2023

ITIL 4 Service Management

ITIL® 4

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ITIL 4 Introduction

IT Service management is a systematic approach to deliver value to customers through IT services. This involves visualization of the service lifecycle, understanding the service requirement (or demand for services), creating service conceptualization, strategy, design, transition, operation (monitoring and managing) and service improvement throughout the lifecycle of the services. Service life cycle refers to the entire life of a service from its inception to its retirement.

ITIL® has been the de-facto best practices for IT Service Management since its evolution in the 1980s, when the UK Government Central Computer and Telecommunication Agency (CCTA) recommended IT Management Practices after recognizing the pressing need for standard practices. The ITIL® was earlier owned by CCTA, OGC & Cabinet office and currently it is owned by AXELOS®. Various versions of ITIL® have been released over the years, considering the dynamics of the industry from time to time.

From the late 1990's till up to the year 2011 many new versions of ITIL® have been released, namely ITIL® V1 released in 1986-96, V2 released in 2000-2006, V3 released in 2007-2011 & a revised version of V3 released 2011. The latest version released is ITIL®4 Foundation, which was released on 28th February 2019.

ITIL® is currently evolving from ITIL V3 to ITIL 4 *with a clear transition journey* from one scheme structure to the other. ITIL® V3 Foundation candidates are encouraged to move straight to ITIL® 4 Foundation to keep their skills up-to-date. ITIL® V3 Intermediate certified candidates shall continue their ITIL® V3 journey to build the skills they need.

The current certification offered by AXELOS® is ITIL®4 (Foundation only) and ITIL® V3 2011 certification (at all levels) that will be offered until the release of all the modules of ITIL®4. The candidates who are certified ITIL® V3 are encouraged to take up ITIL®4 Foundation to ensure their skills are up to date and relevant. Candidates who are certified at intermediate level continue their journey of ITIL® V3 and build on their skills. Later after introduction of ITIL®4 modules, they can appear for the bridge course (i.e. Managing Professional [Transition])

The below pictures depict the various certification levels in ITIL V3 2011 and ITIL 4, currently.

Figure 1: ITIL® V3 2011 Qualification Scheme

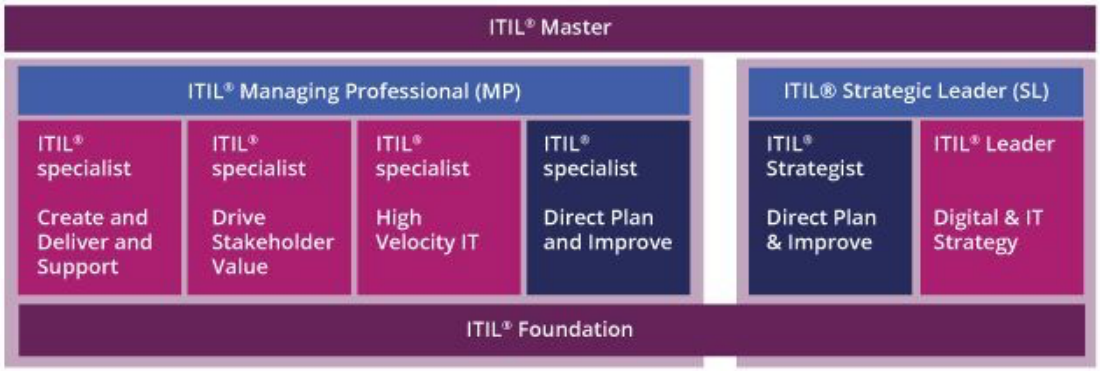

Figure 2: ITIL® 4 Qualification Scheme

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The learners holding some credits beyond ITIL® V3 Foundation have two recommended options to transition to ITIL 4 depending on their preference to achieve in the scheme.

OPTION 1: Candidates shall take-up ITIL®4 Foundation and any other module in their preferred area of interest or expertise, becoming an ITIL® Specialist or Strategist or Leader.

Candidates who do not have an interest in pursuing the ITIL® Managing Professional designation, are recommended to take-up the most relevant module in their area of practice/interest.

OPTION 2: If the candidate has achieved 17 credits from ITIL® V3 they will become eligible to take-up the ITIL®4 Managing Professional transition module.

The learner can continue to take-up the modules of ITIL® V3 exams until 2020, and accumulate the required points to take-up the Managing Professional transition course. This benefits candidates to fast track past the ITIL® V3 Managing Across the Lifecycle course and exam. (Note: The ITIL® V3 certification will be discontinued after 2020.)

The candidate has to ensure accumulating 17 credits to be eligible to take up the ITIL Managing Professional Transition module.

ITIL v3 Expert

Candidates who has achieved ITIL® V3 Expert can take up the ITIL Managing Professional Transition module as soon as it is released to achieve the ITIL Managing Professional designation.

Further if the candidate is interested to achieve ITIL® Strategic Leader stream, they can take-up ITIL® Leader Digital & Strategy module. Once they have completed both streams, they are eligible to move towards ITIL® Master.

1.1 IT service management in the modern world

Technology is moving at breakneck speed and is a continuous evolution in all aspects of life, right from an individual's preferences to consumer's behaviour and technology advancements. This has also created a stress on organizations that feel the need to evolve, sustain and grow. As depicted in the below picture, it is evident that the time taken to adopt to modern gadgets or products or services has shrunk. This is also a global phenomenon.

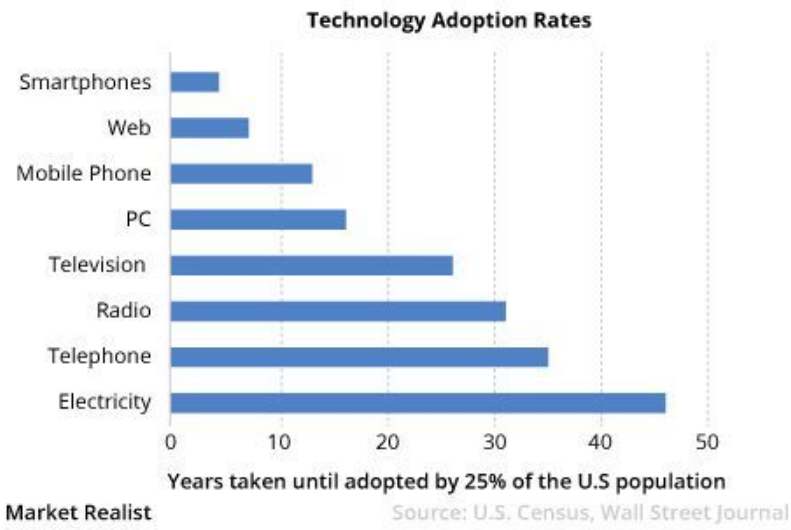


Figure 3: Years taken until adopted by 25% of the US Population

To cope up with this ever changing demand, organizations are forced to continuously innovate & progress, and create value proposition acceptable to consumers.

According to the World Trade Organization, services make up the largest and most dynamic component of both developed and developing economies. Services are the main way that organizations create value for themselves and their customers. Almost all services today, are IT-enabled, which means there is tremendous benefit for organizations in creating, expanding, and improving their IT service management capability. (Reference: ITIL4 book of AXELOS)

IT Services are enabled through the technology products which are also advancing very fast in the modern world. Invention of modern technology like cloud computing (ex: Infrastructure as a services), Machine Learning, Artificial Intelligence, Block Chain, Analytics etc., are becoming common place for IT Service enablement. This resulted in challenges to adapt, adopt the change and transform organizations & their practices, to enable them to remain relevant and successful.

Organizations need to bring in a balance between stability and predictability with the raising operational agility and increased velocity. Organization's capabilities are heavily dependent on the Information and technology. It has reached the stage where all the business organizations are relaying on these capabilities. The emphasis on cultural

movement to break down the silos and establish cross-functional teams are spoken about more often. Leveraging on the opportunities triggered by new technologies, new ways of working have been adopted and appreciated.

Likewise, the best practices considering the changing scenario of business environment has evolved & updated from time to time. ITIL®, the de-facto best practice for IT Service Management has also evolved since its inception, to keep up with the evolving technology and business environment.

ITIL®4 the latest release of IT Service Management best practice considers the dynamics of modern business environment and aligns to the modern best practices & frameworks of Agile, Lean, IT Governance, Information Security, DevOps etc.

1.2 The ITIL Service Value System

To create value to customers through IT enabled services, ITIL®4 considers Service Value System (SVS), that represent the various service assets (components) & Organizational activities throughout the service life cycle.

The Service Value System (SVS) depicted in ITIL®, facilitates and stresses on integration and coordination across the service value stream and provides direction to the organization through a strong and unified approach. It considers the need for flexibility, adaptability, and adoptability for organizations to enable sustainability and consistency.

The various components of ITIL® Service Value System (SVS) are;

1. Guiding Principles
2. Governance
3. Service Value Chain
4. Practices
5. Continual Improvement

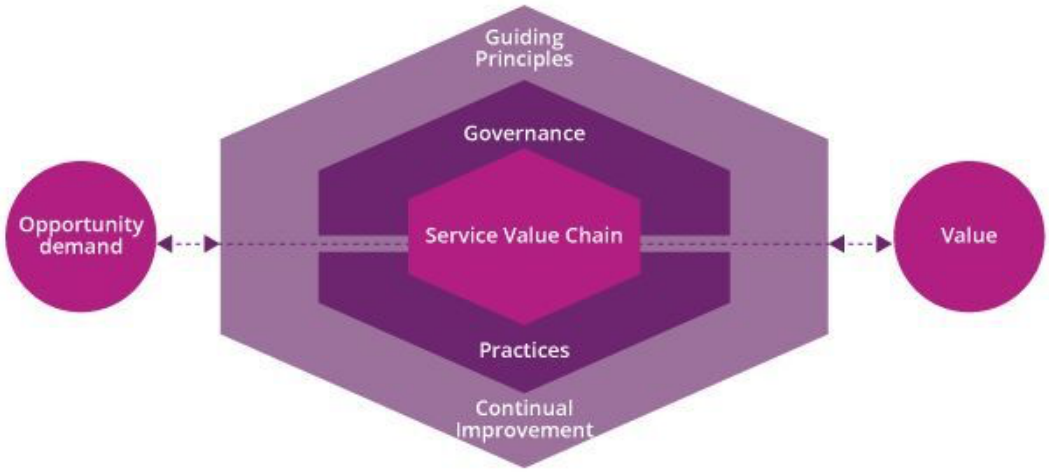


Figure 4: The ITIL® Service Value System (copyright of AXELOS®, reproduced under the license from AXELOS® Limited)

Guiding principles: These are the recommendations which guide an organization in all circumstances, irrespective of dynamics (changes) in its goals, strategies, type of work, or management structure. There are seven principles which are mentioned below;

- 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

Governance: An organization needs direction and an established control system, to ensure the achievement of goals and objectives. ITIL®4 stresses the importance of governance for a successful IT Service Management and considers governance as one of the critical components of a service value system. Governance basically refers to the Evaluation, Direction & Monitoring activities of a governing body of ITSM.

Service value chain: In an IT service lifecycle there will be a continual value creation & realization which needs a set of interconnected activities, which are performed by service provider organizations, enabling them to deliver a product or service, which creates value to its consumers and facilitates realization of value.

Practices: Practices are a set of organizational resources which are designed for performing work or accomplishing the objectives of the organization through achievement of objectives of practices. There are 34 practices. They are

- General Management practices – 14
- Service Management Practices – 17
- Technical Management Practices - 3

Continual improvement: Improvement of services, service performance, performance of service component etc., is needed for sustenance and growth of any organisation. In the absence of such efforts being put by an organization, it would fail to sustain and remain in the market. Continual improvements are needed to continually meet all the stakeholders' expectations.

ITIL®4 focuses on continual improvement and has recommended the ITIL® continual improvement model.

1.3 The Four Dimension Model

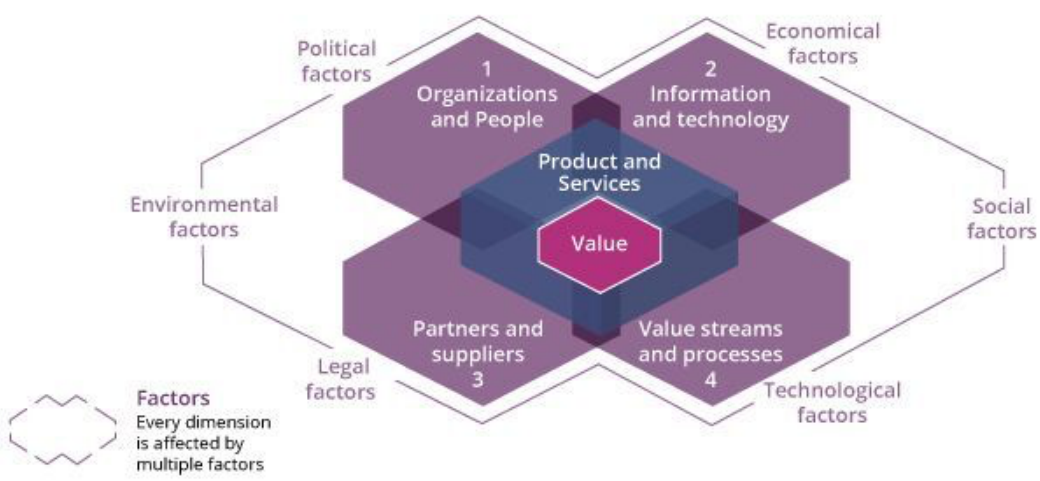


Figure 5: Four Dimension Model (copyright of AXELOS®, reproduced under the license from AXELOS® Limited)

A holistic approach is essential for effective IT Service Management. To ensure this the four dimensions of service management are outlined in ITILF, from which ITSM should consider each component of SVS. The four dimensions are:

- Organizations and people
- Information and technology
- Partners and suppliers
- Value streams and processes.

ITSM Organizations have to ensure & retain the balance & effectiveness of SVS, by giving an appropriate amount of focus on each of the four dimensions depicted. Each of these four dimensions will have influence from the various factors, which also need to be considered critically. These include Political, Economical, Social, Technological, Environmental & Legal (PESTEL) factors.

1.4 ITIL®, Agile & DevOps

Agile is a methodology and an adaptive approach which allows for rapid response to changing scenario of service environment. It is time-boxed and flexible. Agile ways of working give the teams an autonomy and flexibility by allowing them to self-organize, and facilitate greater collaboration between customers, users and teams.

