other interface examples:

- Problem management activities can be organized as a specific case of **risk management**: they aim to identify, assess, and control risks in any of the four dimensions of service management. It is useful to adopt risk management tools and techniques for problem management.
- Implementation of problem resolution is often outside the scope of problem management. Problem management typically initiates resolution via **Change Enablement** and participates in the post-implementation review ; however, approving and implementing changes is out of scope for the problem management practice.
- Output from the problem management practice includes information and documentation concerning workarounds and known errors. In addition, problem management may utilize information in a **knowledge management** system to investigate, diagnose, and resolve problems.
- Problem management activities can identify improvement opportunities in all four dimensions of service management. Solutions can in some cases be treated as improvement opportunities, so they are included in a continual improvement register (CIR), and **continual improvement** techniques are used to prioritize and manage them, sometimes as part of a product backlog.

Service desk

Key Practices

SERVICE DESK

- **Capture demand for incident resolution and service requests.**
- **Should also be the entry point and single point of contact for the service provider with all of its users.**

For users to report issues, queries and requests, and have them acknowledged, classified, owned and actioned.

Could be performed from a physical team of people on shift to a distributed mix of people connected.

Service Desk Quality

- Collaborate with support and development teams to present and deliver a “joined up” approach to users and customers.
- Might not need to be highly technical.
- Practical understanding of the wider business context, business processes and the users.
- Be the empathetic and informed link between service provider and its users.

Service Desk Access Channels

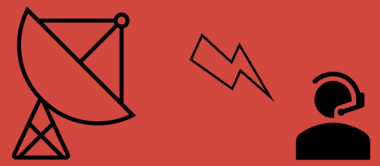
- Phone – including IVR, conference calls & voice recognition.
- Portal, Mobile Apps
- Chat – live or chat bot
- Email
- Walk-in
- Text and social media messaging
- Public and corporate discussion forums

Service Desk Structure

Local

Centralized

Service Desk Structures



Virtual

Follow the Sun

Technologies Supporting Service Desk

- IVRS
- Workflow systems
- Workforce management
- Knowledge base
- Call recording
- Remote access
- Dashboard and monitoring tools
- Configuration management system

Service level management

Key Practices

SERVICE LEVEL MANAGEMENT

To **set clear business-based targets for service levels**, and to ensure the delivery of services is properly assessed, monitored, and managed against these targets.

- **Definition: Service level**
  - One or more metrics that define expected or achieved service quality.
- **Definition: Service level agreement**
  - A documented agreement between a service provider and a customer that identifies both services required and the expected level of service.

Purpose

- Provides the end-to-end visibility of the organization's services through:
  - → establishes **a shared view** of the services and **target service levels** with customers
  - → **ensure** the organization meets the defined service levels through the collection, analysis, storage, and reporting of the relevant metrics for the identified services.
  - → performs **service reviews** to ensure that the current set of services continues to meet the needs of the organization and its customers
  - → **captures and reports on service issues**, including performance against defined service levels.
- Skills and competencies for SLM include **relationship management, business liaison, business analysis and commercial/supplier management**. It requires pragmatic focus on the whole services and not simply on constituent parts.

Service Level Agreement

- As a tool to measure the performance of services from the customer's point of view.
- Customer agrees on the **wider business context** is important.
- Key requirements for successful SLAs

→ Relate to defined "service" in the service catalogue

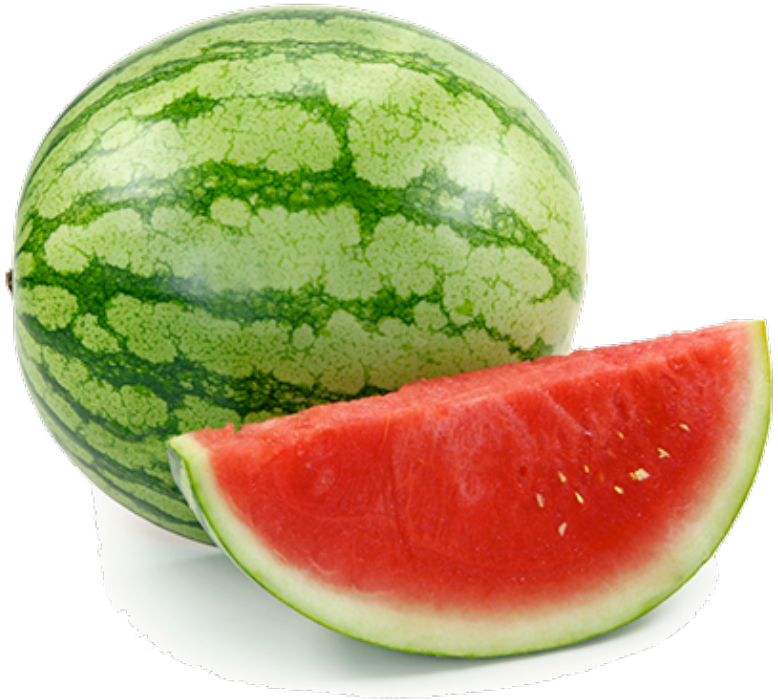
→ Relate to defined **outcomes**, not just operational metrics

→ Result from engagement and discussion between SP and customer, and involved all related stakeholders.