With the changing scenario of service environment, it is essential to become Agile while doing IT Service Management. Following ITIL® helps organizations to optimize costs over time, improve accurateness in time estimations, quality of service and service delivery. Having ITIL® in place, allows Agile teams become more effective and enable themselves to become faster and more stable deployments, in the production environment.

Further, organizations can also reduce ongoing costs of the services as well as improve the coordination between Agile projects and other areas of the service/business. This brings greater focus on delivering best value and to become more effective and efficient.

Further, DevOps embraces the thought of Agile, ITIL & Lean in the context of CALMS (Culture, Automation, Lean, Measurement & Sharing) to create better values. DevOps is critical in today's IT World, and ITIL®4 complements it.

Summary of the Module:

To summarize, in this module we looked at the Introduction to ITIL4, list of Guiding principles, Service value chain, Governance, Practices, Continual Improvement and Four-dimension model

Key concepts of IT Service Management

The organization and individuals should have a shared understanding of the key concepts and terminologies defined in ITIL®. This is very critical to ensure the effective use of the framework and to address real world challenges of service management. Some of the most important concepts of IT service management, include;

- Co-creation of value and the nature of value
- Organization (Business), service provider organization, service consumer / customer, and all other stakeholders
- Product and services
- Service relationships & management
- Value: output leading to outcomes, costs and risks associated with service.

These concepts are applicable to all organizations and services, irrespective of the nature and underpinning technology. Before that, one has to have a basic understanding of the most fundamental question, “What exactly is Service Management”?

Service Management:

Service Management is “A set of specialized organizational capabilities for enabling value for customers in the form of services”.

Developing the specialized capability for an organization requires better understanding of;

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

Example: An organization being a service provider has to keep all the above-mentioned points and ensure the customer gets value by utilizing the services.

Figure 6: Remote Infrastructure Management Services – Logical Diagram

Let us take the example of an organization that provides remote IT Infrastructure monitoring services. This organization's capabilities includes the team that monitors the IT Infrastructure of customer, the tools, environment, processes, physical (display systems, cable, electrical, AC etc.) & IT infrastructure (servers hosting monitoring tool, laptop/desktop used by monitoring team etc.), Providing these remote IT Infrastructure monitoring services will form the specialized capability of the organization.

Performance of all these have to be monitored & managed by ensuring sufficient capacity, security, availability & continuity. Only then, the value creation to the customers by providing monitoring services is possible.

2.1 Value and value co-creation

By definition of ITIL4 manual of AXELOS, value refers to "The perceived benefits, usefulness, and importance of something". The term "Value" is used through-out the life-cycle of a service.

The value created by service provider will not be termed as value, until the customer acknowledges it and confirms the realization of the value. A service provider will deliver the services which will have intended objectives and directions, which should lead towards value creation.

Customers utilize the service and fulfill their requirements. Customer will perceive the service value, while utilizing the service, based on the service experiences. Accordingly, the service value is realized.

Understanding of the value is subject to the perception of stakeholders. They may be users, consumers of a service, customers, or part of service provider organization(s).

Therefore, value realization is always subjective and is based on the intended purpose of service utilization and the service experiences.

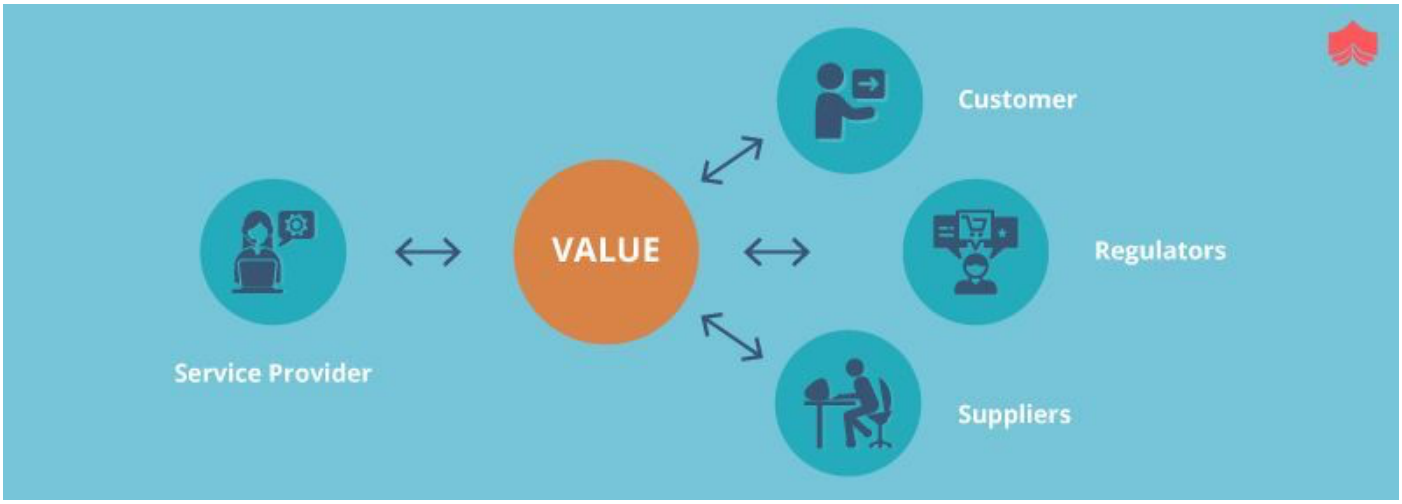


Figure 7: The Value model

To understand better, the value of the service (i.e. Remote IT Infrastructure management) which is discussed in "Service Management" section, let us understand why an organization looks for a service provider to monitor its IT Infrastructure.

One should not forget the evolution of modern environment of IT Infrastructure, which has become more dynamic and is now moving towards the cloud environment. With this changed / changing scenario, an organization, whose business is not associated with IT or related IT services, may not find it in their core interest to manage the technology environment. This will become the reason for looking for a service provider who can monitor and manage the IT environment.

Secondly, the modern environment of an organization cannot be imagined in the absence of IT Systems, irrespective of the business the organization is into. With this increased presence of IT & IT systems it is essential need for a business organization to manage their IT environment by a specialized organization. Therefore, one of the core areas of investments done by the organizations is IT and organizations strive to get more value out of it.

Now, while looking at the value created by "Remote IT Infrastructure Management", let us understand "WHY" of this service. That is, all the IT Infrastructure core components like server, network, database, storage etc. have to be up and running always to ensure the continuous availability of the IT Services. If any of the IT Infrastructure component (service assets) fail to function / perform, the IT services will go down. All the business services running on IT Infrastructure will also go down and business services will become unavailable.

If we assume a business as a bank and one of the services enabled through IT Services is "net banking" services, if any of the service components like the server hosting the net banking service portal, the network through which it is accessed, the server holding the account details for the account holders etc., goes down, the net banking services will not be available to customers of the bank. To ensure the high availability of the net banking services, bank has to monitor and manage the performance of the IT Infrastructure components configured for net banking services.

Higher availability of the IT components configured for net banking services, will result in high availability of the net banking services. So, the IT Infrastructure monitoring services, has to ensure identifying the IT components configured for net banking services and monitor the performance of those components for their performance and availability. Through this, the availability of the net banking services will be high resulting in managing the technology environment customer value creation.

Further, the service experience of the customer also depends on the other service interfaces like over the counter services, ATM services, mobile banking services, the banker on counter, the bank's product performance etc. Failing in any one of these services and service interfaces, will result in the customer losing faith in the bank.

This stresses the point that the value creation for the customer is a co-creation, with the active involvement of the Service professionals of service provider organization and the Service professionals of the Bank. So, the value is not just associated with the outputs created by an IT service or services, there should be an active involvement of the customer (bank) for value co-creation.

The following are involved to ensure service value creation and realization

- Achievement of Service Objectives
- Services Availability & Reliability
- Service Quality & performance
- Serviceability and Reliability ... etc.

2.2 Organizations, service providers, service consumers, and other stakeholders

The definition of an organization is, "A person or a group of people that has its own functions with responsibilities, authorities, and relationships to achieve its objectives".

The organizations vary in their size and complexity depending on the nature of the business the organization is into.

This could involve just a few employees, single location, single service / product organization or complex, multi people, multi-location, multi services / products organization. Further, its complexity also varies with the type of business and business environment.

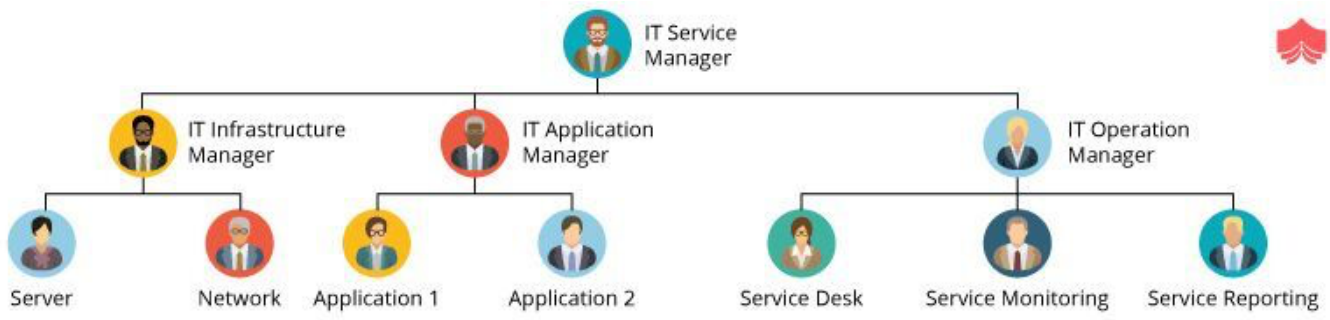


Figure 8: A typical Organization Structure for IT Service Management

The structure defined and adopted by organizations will be based on the dynamics of the business and business environment the organization is involved in. This would also vary based on the evolution of the business environment & market dynamics. Organizations should keep evaluating these dynamics on continual basis (periodically) to ensure sustainability & growth.

Further, there are many different stakeholder types for IT service management where each of those stakeholder's needs and dynamics has to be understood for creating value. Understanding the context of service consumer is very crucial.

Stakeholders in the organization utilize (consume) the service, service provider organization, Service partners & suppliers etc. The defined organization structure, should consider all the stakeholders & understand stakeholder needs. Each role in the organization will have specific responsibilities and to fulfil their responsibilities they need to interact with other stakeholders regularly. The effectiveness of the organization depends on the level of alignment each stakeholder can bring in to the aspect of the interaction. A successful organization is one which has full & correct understanding of the stakeholders they are engaged with, both internal and external.

The role of an organization is defined based on the kind of engagement they are into with a context. The above shows an example of "Remote Infrastructure Management (RIM) services", which is availed by a bank, in this context the service provider provides the RIM services, whereas bank will be the customer. Further bank will become service provider to its account holders and the account holder will become a customer of the bank; in other words, the consumer of the services of the bank. Accordingly, the consumer of the bank's services, is also stakeholder of RIM service provider, in the context of ensuring the performance of service components monitored by them, since the failure of an IT Component directly impacts the consumer of the bank, which leads to dissatisfaction of the customer i.e. the bank.

Taking this alignment into consideration RIM service provider should engage with an organization which enables them to manage the services to create value for the ultimate consumer of the bank's services. This requires a typical IT Service Management organization, as depicted above, with effective IT Governance, which provides the required direction and Service relationship management to ensure the service value realization by the customer, through IT Services provided by the service provider.

Ultimately, the term organization refers to those who provide services and receive services. That is the Service Provider and Service Consumer. Both need to have the organizational structure that enables them to align with their business dynamics and ensure value creation to their respective customers (or consumers).

The organization in the service provider's role should have a clear understanding of its consumers, in a given situation and all the other stakeholders who are in the associated service relationships.

Some Key definitions as defined in ITIL® books, for the term “customer”, “User” & ‘sponsor’ are as below:

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

2.3 Products and services

The main focus of IT Service management is IT Service that is to ensure the delivery of the services as per the need of the customer. Every service is made up of service components i.e. products & services, which are configured a certain way to create a service. All these service components have to be monitored and managed to ensure the achievement of the service objectives.

As per the ITIL® books the following are the definition of products and services;

Product: A configuration of an organization’s resources designed to offer value for a consumer.

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

Every product produced by an organization will have its specific features and functionalities which would fulfil the need of each consumer group for whom the product is intended. Further the products are configured to suit the need of the consumers.

For example: A router with certain features and functionalities like number of ports, IOS is used in the network of an organization and they are configured (i.e. IP address, routing etc.) to suit the need of the organization.

A product when it is produced is not intended to be used by one set of consumer groups only, it is produced to address several different consumer groups.

The product will be comprising of various components, some of which are visible to some consumers and others not visible to consumers. The parts which are visible to the consumers do not embody the entire components of the product. It encompasses all the components needed for that product to perform. The consumer of the products configures it to suit their requirements.

Similarly, service is also made of many service components which includes services and products. Consumer of the service will have an interface to use the service which does not represent all the components of the services, instead only to those interfaces which are required to access the services.

For example: The employees of the organization use intranet portal to access the HR services. Here, the intranet portal is the service interface, whereas the servers, LAN service etc. are also present which ensures the service availability to employees.

Service Offerings: A 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. (Reference: ITIL4 book of AXELOS)

Service offerings may include;

- Goods
- Access to resources
- Service Actions

Goods to be supplied to a consumer. Goods are supposed to be transferred from the provider to the consumer, with the consumer taking responsibility for their future use. Some of the examples of goods are a physical server, Mobile phone, laptop etc. The ownership of the goods is transferred to the consumer and consumer should take responsibility of the goods and its future use.

Access to resources granted or licensed to a consumer under agreed terms and conditions. The resources remain under the provider's control and can be accessed by the consumer only during the agreed service consumption period. Some of the example are access to the mobile network, or to the network storage or to a cloud environment etc. The ownership is not transferred to consumer, where the access is granted for the period of agreement (terms & condition) or license provided. The consumer can only access during the period of licence and terms & conditions.

Service actions performed to address a consumer's needs. These actions are performed by the service provider according to the agreement with the consumer. Some of the examples are, user support like service desk, where the service actions are performed to fulfil the needs of the consumer. In this example of service desk, resolving the incidents of the users will be one of the service actions.

2.4 Service relationships

Service relationship refers to the model of engagement that the service provider and customer will have with each other to co-create value. An organization should always strive & do more than simply providing a service. There needs to be a collective effort and cooperation to create service value.

To establish the service relationships, organization has to envisage the alignment and value cascading effect from organization to organization and co-create value. In a service relationship, the organizations i.e. service providers &

customer (service consumer), should work together towards creating value. These dual roles are not mutually exclusive, but an organization usually provides and consumes a number of services at any given point in time.

As per the definitions depicted in ITIL® books of AXELOS, the “Service Relationship” refers to, “A cooperation between a service provider and service consumer”. Service relationships include service provision, service consumption, and service relationship management.

Service provision refers to the activities performed to provide services to service consumer, by a service provider organization. This includes;

- management of all the services provider’s resources, which are configured to deliver the service. That is, hardware, software, supplier’s services etc.
- Providing access to the users (the service consumers) to access these resources like access to cloud services mentioned earlier
- Actioning the agreed service actions, to accomplish the service results like resolution of incidents, configuration of a service component etc.
- Service level management of all the services provisioned and managed throughout the service lifecycle and continually improving the service levels & service performance
- It may also include the supply of goods, like supply of products which are ordered by the consumer through an ecommerce portal like Amazon or eBay.

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

- management of the consumer’s resources which are required to access & use the services by consumer. For example, the consumer resource can be a router or network switch, where the internet services from an internet service provider is connected through which consumers can use the internet services.
- Service actions performed by users, including utilizing the provider’s resources, and requesting service actions to be fulfilled. **F**or example, opening the internet portal through internet browser & entering the login credentials to access the bank account, through net banking services
- Service consumption may also include the receiving (acquiring) of goods. For example, logging in and ordering goods / products in an ecommerce portal like Amazon or eBay websites.

Service relationship management:

As mentioned earlier the service provider and service consumer have to perform the activities to ensure the co-creation of value; continually; and also ensure that the services achieve agreed service levels and are available as per the defined / agreed service offerings.

Whenever a service is delivered to a customer, by the service provider, the service provider has to create new resources to facilitate / enable the service to consumers, so that services consumer gets the necessary platform to customize or modify their existing services. This would further enable the service consumer of a service provider to provide services to their customers.

In other words, the service consumer is using the new or modified resources to create its own products to fulfil the needs of their target consumer group, thus becoming a service provider. These interactions can be seen in the figure below i.e. Service relationship model.

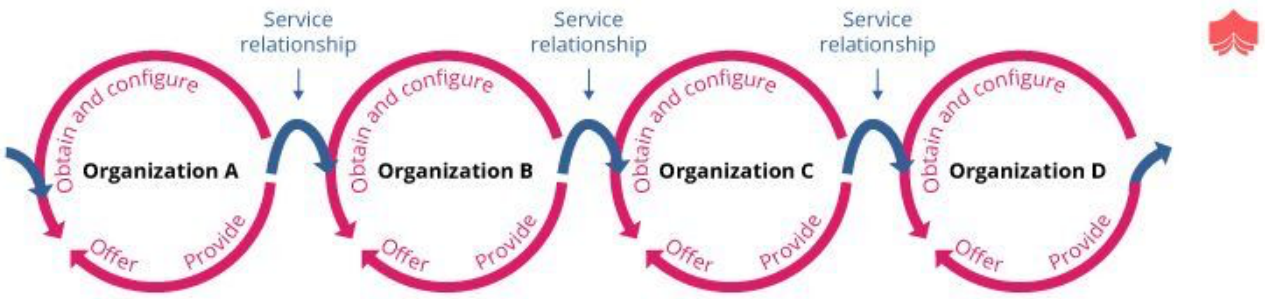


Figure 9: The Service Relationship Model (copyright of AXELOS®, reproduced under the license from AXELOS® Limited)

For example, An Internet service providers' services are delivered to a bank, wherein the bank receives these services & configures it to enable it to provide a net-banking service. Further the consumer or banking services, is enabled to do the necessary transaction in their account (like payment of invoice, or invest on new services / project of their business etc) and this loop continues further.

This flow of services with continuous value creation requires an alignment & understanding of service relationship

2.5 Value: outcomes, costs, and risks

While understanding the key concepts of the IT Service Management, it is interesting to see that the value of a service is not just its creation. It is subjective & depends on the individuals & groups consuming the services.

To understand this better, let us assume a scenario where an individual living a forest is brought to a city where the environment and its dynamics are different. This individual, used to living in an environment that is not accustomed to fine dressing, cosmetics, make-up etc., may initially have a culture shock in the city.

Further, they are taken to a restaurant, the customers are greeted and treated well, food is serviced in a dining table, there is a chair with a smooth sofa, a chef to cook, a waiter to serve and other facilities which all come at a cost. This may frighten that individual irrespective of the kind of service being provided.

In this case, for those who are privileged and utilize the service of the restaurant regularly, it may be a normal affair. But for this person who has come from a forest, it might come as a shock, or a frightening or extreme experience.

If the person stays there for long and gets used to this environment, and continues availing the restaurant services, there may be change of perception and that would lead towards, “give me more or make it better”. This is a normal, natural tendency of a consumer. This has led towards evolution of technology & practices to ensure continual value creation.

From this it is evident to us that, value realization is perceived rather than being created.

For example: Let us assume an organization decides to introduce an HR intranet portal to enable its employees to submit their claims like leaves, local conveyances etc. Assuming, currently it is done manually, which is taking more time and tedious transaction leading to errors and delay. So, in this scenario the expected results can be;

- Output – Intranet portal for claims submission
- Outcome – improved speed of clearance, Reduced errors etc.
- Value (Benefits) – Increased productivity of employees

The above examples help us to understand the real meaning of value. Ideally, a value has to be created by utility & warranty of the services, with the reduced impact of affected services, cost & risk where the outcomes should be supportive.

By definition provided in ITIL® books of AXELOS,

Output refers to, “A tangible or intangible deliverable of an activity”

Outcome refers to, “A result for a stakeholder enabled by one or more outputs”

It is very important to understand this difference, which is evident in the example mentioned above. It is very easy to visualize and understand the output and outcome, while we refer to such examples which are in a controlled environment like an organization.

But in cases where the organization has no easy access to these services, like retail services, it is challenging to describe and narrate easily. So, organizations do these through survey, consumer feedback, marketing campaign etc.

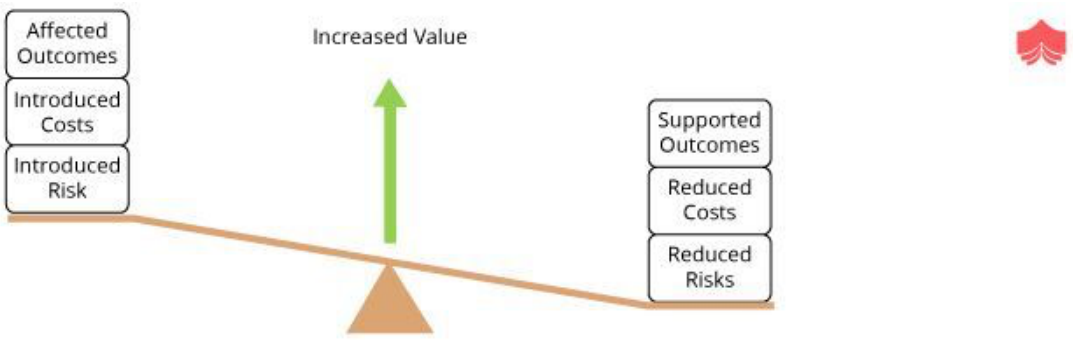


Figure 10: Achieving Value: Outcomes, Costs & Risks

Further, while we speak about value, we need to understand about the utility, warranty, costs & risks.

Utility refers to, the features and functionalities of the product or service, which offers to meet a particular need of the consumer. Utility addresses the point 'what the service does' and what the service is used to determine. Is a service being 'fit for purpose'. Services with utility must support the performance of the consumer & remove constraints from the consumer or at least one of these.

Warranty refers to assurance that a product or service will provide and meet agreed requirements. This means 'how the service performs' and whether the service is 'fit for use'. Warranty, basically refers to and addresses issues of service ie availability, capacity, security, and continuity.

For example: Referring to the HR portal scenario, the utility of the portal services can be;

- Submission of claims,
- scanning & uploading of the proof documents,
- Defined templates, speed of processing etc.

whereas the warranty shall refer to;

- the availability of portal like 24/7 available,
- can provide the concurrent access of 1000 users (capacity),
- every user has unique credentials to login (security),
- having a secondary site to ensure the continuous availability of the services even after primary data centre fails due some reasons (continuity)

Cost refers to the, "amount of money spent on the specific activity or resources while creating the service, provisioning the service and managing the service".

This involves the money spent on service components like hardware, software, facility, people services etc., which are essential for a service.

Besides, from the perspective of the customer, while the services incur cost during its lifecycle for the consumption of the service, it also removes certain cost by utilizing the services.

For example: for HR Portal services, the service components are website, hosting server, internet, data centre, skilled people etc., where these are the cost components incurred by the organization, whereas the cost associated with printing, travel to submit the claim, cost impact due to impact productivity etc.

Risk refers to the uncertainties associated with the services throughout its lifecycle. It may cause harm or loss, and it may make it more difficult to accomplish the service objectives. The risk can be positive or negative. The positive risk is called as opportunity and negative risk is called as threat.

Identification of the risk, assessing & analysing, defining & implementing a risk response throughout the lifecycle of a service is essential. Risk is assessed qualitatively and quantitatively. The qualitative risk analysis is done by checking the probability and impact of the risk by defining the probability and impact matrix. The quantitative risk analysis checks the risk impact by quantifying it with a specific cost of impact.

In the service perspective (basically perspective of service consumer), if we look at the risk scenario risks are removed by utilizing the services and at the same time, some risks are introduced. The value creation happens when the risk removed vs risk introduced, as depicted in the Figure 12: Achieving value: outcomes, costs & risks.

In the example of HR portal for claim processing, risks removed can be;

- delay in submission & processing claims
- impact on productivity
- Employee dissatisfaction etc.

whereas, the risks introduced can be;

- unavailability of the HR Portal
- degraded performance
- Time taken by an employee to get used to portal environment etc.

Summary:

To summarize, in this module we looked at the key concepts in service management, value and value co-creation, organizations, products, services, consumer value, benefits, costs, risks, and how important it is to understand the needs of the customer when designing and delivering services

ITIL®4 service value system (SVS)

3.1 Service value system (SVS) overview

The visualization and establishment of Service value system in an organization is an essential need of modern business environment. ITIL®4 considers Service Value System (SVS), which depicts the representation of various service assets (components) & Organizational activities throughout the service life cycle.

In entirety the Service Value System (SVS) depicted in ITIL®, should facilitate and stress on integration and coordination across the service value stream and should provide direction to the organization through a strong and unified approach, considering the need for flexibility, adaptability, adaptability by organizations to enable sustainability and consistency.

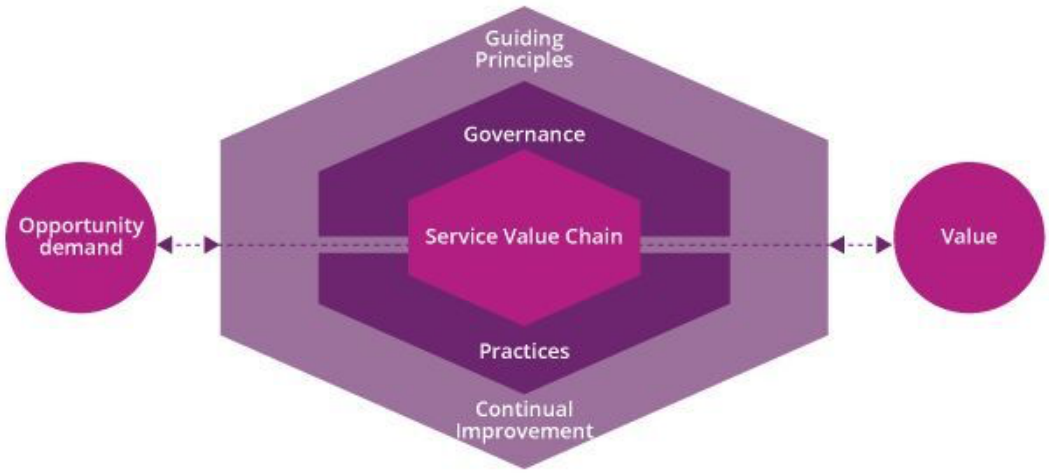


Figure 11: The ITIL® Service Value System (copyright of AXELOS®, reproduced under the license from AXELOS® Limited)

The various components of ITIL® Service Value System (SVS) are;

- Guiding Principles
- Governance
- Service Value Chain
- Practices
- Continual Improvement

3.2 Guiding Principles:

To ensure the shared understanding, establishing common approach for service management across the organization and making appropriate organizational decisions & actions, the ITIL® guiding principles provide the

required guidance. These guiding principles create the foundation required for establishing the culture and behaviour across the organization (i.e. strategic decision making in day-to-day Operation)

There are seven guiding principles. Those are;

- 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

For Example: Let us assume a scenario where an organization decides to implement an HR management portal with the features, attendance & leave management, claim processing, payroll processing, etc. Currently, it is done manually using MS Excel worksheet which is tedious and time consuming, which would lead to delay in processing, decreased production & employee satisfaction.

By doing this project organization can;

- improve productivity & employee satisfaction (Focus on value)
- assess the current scenario and initiate the project from there (Start where you are)
- decide on introducing the base module first and release the additional modules progressing iteratively (progress iteratively with feedback)
- engage & communicate closely with all the stakeholders to create awareness and increase usability of the application (Collaborate and promote visibility)
- Visualize, draft & provide a bigger picture of the application and its features, functionalities, modules etc. (Think and work holistically)
- Ensure the processes defined for each module have appropriate, relevant activities which makes it smoother to perform (Keep it simple and practical)
- Keep reviewing the performance for improving and optimizing the processes, resources & standardized with the use of automation (Optimize & Automate)

3.3 Governance:

Governance is a formal framework which provides a structure for an organization to ensure that there is a means for an organization to establish direction and control. All the investments made by the organization support business objectives and create value.