→ **Simply written and easy to understand**

Watermelon SLA

- Using single-system-based metrics as targets could result in misalignment.
- Service Provider believes they perform well
- Customer not satisfied.



Keys to Success

- SLM requires focus and effort to engage and listen to the requirements, issues, concerns, and daily needs of customers:

  Engaging - understand and confirm the actual ongoing needs and requirements of customers, not simply what is interpreted by the service provider or agreed years before.

  Listening - build relationship and trust, showing customers that they are valued and understood.

- Engaging and listening provide a great opportunity to give service delivery staff an experience-based understanding of the day-to-day work that is done with their technology, enabling them to deliver a more business-focused service.

SLM Information Sources

- SLM collating and analysing information for ongoing review, feedbacks can be used as input to design suitable measurement and reporting models and practices.
- Customer engagement

→ Involves initial listening, discovery, and information capture on which to base metrics, measurement, and ongoing progress discussions.

→ Ask customers simple open questions:

What does your work involve?	How does technology help you?	What are your key business times, areas, people, and activities?	What differentiates a good day from a bad day for you?	Which of these activities is most important to you?

What are your goals, objectives, and measurements for this year?	What is the best measure of your success?	On what do you base your opinion and evaluation of a service or IT/technology?	How can we help you more

SLM Information Sources

Customer feedback

→ ideally gathered from a number of sources, both formal and informal, including:

Event-Based Surveys

- These can be from immediate feedback such as:
  - Follow-up questions to incidents, or
  - From more reflective periodic surveys that gauge feedback on the overall service experience.
- Both are **event-based**.

Key business-related measures

- These are measures agreed between the service provider and its customer, based on what the customer values as important.
- This could be a bundle of **SLA metrics** or a very specific business activity such as a sales transaction, project completion, or operational function such as getting an ambulance to the site of an accident within x minutes.

SLM Information Sources

Operational metrics

- Low-level indicators of various operational activities and may include system availability, incident response and fix times, change and request processing times, and system response times.

Business metrics

- Can be any business activity that is deemed useful or valuable by the customer and used as a means of gauging the success of the service.
- Can vary from some simple transactional binary measures such as ATM or POS terminal availability during business hours (09:00–17:00 daily) or successful completion of business activities such as flight departure.

Service request management

Key Practices

SERVICE REQUEST MANAGEMENT

Support the agreed quality of a service by handing all pre-defined, user-initiated service requests in an effective and user-friendly manner

- **Definition: Service request**
  - A request from a user or a user's authorized representative that initiates a service action which has been agreed as a normal part of service delivery.

Service Requests

- Service request could include but not limit to:
  - Request for a service delivery action (e.g., providing a report or replacing a toner cartridge)
  - Request for information (e.g., how to create a document or what the hours of the office are)
  - Request for provision of a resource or service (e.g., providing a phone or laptop to a user, or providing a virtual server for a development team)
  - Request for access to a resource or service (e.g., providing access to a file or folder)
  - Feedback, compliments, and complaints (e.g., complaints about a new interface or compliments to a support team).

Service request management guidelines

- Some service requests require authorization according to financial, information security, or other policies, while others may not need any.
- Guidelines to follow:

→ Service requests and their fulfilment should **be standardized and automated** to the greatest degree possible.

→ Policies should be established regarding what service requests will be fulfilled with **limited or even no additional approvals so that fulfilment can be streamlined**.

→ The expectations of users regarding **fulfilment times** should be clearly set, based on what the organization can realistically deliver.

→ Opportunities for improvement should be identified and implemented to produce faster fulfilment times and take advantage of **automation**.

→ **Policies and workflows** should be included for the documenting and redirecting of any requests that are submitted as service requests, but which should actually be managed as incidents or changes.

Good Practices

- **Automation**
  - → Some service requests can be completely fulfilled by automation from submission to closure, allowing for a complete self-service experience. Examples include client software installation or provision of virtual servers.
- **Track requests with automation tools**
  - → Service request management is dependent upon well-designed processes and procedures, which are operationalized through tracking and automation tools to maximize the efficiency of the practice.
- **Limit the number of workflow models**
  - → Different types of service request will have different fulfilment workflows, but both efficiency and maintainability will be improved if a limited number of workflow models are identified.
- **Leverage existing workflow models**
  - → When new service requests need to be added to the service catalogue, existing workflow models should be leveraged whenever possible.