Aligning an IT strategy to business strategy is an essential need which is fulfilled by the establishment of a formal governing structure, both at organization level & IT. That is, an IT governance is an integral part of overall enterprise governance. Through a formally established framework, an organization can achieve its strategies and goals, by producing measurable results.

In the absence of the direction from a governing body, it is almost impossible for an organization to move forward in the specific direction and make the investments justifiable and initiatives worthwhile.

In the above-mentioned example of organization's decision to implement an HR Application, will be made based on the direction set by the organization to accomplish business excellence through continuous evaluation and improvements. In the absence of such directions, there is no context to the organization to move forward.

3.4 Service Value Chain:

The ITIL service value chain provides an operating model for the creation, delivery, and continual improvement of services. It is a flexible model that defines six key activities that can be combined in many ways, forming multiple value streams. The service value chain is flexible enough to be adapted to multiple approaches, including DevOps and centralized IT, to address the need for multimodal service management. The adaptability of the value chain enables organizations to react to changing demands from their stakeholders in the most effective and efficient ways. (Ref: ITIL4 book from AXELOS®)

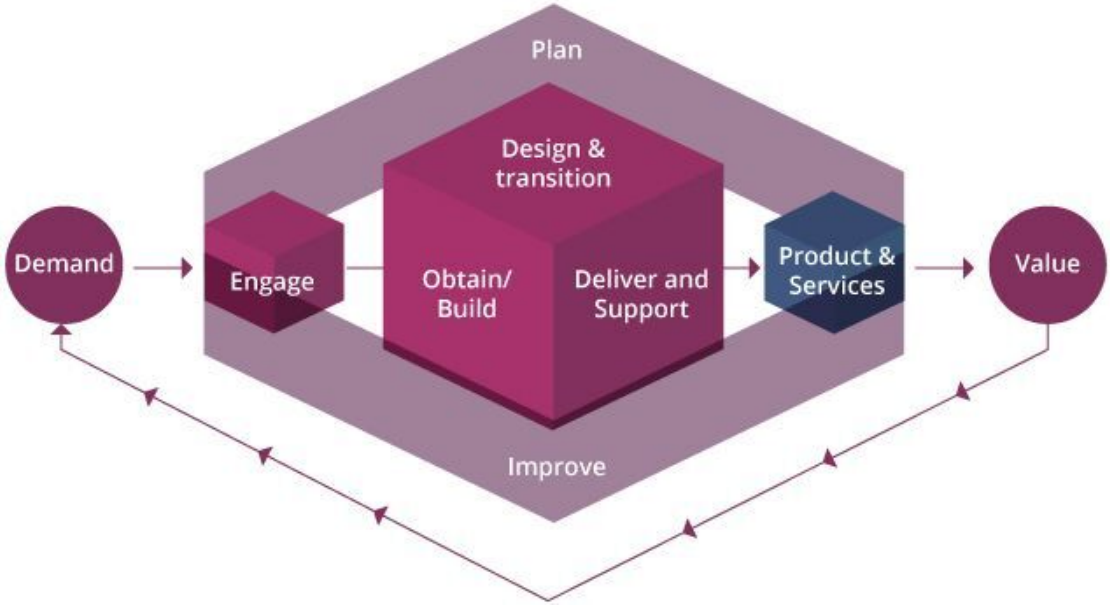


Figure 13:The Service Value Chain (Ref: ITIL4 book published by AXELOS®)

The central element of the SVS is the service value chain, an operating model which outlines the key activities required to respond to demand and facilitate value realization through the creation and management of products and services. (Ref: ITIL4 book from AXELOS®)

The concept of value change was first described by Michael Porter in his best-seller, "Competitive Advantage: Creating and Sustaining Superior Performance", during 1985. The value chain refers to the sequence of activities / processes that an organization performs to provide a value, through its Services or products to the customer / consumers.

For Example: The figure depicts the value chain activities of HR Service in an organization, which would be appropriate to portray the contributor for value chain for the services provided by HR to the employees of the organization.

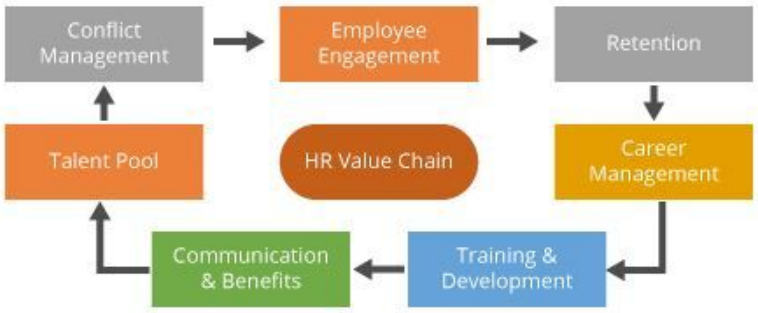


Figure 14: HR Value Chain Activities

3.5 Practices

A practice is a set of organizational resources designed for performing work or accomplishing an objective. These resources are grouped into the four dimensions of service. The ITIL SVS includes;

- General management practices (14),
- 17-Service management practices (17),
- 3-technical management practices (3).

In ITIL®, a management practice is a set of organizational resources designed for performing work or accomplishing an objective. The origins of the practices are as follows:

- The 14 General management practices have been adopted and adapted for service management from general business management domains.
- The 17 Service management practices have been developed in service management and ITSM industries.

- The 3 Technical management practices have been adapted from technology management domains for service management purposes by expanding or shifting their focus from technology solutions to IT services.

For Example:

- Information Security Management is one of the General Management Practices which is applicable universally across the organization including the HR Management services provided by the HR Function, like credentials to login to portal, access cards for attendance etc.
- Incident Management is one of the Service Management Practices which is applicable only to the IT Services provided. For ex: If HR portal is not accessible (unable to browse), the portal will become unavailable to users (employees). The portal has to be brought up by resolving the incident.
- Software Development and Management being the technical management practices, very specifically focus on technical activities for software development & management.

With this bifurcation of practices, it helps ITSM organizations to focus on relevant practices and visualize correctly.

3.6 Continual improvement:

Continual improvement of services focuses on improvement by increasing the efficiency, maximizing the effectiveness and optimising the cost of services, resources and the underlying IT service management practices. The can be ensured through identification of improvement opportunities continually, throughout the lifecycle of a service & service value chain.

The primary objective is to continually align and re-align IT services to the changing business needs/demand, by identification and implementation of improvements to IT services that support business processes. Continual improvement should look at improving process effectiveness, efficiency and cost effectiveness.

In our example of HR Portal services, the service experience of the employee is improved by introduction of services through the portal. Further improving the efficiency and effectiveness through continual improvement of portal services is by adding more features like, improvement in portal performance, introducing employee connect programs, newsletter etc.

3.7 Opportunity, demand, and value

Opportunity and demand are the key inputs to the service value system. Opportunities are the ones which exist in the market and signify the available options or various possibilities enabling the service provider to add value to all the stakeholders or improve the organization’s capability to provide services. Demand also exists (or should exist) along with opportunities, which refers to the need or desire for services or products by a customer or consumers (both internal and external to the organization).

The perceived benefits to the consumers of the services, the usefulness of the services, and the importance of some needs to be fulfilled etc.should be the outcome of the service value system which can be termed as value. The value created by service value systems should also ensure the ability to create value for a wider group of stakeholders.

To create value continuously, the service management has to function as a system, and as a whole. The service value system depicted in ITIL®4 defines;

- the inputs to this system i.e. opportunity and demand,
- the elements of this system
    - organizational governance,
    - service management,
    - continual improvement,
    - organization's capabilities and resources
- the outputs
    - achievement of organizational objectives and value for the organization,
    - its customers
    - and other stakeholders.

Opportunity & demand exist in the market to be fulfilled. A service provider, should realise these opportunities and demands in the market before strategizing & creating a service which is appropriate to address the needs and improve the customer experience.

For example, in the scenario of people purchasing tickets for movies or sports events standing in queue, there exists an opportunity to enable purchasing the ticket online by introducing an online portal service or mobile app service. This helps people to save their time & energy, plus enjoy the experience of purchasing tickets hassle-free. Before introducing the service, the service provider has to check the feasibility of introducing the services. Reason being that there should be access to internet, computer, a mobile network to the people who use these services. Else, the services introduced are not utilized and that results in a loss to the service provider.

By creating and delivering the appropriate services to customers to fulfil their need, the service should not ignore achievement of the organizational objectives and value for the organization. It is not only customer focused; the focus should be on all the stakeholders. The interest of all the stakeholders has to be considered and their objectives have to be fulfilled. In the above described scenario of online portal or mobile app service, introduction of service creates value to the service consumers, however the objectives of the service provider organization, ticket providing partners (like movie theatre owners, sports event organizers etc.) should also be considered and their objectives must be achieved.

Summary:

To summarize, in this module we looked at the various components of ITIL® Service Value System (SVS) and their brief details. The components of SVS are;

- Guiding Principles,
- Governance,
- Service Value Chain,
- Practices,
- Continual Improvement

ITIL®4 Guiding Principles

The guiding principles defined in ITIL®4 book embody the core messages of ITIL and service management in general, supporting successful actions and good decisions of all types and at all levels. The guiding principles are the values of propositions that offer guidance on the right behaviour for doing certain things. Principles are universal, self-validating and empowering which have to be followed, throughout the lifecycle of the services.

There should be a direction set followed (aligned) by the users & practitioners, which is an essential characteristic of a system. Principles reflect the purpose of the system's design, its objectives and ensure the effectiveness of operation and value realization, which would be impossible if principles are not considered.

The guiding principles are used to guide organizations in the work adopted by an organization for an approach to IT Service Management. These guiding principles are adapted for the specific circumstances and needs of an organization. These support & encourage organizations on continual basis to ensure the success of IT Services.

For example: If one of the principles of an organization says “High integrity”, every employee of the organization has to demonstrate a high level of integrity in everything they do, at all levels. This principle cannot be different for different individuals, different roles, different positions (authority) etc., and will not change from time to time.

There are seven principles defined in ITIL®4, which are listed below;

1. Focus on value
2. Start where you are
3. Progress iteratively with feedback
4. Collaborate and promote visibility
5. Think and work holistically
6. Keep it simple and practical
7. Optimize and automate

These seven principles complement the principles mentioned in other best practices and standards like COBIT, Agile, DevOps, lean etc., which enable the IT service management practices of an organization to align & integrate to compliment with these best practices and standards.

4.1 Focus on value

The value of the services is always determined in the perspective of customers. Every service or product should create value to customers and its stakeholders. More than the creation of value, it has to be realised and acknowledged by the stakeholders, upon value realization.

Every service, produces an output which can be measured and checked through its utility & warranty. While focusing on value, one should know who is being served. Therefore, in this scenario the service provider must determine the service consumer and the key stakeholders i.e. customers, users, or sponsors etc. By doing this, the service provider will obtain clarity on who will receive value from that which is being delivered, modified or improved.

For example: An IT Service like monitoring and managing the IT Infrastructure of the customer is aimed at ensuring the availability of the services. Firstly, In the absence of the monitoring and managing services, organization cannot learn the variations in the infrastructure which impacts the availability & reliability of the services. Why should one learn the variations in the infrastructure!? By learning those variations in performance of IT Infrastructure, one can take the necessary actions proactively and ensure the high availability of the IT Services.

Monitoring and Management services should focus on value, by aligning to the business objectives and availability of an IT service, whose IT Infrastructure is monitored by monitoring and management services.

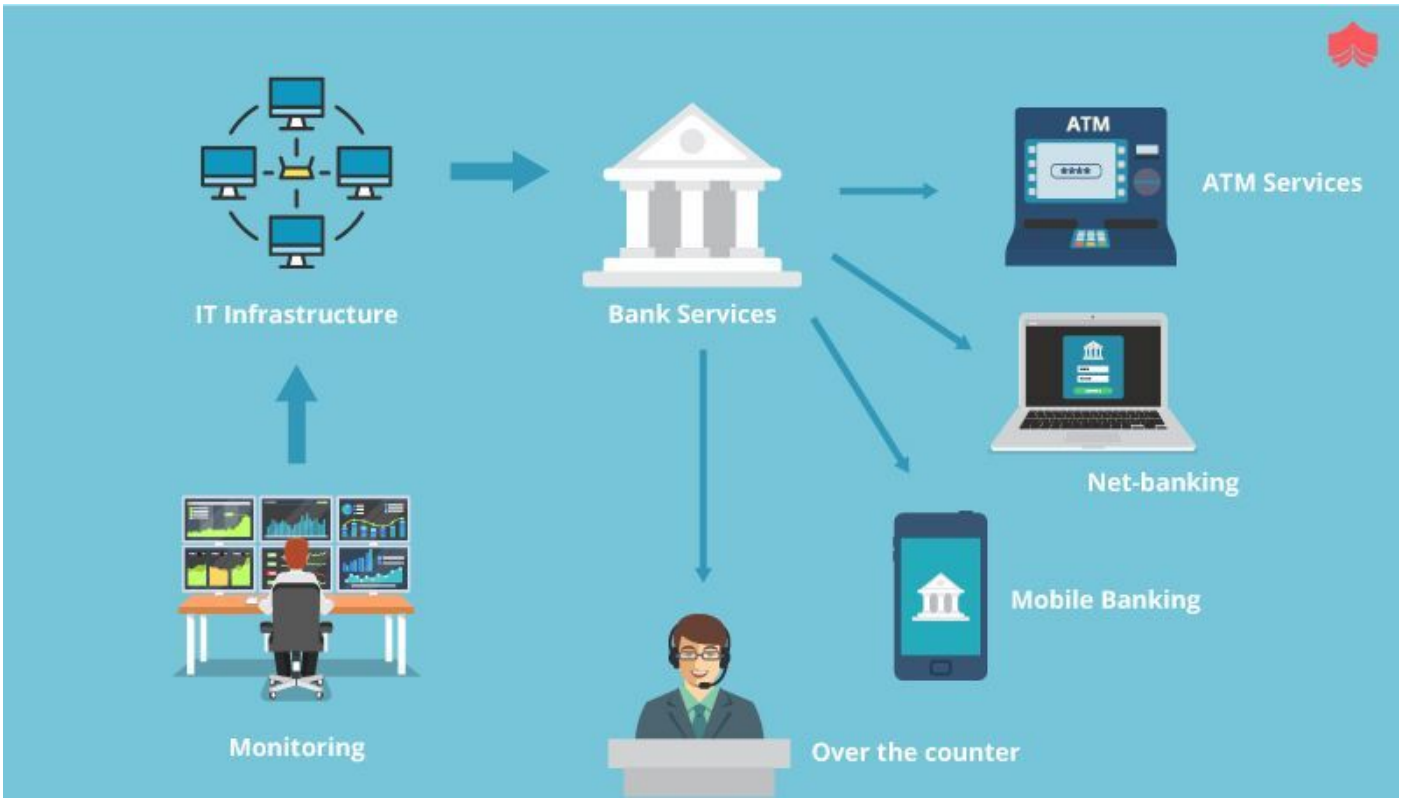


Figure 15: The Monitoring and management of IT Infrastructure hosting Banking Services

Further extending on the example of the bank, let us assume, that the monitoring and management services are provided for a bank to monitor and manage the IT Infrastructure of the bank. The bank provides banking services, facilitating the customers of the bank to achieve their objectives. There are various bank products which are fulfilled through different service channels like over the counter, ATM, net banking and mobile banking.

All these services of bank have an underlying infrastructure on which the banking applications are hosted. Any failure in any of the IT Infrastructure components results in unavailability of banking services, impacting the customer of the bank. **For example:** failure in the server hosting mobile banking application results in unavailability of mobile banking application.

So, it is essential for an IT service provider to visualize the value, which makes sense to the customer availing the IT services. Else, it may not make sense to receive the services from an IT Service Provider.

The service provider must have a clear understanding of what the value is in true sense, for a service consumer. The service provider should always know this by asking the following questions:

- 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 service consumer?
- the risks involved for the service consumer?

Check on the following points by answering the questions relating to the example of bank;

- Consumer of the service (monitoring and management services) is bank
- The service helps the bank to learn the behaviour and performance of the IT Infrastructure
- By obtaining the details of the behaviour of IT Infrastructure, bank can initiate the action to sustain & improve the performance of the components & hence improve the availability and reliability of the IT Services
- The financial consequences for the service consumer (i.e. bank), here it helps bank to provide best of the service experience and retain the customer
- The risk involved for the service consumer bank is mostly more of positive risks as the failure of monitoring services do not bring down the banking services. Besides, if monitoring fails to provide the quick updates, that may lead to degraded performances of the IT Infrastructure components as their performance tuning does not happen from time to time.

So, it is inevitable that an IT Service Provider has to understand the value, the service has to create to its consumers and stakeholders. Accordingly, the service alignment should take place. Only then the services can make sense to the service consumer, else it will not.

4.2 Start where you are

Organizations on the verge of building new systems tend to scrap the existing system or try establishing the idealistic scenario to create / improve the new system. In this tendency, organizations will lose out on the

opportunities of leveraging on existing environment, practices, technologies which are useful while establishing the new or improving the existing ones.

It is extremely unproductive to take such approaches, which would result in waste of effort, time, and loss of existing systems, services, practices, people, process, tools & technology platforms. These could have provided value which are significant in optimizing and improving the value. It is always recommended to first leverage on the existing service before considering anything further.

Firstly, the existing system has to be assessed, measured and observed to get a proper / correct understanding of the existing state. The possibility of re-using them as applicable & feasible should then be determined. This will provide the required insights of the existing system and guide in making the appropriate decisions. It is important to understand that, all decisions made to bring about changes in the existing system, must be made with clarity, based on the existing reality.

It is also important to assess the current state by eliminating biased data and incorrect assumptions which would lead towards wrong conclusions and decisions. The individual who does the assessment and recommendations needs to have specific knowledge about the existing reality, and the state of the proposed new services and objective of the initiative. There should not be any bias while doing the assessment.

The measurement metrics used (considered) for assessment should be appropriate, which can provide the insight, supporting the analysis for right decisions. The metrics established have to be meaningful and should help interpreting the required outcome.

For example, if in a service desk the call closure performance is checked regularly to reduce the duration of call closure, it might result in improving the call closure performance. However, it Would result in too much focus on minimizing time, rather than resolving the call (**for example**: incident) to the satisfaction of the user.

Figure 16: steps to apply the principle "Start where you are"

4.3 Progress iteratively with feedback

Every service which is established, is done so by taking a step by step approach. It is sensible and practical to accomplish it iteratively rather than doing everything in one go. This will help in organizing the work into smaller and manageable pieces, which can be executed in order and with appropriate control.

The iterations which are sequential, are to be sequenced based on the need. It may be for establishing the new services or improving / modifying the existing ones. The individual iterations should consider both the requirements and the resources available and have to be manageable. This will ensure that the results produced should be tangible and are returned in a timely.

As the iteration progresses there should be continuous feedback, for evaluating and validating the progress of the changes being done. Initiatives to introducing a new service or improving the existing service etc., if done in an organized way by having multiple smaller iterations & efforts, can ensure success for the overall initiative. This will provide the opportunity for continuously evaluating (re-evaluating) & validating (re-validating) the progression, which helps in aligning to the value intended to be accomplished.

Today's scenario of the market is very dynamic in nature where the situations can change rapidly with new priorities and needs. This puts a stress on altering the pace or direction of the iteration and getting things done quickly. The quick change/adjustment to a scenario is only possible by having smaller iterations with feedback loops. The feedback has to be obtained throughout the cycle by making necessary adjustments based on the feedback.

The structured feedback throughout the lifecycle of the service or products helps in understanding the value perception & preferences of the user of the services, how effective or efficient are the activities across the value chain, governance and controls, management (or engagement) with partners and suppliers, understanding the demand for the services and products.

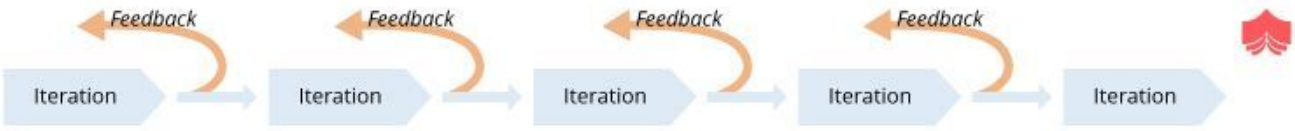


Figure 17: Continuous feedback in every iteration of value stream

This helps in flexibility, allows for quicker responses to change in users or customer's needs, improved capability to quickly identify and unearth the failure and improvement of the quality overall.

While applying the principle, "progress iteratively with feedback" it is essential to keep in mind that, one should not get stuck in indecisive analysis. One should look at the bigger picture and visualize the value stream and establish the required iterations and feedback mechanism. This would enable the movement to become faster and quicker.

For example: Assume a scenario where the organization decides to build an application for the finance department. While the ITSM understands the requirements of the finance department, i.e. modules for accounting, billing, payment processing etc., these modules should be there along with the capabilities of communication, reporting etc. Visualizing the entire application requirements while the product architecture is being created, provides an overall picture of the application. However, one cannot create the application in one go as it will become tedious and there may be chances of missing out on many points, resulting in an incomplete product.

While visualizing the entire architecture of the application, the sequencing of the modules, which are to be produced and in which order, should be defined. Further, a deeper dive is needed into the individual modules along with the finance department representatives to bring more clarity and relevance and accordingly the activities of the modules must be sequenced.

Further, while producing the product, obtaining continuous feedback will help in checking the progress as well as the performance of the module being considered for development. The absence of such feedbacks will not help in getting the insights required about the actual development being initiated and later correction would become difficult. The objective of this principle is to ensure that the defects are not allowed to flow towards the downstream of a value stream.

4.4 Collaborate and promote visibility

While an organization takes up an initiative, the involvement of the right set of people is essential for making the right decisions. This involves assimilating right information, which is more relevant and appropriate to take forward the initiative, with increased probability of success in the long run.

Today's organizations are emphasising more and more on enabling the collaborative culture to bring in innovative solutions. Ideas involving different perspectives (of experts), views, and important insights helps towards establishing better working conditions, better policies and practices etc.

Working together in collaboration is emphasized over working in a silo culture. Which means, bringing excellence through involvement of many, rather than depending on just individual excellence.

The silo culture can be a result of the existing organizational structure/belief that does not promote a collaborative culture, refuses encouragement and empowerment, and does not change established processes & practices, communication methods used etc.

Working together in collaboration is the way forward to establish and achieve the required trust and bring improvements in making the results and action visible. This would further ensure the enhanced information flow with increased awareness of the system.

Figure 18: Silo Culture vs Collaborative Culture

A successful collaboration can happen through involvement of the stakeholders in services and service management throughout the life-cycle of the services. The most important stakeholder who is quite visible is the customer. The service provider has to ensure delivering outcomes that facilitate the customer to accomplish their goals. To achieve this, there has to be interaction & collaboration across stakeholder groups that include the team, partner & suppliers.

The establishment of collaboration between all the stakeholders including customer at right levels would lead towards delivering the outcomes which are as per the preferences of all the stakeholders. It is also required to have a thorough understanding of flow of work in progress (WIP) throughout the value chain, constraints (bottlenecks), unused capacity, sources of wastes etc. Further, it is important to involve stakeholders at all levels and by realising and establishing the right communication channels a successful collaboration can be established by an organization.

For Example: An organization decided to transform the entire organization to a single technology platform (like Operating System), to bring in the better collaboration and transaction. While doing this, the organization has to engage with all stakeholders across the organization like users and department heads (functional heads) to understand the details of requirements in each function/department like the applications used, the system configuration requirement, the knowledge of the users to use the new platform etc. This requires a closer collaboration across functions.

To make it more effective, the organization can conduct a roadshow campaign, email communications, conduct user trainings etc, and create awareness about the initiative of the organization. This helps users to become aware of the initiative & its objectives. This will help the organization to have a smooth transition with increased awareness and get better cooperation.

One important point to be noted in such an initiative that the organization takes to transform itself from a Silo culture to a collaborative culture is the resistance from users, which has to be overcome. Reason for resistance can be many.

It is important to work in collaboration to enable the organization to demonstrate the capability and improve its ability to improve the services, service value and customer experience.

4.5 Think and work holistically

While establishing and managing an IT service, one needs to know the overall picture of the service and service management system; a bird's eye view. A clear understanding is needed of how all the components of the service organization are organized and function together. To understand this, it is required to have a visibility of entire systems, right from beginning till end. One has to visualize this to understand the functioning of the system and the impact of the variations in the performance of various components used in the services.

All the services, processes, practices, functions, partner or supplier organization cannot stand alone and they have to work together in an integrated way. All the activities of the systems must be connected and visualized holistically, to work together. They are part of a single holistic system.

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.

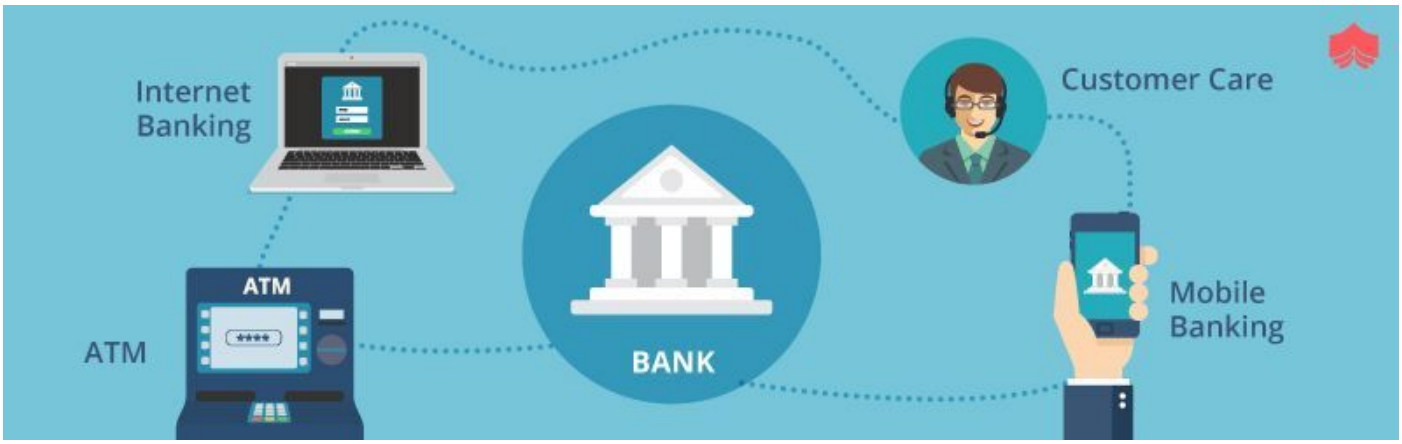


Figure 19: Holistic view a sample of the various channels through which bank consumers access bank's services

The above example (Figure 19), is a depiction of various channels through which the consumers of the bank access the bank's services. This makes it easier and simpler to picturize and understand the banking system as a whole. This also helps in understanding the interfaces and integration of all the systems together.

This is a one dimensional view providing the first level of the bigger picture, where further elaboration of all the components, like solution architecture, service architecture, technology architecture, process model, approach frameworks, MIS & tools, measurement methods and metrics etc.all have to be visualized one by one.

While doing so, it is essential to identify and recognize the complexities at various levels in the system. One can use various different techniques & methods while making certain decisions which is possible by having a holistic picture.

One has to recognize, that the systems, rules or policies, processes, practices etc., built for one type of system will not suit others.

Besides, having a holistic picture of systems interactions, working together, use of appropriate technology (tools, automation etc.) are key to the success.

4.6 Keep it simple and practical

The principle, keep it simple and practical, emphasizes on establishing the minimum required steps in an approach or process to achieve the objectives. It is important to produce the solutions which are workable, practical, and understandable while delivering the solutions, which further, should be able to deliver value to the customer in terms of outcomes the customer wanted to achieve.

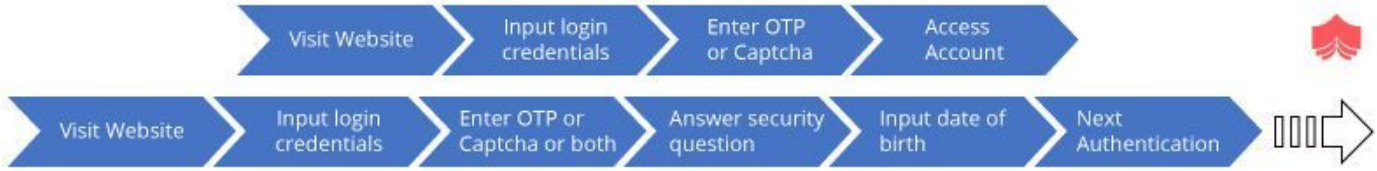
This is applicable to every process, practice, approach, solution etc., defined for a service. Defining the minimum or optimum steps essential to deliver the outcome, is needed to make it simple and relevant.