Continual improvement

Key Practices

CONTINUAL IMPROVEMENT

Align the organization's practices and services with changing business needs through the ongoing improvement of products, services, and practices, or any element involved in the management of products and services.

- Scope
  - Development of improvement-related methods and techniques
  - Propagation of a continual improvement culture across the organization
  - Alignment with the organization's overall strategy
- The commitment to and practice of continual improvement must be embedded into every fibre of the organization.
- If it is not, there is a real risk that daily operational concerns and major project work will eclipse continual improvement efforts.

Continual Improvement Key Activities

- Encouraging continual improvement across the organization
- Securing time and budget for continual improvement
- Identifying and logging improvement opportunities
- Assessing and prioritizing improvement opportunities
- Making business cases for improvement action
- Planning and implementing improvements
- Measuring and evaluating improvement results
- Coordinating improvement activities across the organization

Continual Improvement Model

Assessing Current State

- There are many techniques such as:

  SWOT analysis, balanced scorecard review, internal and external assessment & audits, and a combination of them.

- Organization should develop the competencies in methodologies and techniques for assessments what meet their needs.

Approaches to Continual Improvement

- Example approaches

  Lean - eliminate waste

  Agile - focus on making improvements incrementally at a cadence

  DevOps – work holistically and ensure improvement are not only designed well, but applied effectively
- Select to start from a few instead of too many
- Explore new approaches and allow for innovation when they make sense
- Gradually retire older methods if there are better ones

Responsibility to Continual Improvement

- It is **everyone's** responsibility!
- Although there may be a **group of full time staff**, it is critical for **everyone** in the organization to understand the importance of and actively participate in continual improvement.
- It is wise to include *contribution to continual improvement* in job descriptions and objectives of all employees, including contracts for external suppliers and contractors.
- The **highest levels** of the organization need to take responsibility for embedding continual improvement into the way that people think and work.

Training and Organizing

- Training and other enablement assistance should be provided to staff members to help them feel prepared to contribute to continual improvement.
- Although everyone should contribute in some way, there should at least be **a small team** dedicated full-time to leading continual improvement efforts and advocating the practice across the organization.

  This team can serve as coordinators, guides, and mentors, helping others in the organization to develop the skills they need and navigating any difficulties that may be encountered.

Supplier Involvement in Continual Improvement

- When third-party suppliers form part of the service landscape, they should also be part of the improvement effort.

  When contracting for a supplier's service, the contract should include details of how they will measure, report on, and improve their services over the life of the contract.

  If data will be required from suppliers to operate internal improvements, that should be specified in the contract as well.

- Accurate data, carefully analysed and understood, is the foundation of fact-based decision-making for improvement.
- Continual improvement practice should be supported by relevant data sources and data analysis to ensure that each potential improvement is sufficiently understood and prioritized.

Continual Improvement Register

- To track and manage improvement ideas from identification through to final action, organizations use a database or structured document called a continual improvement register (CIR).

  There can be more than one CIR in an organization, as multiple CIRs can be maintained on individual, team, departmental, business unit, and organizational levels.

  Some organizations maintain a single master CIR, but segment how it is used and by whom at a more granular level.

Continual Improvement Register (cont')

- Improvement ideas can also initially be captured in other places and through other practices, such as during project execution or software development activities.

  In this case, it is important to document for attention the improvement ideas that come up as part of ongoing continual improvement.

  As new ideas are documented, CIRs are used to constantly reprioritize improvement opportunities.

  The use of CIRs provides additional value because they help to make things visible. This is not limited to what is currently being done, but also to what is already complete and what has been set aside for further consideration at a later date.

Continual Improvement Register (cont')

- It does not matter exactly how the information in a CIR is structured, or what the collections of improvement ideas are called in any given organization.
- What is important is that improvement ideas are **captured**, **documented, assessed, prioritized,** and **appropriately acted** upon to ensure that the organization and its services are always being improved.

Integrating Continual Improvement with Other Practices

- Continual improvement practice is integral to the development and maintenance of every other practice as well as to the complete lifecycle of all services and indeed the SVS itself.
- Some practices that make a special contribution to continual improvement.
  - → Problem management practice can uncover issues that will be managed through continual improvement.
  - → Changes initiated through continual improvement may fail without the critical contributions of organizational change management.
  - → Project management to organize and manage the execution of improvement initiatives.

End of Course

Questions?