While defining a service, attempting to consider the solution with every exception, would result in over-complication. It is not wrong to assess and analyze the exceptions related to the services. However, considering all of them, even those which are not very important to address makes the service solution too complex. One has to make the decision on only what is important and needed for the service.

Figure 20: Various transactions done through Net-banking

For Example: In an online “net banking” service, capturing data, such as how long it took for a customer of bank to complete the entire process of his/her activity, may add little value for decision-making and identifying the opportunity to improve customer experience. True value creation may be possible if focus is on time taken to check on processes triggered by systems configured to facilitate the transaction like login process, time taken to display details after submission, number of steps followed to make a transfer etc.. By checking these the overall performance of the customer experience while using the net banking services can be improved.

If the “login process” for a net banking is considered, it can involve a series of four steps to make it simple & practical as shown in Figure 21. It may become irrelevant and complex if the additional authentication levels (more than two) are introduced as in Figure 22.



While applying the principle, one has to keep value in mind, ensure simplification, ensure each step works effectively, give importance to the time of the people involved, create quick wins so that people are motivated to use them etc., and remove all the non-value added steps or processes.

4.7 Optimize and automate

The optimization refers to making something more effective and improving the usefulness of that as needed. Optimization shall be done for entire services, systems, processes, products etc. The objective of optimizing helps in maximizing the value by better utilization of resources i.e. Human resources or Technology Resources.

The continual effort put by the service organization to optimize should result in improving the performance of services and delivering service value. The guidance for optimization is obtained through the guidance of ITIL®4 & can also refer to the guidance provided in best practices followed in industry like Lean, Kanban and DevOps etc. ITIL®4 complements these frameworks.

The effort put in optimization should have an intended objective of supporting the overall objective of the service management & organization. It should be optimized to a level where it makes sense to do so. Optimizing beyond certain points would not add any further value. The consideration of compliance needs such as time, resources, finance etc. should be kept in mind while optimizing.

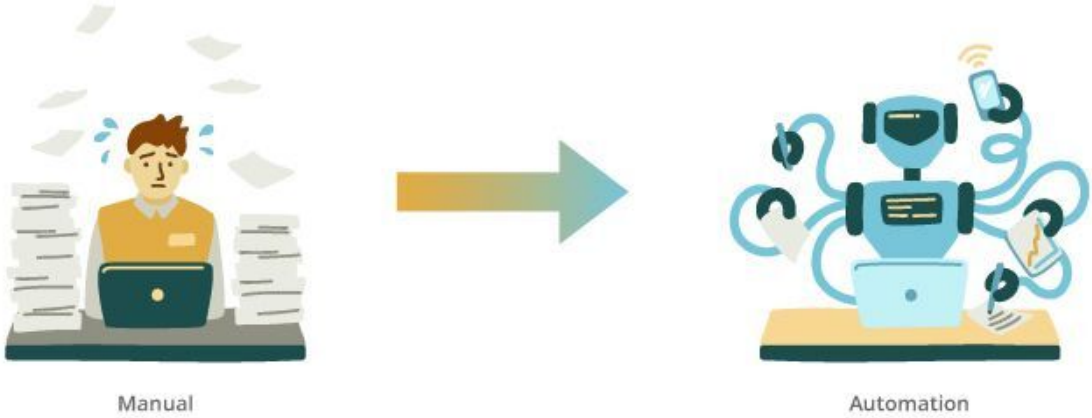


Figure 23: Manual to Automation

For example: Resource Optimization refers to the methods and processes, which are used for aligning the available resource to what is required. That is, achieving the goals or objectives established by an organization, by delivering the intended results within the set constraints such as scope, schedule, cost, quality etc.

Once the optimization is achieved, checking the possibility of automation is essential to make it more efficient and effective. Usage of right technology products is very important. In a simpler way automation could be termed as standardizing and streamlining the manual tasks, such as event correlation done by monitoring tools and triggering the incident management process by logging incident ticket automatically. Efficiency of the processes and services will improve drastically with the reduced involvement of humans, which requires evaluation at each part of the process.

Identifying the opportunities for automation in every service is essential. Before thinking about automation, one has to identify the objective of automation like saving costs, reducing human error, improving user experience, improving efficiency and effectiveness etc.

This requires simplification (optimization) first. The one which is considered for automation should be simple and more repetitive in nature. **For example**: Automating a process like back-up which happens regularly (daily, weekly, monthly) would make sense rather than automating a process like onboarding an employee, if it happens once in a month.

The consideration of guiding principles like focus on value, start where you are, progress iteratively with feedback, keep it simple & practical is essential while following this principle of optimize and automate.

4.8 Principle interaction

While following the ITIL guiding principles, it is important to recognize that they interact and depend upon each other. They don't exist alone. **For example,** if an organization is applying the principle "progressing iteratively with feedback", it should also apply the principle "think and work holistically", so that it can ensure that improvements are included in each iteration, including all the components required to deliver results. Similarly, all other principles, like "Focus on value" help in understanding true value for customers, and "collaborate & promote visibility", makes it easier to keep things simple and practical.

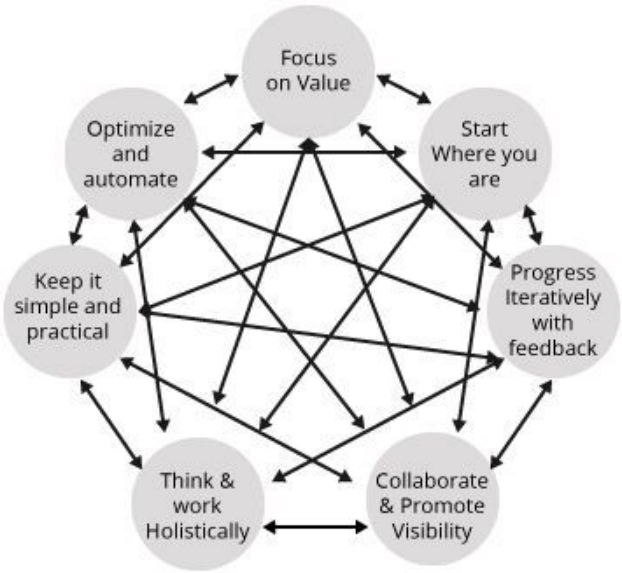


Figure 24: ITIL®4 Guiding Principles interaction

Organizations should consider how to apply principles that are relevant to them and how to apply them together. All principles may not be critical in every scenario, but their application should be reviewed in every situation and how they can be made appropriate has to be determined.

Principles are applicable throughout the lifecycle of the service and entire value chain of the services. They are universal, empowering and self-validating. They cannot be customized or ignored while providing value to customer through services.

Summary:

To summarize, in this module we looked at all the seven guiding principles defined in ITIL®4. The seven guiding principles are;

- 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

IT Governance Framework in ITSM

Governance is a formal framework which provides a structure for an organization to ensure that there is a means for an organization to establish direction and control. All the investment made by the organization supports business objectives and creates value.

IT governance comprises of processes, tools, and methodologies which enable an organization to ensure the alignment of business strategy & goals with an IT service (services), IT Infrastructure and the environment. IT governance complements an organization by enabling it to achieve its goals and objectives, through this alignment.

To achieve this, it is required to establish a formal governing structure, both at organization level& at IT level. That is, an IT governance is an integral part of overall enterprise governance. Through a formally established framework, an organization can achieve its strategies and goals, by producing measurable results.

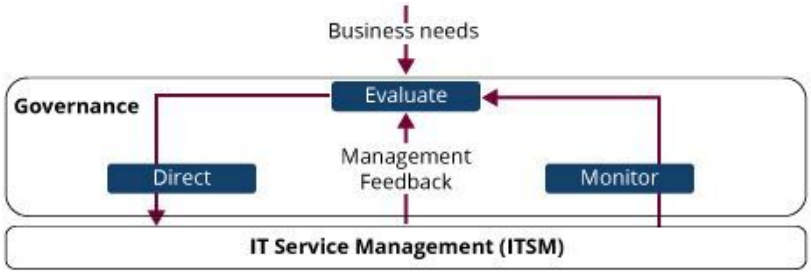


Figure 25: Governance Model for IT Service Management (ITSM)

IT governance provides the set of policies, rules and regulations, which defines and ensures an effective, efficient, valuable, controlled IT operation of an IT department. IT Governance also helps in evaluating the performance of IT and its contribution to the business and business growth.

ITIL4 complements COBIT, the IT governance framework, by aligning to it. By embracing such frameworks, an organization can comply with regulatory requirements.

5.1 Governing bodies and governance

An Organization embraces a governance structure through which the organization's direction and control mechanism is established. Governance considers and demonstrates three main activities. That is,

- Evaluate
- Direct
- Monitor

Evaluate focuses on evaluating the organization, its strategy, its portfolios, organizational relationships with other entities and individuals. The governing body ensures the evaluation of the organization regularly to ensure the needs

of the stakeholders are met and to keep the organization aligned and in compliance with evolving circumstances in an organizational environment.

Direct refers to the assignment of responsibilities by a governing body, which ensures preparing and implementing strategies and policies for the organization. Strategies focus on setting the directions for all the organizational activities, investment (current & future) etc and also helps in justifying the investment decisions. Policies focus on establishing the guidelines for setting the required (accepted) behaviour across the organization and guides on how to demonstrate those, which are applicable to all the stakeholders like employees, partners, customers, suppliers and all others.

Monitor The organization's performance is monitored by the governing body on a continual basis. It monitors the performance of the organization, its practices, processes, services & products. By monitoring, the governing body ensures that the performance of the organization is as per the set directions and complying to defined policies.

It evaluates, directs and monitors all the organization's activities, including those of IT service management. COBIT being the framework which is well acknowledged and adopted, mentions the following processes, which are called as EDM Processes

- Ensure Governance Framework Setting and Maintenance.
- Ensure Benefits Delivery.
- Ensure Risk Optimisation.
- Ensure Resource Optimisation.
- Ensure Stakeholder Transparency.

The objective of these processes is provided below;

The process, "Ensure Governance Framework Setting and Maintenance" ensures;

- Providing a consistent and integrated approach which is aligned with the enterprise governance approach.
- Enabling the IT-related decisions aligned with the enterprise's strategies and objectives.
- Overseeing the IT-related processes to ensure its effectiveness and efficiency.
- Improving and confirming compliance with legal and regulatory requirements.
- Meeting the governance requirements for board members.

The process, "Ensure Benefits Delivery" ensures;

- Securing an optimal value from IT-enabled initiatives, IT services and Service assets.
- Delivering cost effective and efficient services.

- Supporting business needs by providing the right visibility of costs which are reliable and accurate to support business needs effectively and efficiently.

The process, "Ensure Risk Optimisation" ensures;

- Ensuring optimization of risk by considering risk tolerances and risk appetite of organization so that IT-related enterprise risk does not exceed beyond those.
- Identification and management of the impact to enterprise value due to IT Risk
- Minimizing the compliance failures.

The process, "Ensure Resource Optimisation" ensures;

- The resource requirements of an enterprise are fulfilled optimally.
- Optimization of IT costs.
- Increasing the likelihood of benefit realisation
- Ensuring the readiness for future change.

The process, "Ensure Stakeholder Transparency" ensures;

- Timely and effective stakeholder communication.
- Ensuring identification of improvement and enhancing performance and reporting.
- Aligning IT-related objectives and strategies with the enterprise's strategy.

5.2 Governance in the SVS

As Service Value System has multiple components in it and is applied to the entire organization at all levels for one or more products or services. Governance performs at various different layers of the organization. An effective governance throughout the lifecycle i.e. service value system requires effective delegation across different layers.

Figure 26: Governance: An alignment between Corporate Governance and IT Governance

While delegating the organization should retain and ensure alignment with the directions, objectives, goals, vision, priorities of the organization.

As defined in ITIL 4, the various components i.e. the guiding principles & continual improvement have to be applied across the lifecycle of the services and to all components of the service value system, including governance.

Defining and adopting the specific set of principles are necessary for every organization. One of the options is to adopt the principles defined in the best practices like ITIL4. The specific set of principles and guidelines adapted and adopted across the governing body should have the visibility of values, outcomes, outputs, activities and metrics for measuring at all levels aligning to the value of the organization and its stakeholders.

Summary:

To summarize, in this module we looked at IT Governance, EDM of Governance, Governance Bodies, and Governance in SVS in detail. Governance is done at various layers and effective delegation is critical for success of an Organization.

ITIL®4 Service Value Chain Model

The Service value chain (SVC) is the core part of Service value system (SVS) which has all the key activities, which are required to be performed for accomplishing the service value, through the service results (outputs) & outcomes.

The ITIL service value chain defines six key activities that can be combined in many ways, forming multiple value streams. The service value chain is flexible enough to be adapted to multiple approaches, including DevOps and centralized IT, to address the need for multiple models of service management. The adaptability of the value chain enables organizations to react to changing demands from their stakeholders in the most effective and efficient ways. (Ref: ITIL4 book from AXELOS®)

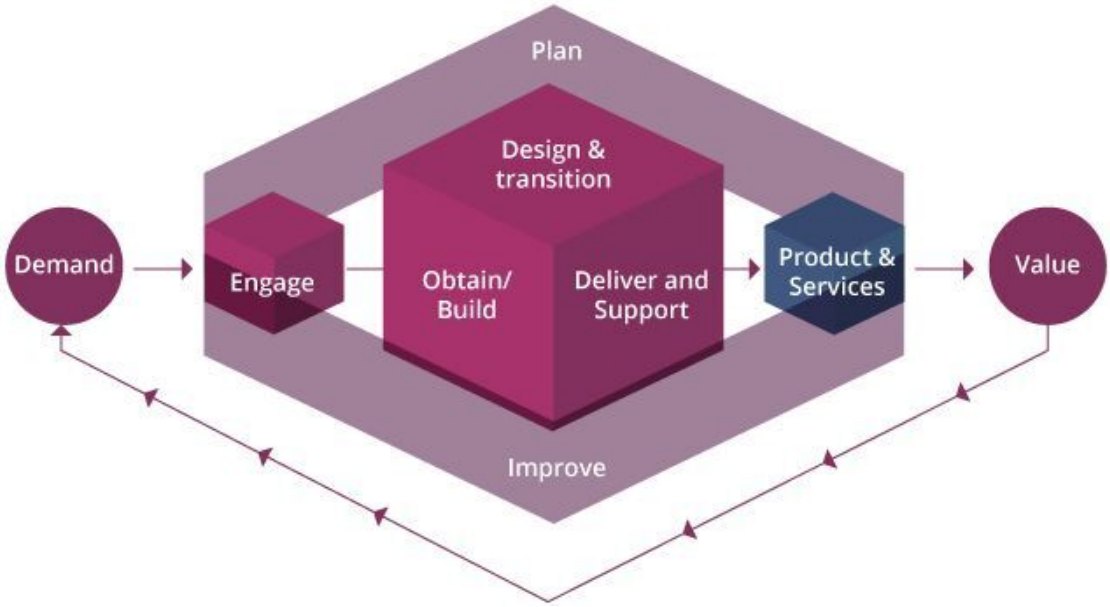


Figure 27:The Service Value Chain (Ref: ITIL4 book published by AXELOS®)

The six service value chain activities are;

- Plan
- Improve
- Engage
- Design & Transition
- Obtain / Build
- Deliver & Support

Organization sustenance and success depends upon the way it responds to different scenarios. Establishing a service value stream by establishing the specific combination of activities and practices for the specific situation is very important. The value stream has to be defined and designed to suit the specific scenario, and has to provide a

complete guidance to the roles, practices & activities required to address the needs of the initiative or for resolving an issue (or issues).

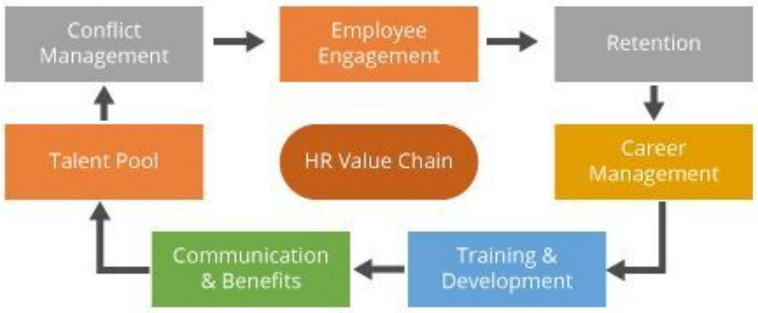
The different combinations of the various practices defined with certain specific set of activities are performed throughout the service value chain. ITIL®4 defines 34 practices, which are classified as General management practices, Service Management practices and Technical Management practices. The activities are performed by in-house & third-party resources with specific skills & capabilities (skills & competencies) for the practices defined to accomplish the value.

For example, the value chain activity, "engage", might draw upon the practices like service relationship management, service desk management, service request management and (or) supplier management etc., for responding to the varying demands for services & products which would support in making the right decisions by collecting right information from various stakeholders.

An Example: HR Management Services

A HR Management of an organization will have to establish the value chain across various services provided by them like Employee engagement, Training & Development, Career Management, Employee Retention, Conflict Management, Claims Management etc. Assume a scenario, where the organization has decided to introduce an intranet application which would consolidate and provide all the service through this portal.

This requires development and management of an application which involves conceptualization, business analysis, development, release, and support. The organization has to develop a number of practices which are supported with specialized resources and techniques.



28: HR Value Chain Activities

This would involve:

- The development of the HR application starts with initial engagement with various stakeholders in the organization, then proceed to business analysis, prototyping, drawing up the plans, development, testing, and eventually to release and support. That is, Engage, Design & Transition, obtain & build and deliver activities of service value chain.

- Further while the application is live and employees start using the application, it is required to deliver & support to sustain & improve the performance of the HR application.
- While the application is released and deployed, it is used by employees. It is also important to plan and improve the HR services continually.

The establishment of value streams happens through the combination of practices and value chain activities in various ways. This has to be improved by improving utility and warranty of products and services and by increasing the potential value for the consumers and the organization.

Further, it is very important for the organization to be able to adapt to the changing circumstances. This would involve changing the utility & warranty aspects of products & services by which organization can always align and fulfil the customer requirements in the modern dynamic world.

ITIL®4 considers the needs of becoming Agile and emphasis on adopting Agile way of doing IT Service Management in modern service environment. The Agile Manifesto was proclaimed during the year 2001, by the seventeen signatories, which are acknowledged and adopted across the IT Industry. It recommended the new approaches which help in improving customer experience through better collaboration and the ability to bring the changes rapidly which would suit the changing customer / consumer demands.

This is required to be adopted in the scenarios where;

- The requirements of the customer keep varying due to changing circumstances of the market and consumer behaviours
- It is required to move quickly in short iterations
- There is an emphasis on producing the working modules to improve the performance
- When forming a self-organizing team having visibility towards end-to-end picture of the service / products
- When ensuring collaboration among the teams through visible systems like Kanban, daily stand-up meetings etc.

In our scenario example; i.e. HR Service Application; the dynamics need not be agile, however, the need for agility happens while the organization wants to bring in the innovative solution to HR Services with unique features and functionalities like an automatic analysis engine for claim trends of an employee, which would recommend allocation of specific amount to that employee month on month, by default. This may help in understanding the need of the claim and its effective usage. Similarly, many such features and functionalities can be identified.

6.1 SVC Activities

The SVC activities working together, in unison establish the service value stream. Each of the SVC activities ensures a unique contribution and complements every other service value chain activity. They establish a specific combination of activities, process, and practices and involve various different types of resources. Each activity has specific

objectives, and these objectives align to value stream enablement. All the activities have specific set of inputs and specific set of outputs.

The SVC activities are Plan, Improve, Engage, Design & Transition, Obtain/Build and Deliver & Support.

6.2 Plan

The service or products being delivered by an organization would have an intended purpose and address specific objectives. This would be always in alignment to the vision and direction of the organization, as established by the governing body of an organization. The plan value chain activity has to ensure the right understanding of the vision, its current status, and improvement for all the four dimensions and all products and services across the organization.

The inputs and outputs for the activities come from (& go to) other value chain activities like engage, improve, design and transition, obtain/build and governing body.

Input:

- Governing body provides policy, requirement and constraint (**For example**: The applicable policies for HR services, which are to be followed by the employees of the organization)
- The details of demand, opportunity, third-party service components form engage (**For example**: Demand can be expressed like, number of employees using the intranet portal, opportunity can be improvement which can be brought into the organization by using portal services, third-party service can be internet services, hosting services etc.)
- Improvement initiatives, value chain performance information, plans, improvement status are provided by improve **(For Example:** Plan for improving the production by saving time used to submit claims, give the uniform experience across the employee community, providing opportunity by creating a learning module as part of HR Portal etc.)
- Details about new or changed services or products are provided by design & transition, obtain/build activities (**For Example:** Details like currently running processes and practices, tools used for HR services are captured, and used to understand the details of newly defined services or products or improvements for HR services)

Output:

- Strategic, tactical, and operational plans (Here the strategic plan would be to improve the efficiency and effectiveness of the organization as a whole, tactical at service level and operation at transaction level)
- Portfolio decisions for design and transition (Defined list of services which can be availed through the HR service portal and their design and transition blueprints)

- Architectures and policies for design and transition (Defined list of architecture or solution, technological, MIS and tools, processes, measurement methods and metrics etc., for HR service portal)
- Improvement opportunities (Identified list of improvements which are addressed through the new solution i.e. HR service portal)
- Contract and agreement requirements for engage. (The defined list of contract and agreements needed to establish the HR portal services like Under-pinning contracts, for the service provided by external suppliers like internet service providers, AMC services, hosting services etc.)

6.3 Improve

All the services / products perform at certain levels and they should be improved on a continual basis. Improvement is not one folded, it is multi-folded. That is, improving the processes, practices, services, products, individual skills etc.are essential. This needs consideration of all the four dimensions of the service management.

The inputs and outputs for the activities come from (& go to) other value chain activities like engage, design and transition, obtain/build, deliver & support and all the value chain activities.

Input:

- Information and knowledge about product and service performance from deliver and support (While the HR Portal services are provided and availed by employees, the performance of the services has to be monitored and measured, which reveals & provides insights towards opportunities to improve)
- Feedback from stakeholders through engage (Engaging with stakeholders like employees of the organization who are using the HR Service portal, employers who have invested etc.), can help in understanding the contribution or achievement of the intended objectives and further improvising it. The feedback from stakeholders shall also involve sharing the opportunities for improvement.
- Performance information and improvement opportunities provided by all value chain activities (As the service progresses through the service life cycle, the coordination among the various activities, processes, practices etc., would provide the information about the improvements required. **For example**: if the submission of a request done by an employee is taking a certain amount of time and one of the reasons for it is filling the template while raising the request, then this is an opportunity to improve the process by optimizing the number of inputs required and ensuring the reduction in time to submit the request.)
- Knowledge and information about third-party service components from engage. (The performance measurement of an internet service used to access the HR Portal services would help in optimizing or increasing the internet service bandwidth to enhance the service experience seamlessly.)

Output:

- The improvement opportunities / initiatives identified and the plans to accomplish those improvements with prioritization considering all the value chain activities
- Evaluating, producing & sharing the performance of value chain activities
- Producing and sharing the improvement status reports of all the value chain activities
- Provide the service performance information for value chain activities like design and transition.

6.4 Engage

The service can be termed as successful, when the stakeholders realize the value. Value is always defined in customer perspective. However, the need of all the stakeholders cannot be ignored. The value realization is critical and only then the utility & warranty defined would make sense.

While the services are consumed, one has to establish a mechanism to become aware about the service value creation and acknowledgement of value realization. To accomplish this, it is very essential to engage with the stakeholders continually i.e. customer, consumers, suppliers, team etc. This will help in obtaining a good understanding of the needs of stakeholders, and will create transparency and establish a good relationship with the stakeholders.

Input:

- The entire list of portfolios of product and service, provided by plans like claims services, skill enhancement, employee engagement, leave and attendance management, medical claims etc.for the HR portal service depicted earlier.
- The details of demand identified and assessed for services and products provided by internal and external customers like employees, management, HR executives etc. Identifying services regularly availed by users of the services (like leave), and those availed occasionally (medical claim) etc.
- The detailed list of requirements provided by customers which have to be fulfilled by services and products. **For example**, in the instance of the HR portal services, the list of improvements identified and agreed upon. Feedback on current performance of the services and identified opportunities for improvement etc.
- Occurrence of incidents (i.e. failure of services or service component) and how quickly the restoration of services happened over a period of time and incident resolution performance etc., so that employees can continue to use the HR portal services.
- Information on the completion of user support tasks from delivery and support i.e. incidents, user queries, access requirements, information of delivered services etc.
- Engaging with partners and suppliers and evaluating their performance through the established cooperation and obtaining feedback, contract and agreement etc.

- Capturing the knowledge and information about the new and changed products and services from design and transition, and obtain/build, deliver and support, about third-party service components from suppliers and partners etc., and producing the improvement status report on a continual basis.

Output:

- A consolidated view of the demands and opportunities for the product or services requirements throughout the value chain activities i.e. design and transition, deliver and support, obtain and build which comprises of requirements of products & services, tasks for user support, request for change supported through contracts and agreement established with partners and suppliers respectively.
- The captured knowledge and information about third-party service components which contributes to all of the value chain activities across the service life cycle.
- Reports depicting the service performance throughout the service value chain.

6.5 Design & Transition

The design and transition activity of service value chain ensures, meeting the objectives and expectations of the stakeholders by designing and transitioning the service & products as per the required cost, quality & time aspects. Design and transition have to consider all the four dimensions of the products & services i.e. people & organization, Information & Technology, value stream & process and partners & suppliers.

Releasing the services & products to market in time is a very important factor to ensure the utilization of the services and products. In our example of HR portal services, if there is a delay in introducing the portal services, the value realization will delay. Further, the required quality aspects like products features, functionalities, and performance has to meet the defined expectations and has to be produced within the defined budget. Design and transition have to justify the total cost of ownership.

The inputs and outputs for the activities comes from (& goes to) other value chain activities like engage, obtain/build, deliver & support, partners & supplier and all the improvement initiatives.

Input:

- The decision captured in the plan for portfolios of services and products, which provides policies, architectures, service requirements, improvement initiatives etc.
- The details of the products performance status reported (both for improvement, change implemented & performance of product in production environment) etc.
- Performance of the services & products supplied from the partner & suppliers, their knowledge & information.

Output:

- Definition of all the requirements and specifications for obtain/build
- All the contract and agreement like Service Level Agreement, Operation Level Agreements
    - Underpinning contracts capturing the requirements which may be needed for effective engagement.
    - Releasing the new and changed services & products delivery and support, their knowledge & information.
- Information required for improvement of performance through identified improvement opportunities and current performance information.

6.6 Obtain / Build

The obtain/build activity of service value chain focuses on acquiring the resources required to build the services, build them (configure and implement), integrate, test and confirm the performance, which has to be in line with the specification established in architectures (i.e. solution architecture, technology architecture, requirements established etc.)

As part of obtain/build, all the components acquired are tested at component level first and at the next level of integration till the service or product achieves the requirements.

The inputs and outputs for the activities come from (& go to) other value chain activities like engage, design & transition, deliver & support, partners & supplier and all the improvement initiatives.

Input:

- The detailed architectures and policies, contracts/agreements with partners & suppliers (both internal & external to organization), goods and services supplied, requirements and specifications, initiatives taken for improvement & their status
- Further, proposed changes, change requests raised to improve the performance or modify the features of the services or products
- The detailed knowledge & information about new or changed services & products and the third-party service components supplied from supplier or partner.

Output:

- Service & service components for design & transition and deliver & support
- The detailed information & knowledge about the new or changed services & service components
- The contract & agreement requirements for effective service engagement
- Information about the performance and identified opportunities for improvement of service & products

6.7 Deliver & Support

The value chain activity delivers and supports focus on delivering the services or products to the customers and ensures that they are supported throughout their lifecycle. It is essential to ensure that customers realize the value required. Here all the service actions performed have to be focused towards providing the uniform customer experience and also seek the opportunities for improvements continually.

Input:

- The new and changed services & products, contracts and agreements, service components.
- Improvement initiatives, plans and improvement status reports
- All the user support tasks, information & knowledge about the new or changed services, third party services & service components

Output:

- The delivered services (& their information) to customers & consumers
- Information & knowledge about the performance of service or products, about the completion of user support tasks for engage, identified opportunities for improvements etc.

Summary:

To summarize, in this module we looked at service value chain activities, their interactions to create service value streams. The six service value chain activities are;

- Plan
- Improve
- Engage
- Design & Transition
- Obtain / Build

ITIL®4 Four Dimension Model of IT Service Management

The organization's focus is on accomplishing its objectives continuously. The environment where it exists brings in a lot of dynamics which are to be considered for the organization to become more effective. It has to achieve its desired outcomes and has to work as effectively as possible. The various aspects of service management and achievement of service objective will not happen in isolation. Its success is based on how each of these are working in unison.

For example: In incident management practices, the objective is to ensure the quick resolution of the incident and improve the availability of service. Here it involves identification of incident, logging an incident, resolving an incident. Assume the scenario of HR portal services. If the portal services performance degrades or the portal is not accessible by users, it can be termed as an incident. In this scenario, identification of incident happens through users using the services. User calls service desk to log incident and service desk executives logs the incident, coordinates and gets the resolution. While doing so, the service desk executive uses telephone (or physical or digital) & email for communication, a service desk tool for logging incident, an established process for incident management, tools for communication & reporting etc.

In the above example, the existence of multiple dynamics and dimensions is revealed to us. That is people, technology (tools), processes, Information etc.which are essential for success of an incident management. In a way, for doing anything, the involvement of multiple dimensions is to be considered.

ITIL®4 depicts the four-dimension model which comprises of;

- Organization & People
- Information & Technology
- Partners & Suppliers
- Value Streams & Processes

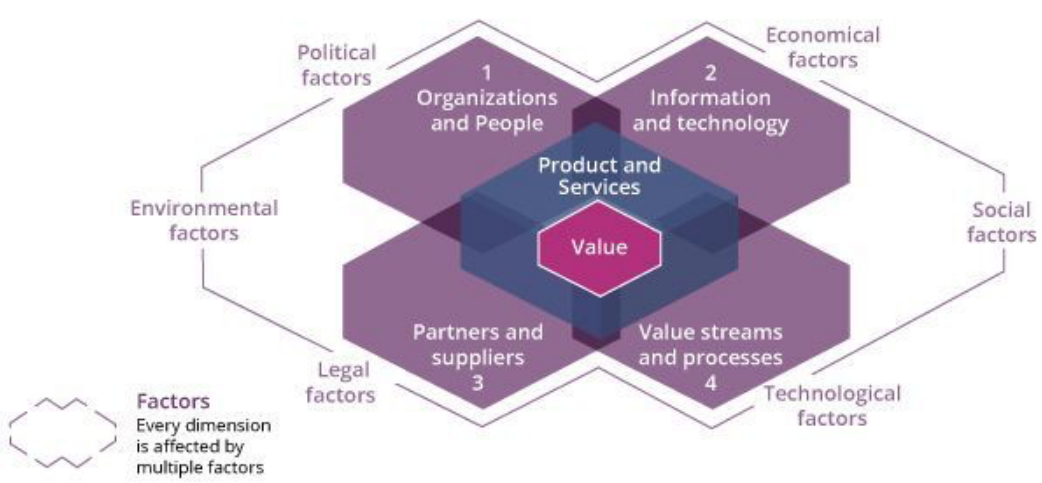


Figure 29:Four Dimension Model (copyright of AXELOS®, reproduced under the license from AXELOS® Limited)

The four dimensions relating to the example of HR Portal services would be:

Organizations and people	HR Function, entire organization & employees
Information and technology	HR Portal, Services, Network (LAN / WAN) etc.
Partners and suppliers	IT Function (Internal), An external organization
Value streams and processes	supplying server / router etc. All the HR value stream activities mentioned above

in section “service value chain”, processes like claim reimbursement, leave management etc.

The four dimensions are influenced by many factors which are beyond the control of Service value systems (SVS).
That is, Political, Economic, Social, Technological, Legal and Environmental (PESTLE).

The PESTLE factors for HR Portal example can be;

Political	He political scenario of the region where the organization is doing the business, influences the considerati be made by organization. For ex: minimum wages act etc.-

Economical	The organization’s economic condition in terms of investment,revenue, costs,currency etc., which are esse for the organization to sustain and grow
Social	The social environment includes the belief system with certai value, norms & practices of that region and established in the organization.
Technological	Technical environments are those in which organizations produce a product or service that is exchange market such that they are rewarded for effective and efficient performance
Legal	The legal environment of business refers to taxation, regulation of commerce, regulation of competition, c binding, legislation and labour regulation etc.
Environmental	The environment refers to the environment internal and external to the organization. Internal refers to po control,culture within the organization. Similarly, external environment refers to legal, social, climatic con of the location or region where the organization is operating

7.1 Organization and People

The people and the structure of the organization mainly support the vision and direction of the organization. With the evolving environment, technology, capability of the individuals there is a lot of transformation in the structure, size and complexity of the organization.

Organization structure evolves to suit the evolving scenarios of the organization. The roles & responsibilities, the authority & accountabilities, collaboration and communication, technology enablement, processes, practices, policies all of these contribute to the evolution of the organization structure.

Modern organizations are more and more technologically enabled and require people with technological capabilities. However, aspects of their individual traits like ability to communicate, collaborate, manage etc.are also important factors to look into.

A structure which is established formally for an organization may not be able to provide the required effectiveness and efficiency. It needs continual transformation, with evolving culture with continued alignment to business objectives, continual grooming of skills and capabilities, people motivation etc.

Ultimately, the organization should evolve with established culture, enabling shared values, trust and transparency. We have to take into account the existence of people in the organization and people in its environment such as employees, employees of supplier or partner organization, sponsors who exist across the various levels established in the organization.

Every individual in the organization plays an important role in which each of them should have a clear understanding of their contribution to the organization, to consumers & customers and all the stakeholders.

In our example of HR portal, the service consumers are the employees of the organization, and HR is the organization owning the services and fulfilling the organization needs through establishment of effective HR Services. Also, consider investment for the HR portal services being done by the organization management. The value has to be realized by all of these stakeholders.

7.2 Information and Technology

Information refers to processed data with specific context. **For example**, the dump of incident for certain period (ex: a month) will be processed to form the information which will be interpreted to make sense of it, i.e. How many incidents logged, closed, pending etc. Information further leads to knowledge which is necessary for managing the services, and identifying the technology used to create and deliver the services. In relation to information consideration, organization should look at;

- the information which is processed & managed
- the information and knowledge required to deliver and support the services
- the details about the way, the information and knowledge are protected, managed, archived, and disposed of.

For a given IT service the information is created and managed. Further it is used during building, delivering and supporting (i.e. provisioning, consuming and measuring). The involvement of technology to process the data & information is crucial in modern organizational environment, to meet the drastic changing needs of consumers and customers. The involvement of technology results in increased efficiency and effectiveness of the organization.

The technology presence is seen in automation, trend analysis, process & workflow management, knowledge management, establishing the communication management systems, collaboration of people geographically dispersed.

In the modern technology environment more & more emphasis is laid on micro services, cloud computing, artificial intelligence, IOT, mobile apps, cognitive technologies, machine learning, deep learning, what not...! Trends change very quickly and organizations have to realize and adapt to these scenarios.

Information management is the primary consideration for enabling value to the customers, and hence consideration of right information is very crucial. **For example**, the information consideration like employees' details, their

employment status, salary, position etc., would be the primary information consideration while providing HR services. Further this information has to be protected from unauthorized access, while also making it available for authorized access as and when needed.

In the modern business environment, the existence of IT is a default and finding a business organization with no such enablement is non-existent, which means there is high dependency on IT. Technology considerations are made throughout the value stream right from the conceptualization, planning, designing, transitioning, and operation of service or product.

However, it is essential to consider the right technology components which are compatible with current technology environments, comply with regulatory/compliance needs, establishing information security needs, scalability, automation, enabling communication and collaboration etc.

Culture of the organization towards embracing the technology plays a very important role. People's ability & skills to handle technology and its dynamics by acquiring the right skills through self-grooming on continual basis is very essential.

7.3 Partners & Suppliers

The importance of engaging with partners and suppliers to ensure the success of service management and its dynamics are deliberated in the partner & suppliers dimension of ITIL®4. It is evident through the service relationship model depicted earlier.

The partners and suppliers would be involved across the entire value stream i.e., for designing developing, delivering, supporting and improving the product or services continually. The relationship established by an organization with the partner & supplier would be to get the specific service or product which would complement the service objective and value creation to the customer of the organization.

This requires establishment of a contract depicting the responsibilities of the supplier or partner, delineation of duties involved, organization and their deliverables.

Some examples of relationships between organizations are shown in Table 3.1. It also incorporates contracts and other agreements between the organization and its partners or suppliers. (Ref: ITIL® book for AXELOS)

Form of co-operation	Outputs	Responsibility for the outputs	Responsibility for achievement of the outcomes	Levels of formality	Examples
Goods supply	Goods Delivered	Supplier	Customer	Formal supply contract/invoices	Procuremen computers a phones
Service Delivery	Services delivered	Provider	Customer ++	Formal agreements and flexible cases	Cloud compu (infrastructu 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 betw HR facilities IT)

Service Integration and management is one of the methods the organizations can use to address the partners and supplier dimension, which involves the establishment of an integrator who would establish the service relationships for effective communication and collaboration.

The effectiveness of an organization depends on the competencies demonstrated. To ensure better efficiency and effectiveness, organizations would focus on their core competencies and on board a partner or supplier to provide the product/services/resources to complement the ultimate objective, which would be beneficial instead of doing it on their own. The various factors influencing this decision would be strategic, culture, resource availability, capability, constraints (both internal and external), cost, demand for service etc.

The consideration of involving the right partner & suppliers are to be made with due care. The culture, the ability of the partner/supplier to understand the service dynamics and aligning to it is very critical to have a successful partnership with mutual benefit.

7.4 Value Streams and Processes

Value streams and processes focus mainly on those areas which ensure integration and coordination of various actions and parts which contribute towards better value creation for the organization. This dimension is more concerned about the way the organization has organized the activities or processes and how it enables and ensures the value creation across all stakeholders.

The value stream is defined as, “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”.

An organization should structure its product or services, keeping the value stream in mind. One should have a clear picture of what is delivered, how it is delivered, and how to improve those on a continual basis. This requires identification and understanding of the value stream & having the overall picture. Further organization should continually assess and understand the as-is state of the organization scenarios, constraints, the contributors to waste etc. It may involve people, processes, products, partners/suppliers, information etc.

In addition to this, it is important to understand how modern technology can be involved in order to improve the efficiency and effectiveness of the organization and enhance the user experience.

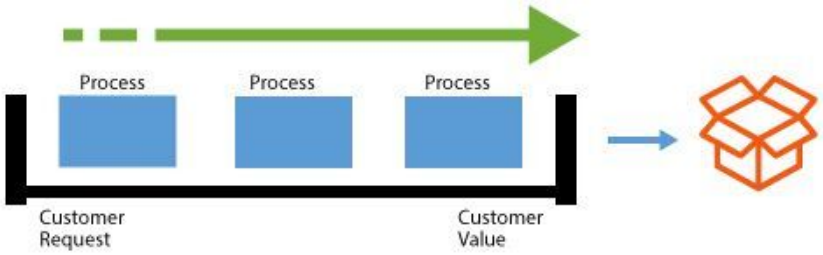


Figure 30: Value stream – flow from process to process

By definition, “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”.

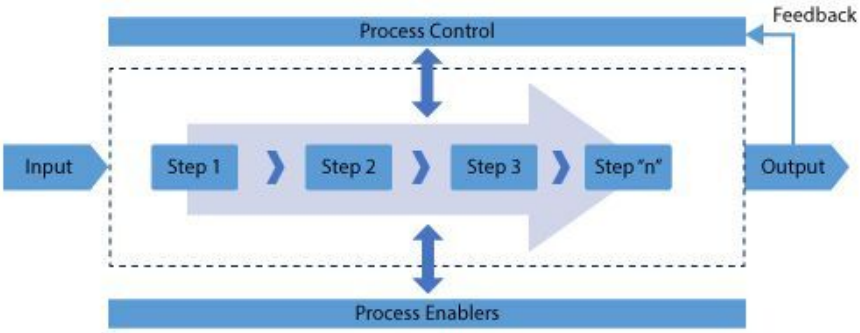


Figure 31: Process model

Processes articulate what has to be done to accomplish an objective. A well-defined process will ensure the improvement of the productivity within and across the organization. A process comprises of well-defined, procedures, activities, work-instructions, templates, roles & responsibilities.

A well-defined process, needs a specific input and delivers specific output. Every process needs a trigger to start. Process enablers are the resources with capabilities which are required to do the activity of processes. The output of the processes is measured with specific metrics. This needs establishment of critical success factors and key performance indicators.

The feedback taken from the output of the process helps in further analysing the process performance. Process control plays a vital role in ensuring the process performance, compliance and improvement. The process control is accomplished through process owner, audit, documentation etc.

Summary:

To summarize, in this module we looked at four dimensions of service management, their relationship with each other. These four dimensions provides the bigger picture (holistic view) of the services and organization has to ensure balancing between these dimensions along with the six influencing factors (i.e. PESTLE). The four dimensions are;

- Organization & People
- Information & Technology
- Partners & Suppliers
- Value Streams & Processes

ITIL®4 Management Practices

ITIL®4 defines 34 management practices to adopt the modern organization dynamics. It considers all the dynamics of the current organization scenarios like innovation, speed to market, responding to the market dynamics quickly, scaling resources dynamically etc.

This needs appropriate management practices for services, projects, products, design, transition, build, test, delivery, support by adapting and adopting to drastic changing scenarios. IT Service management defined in ITIL®4 considers the concepts defined in DevOps, Agile, Lean.

High-velocity service delivery is the need of the modern business (& service) environment which influences all the practices of a service provider by;

- Focusing on fast delivery of IT services; both new and changed; in time
- Establishing the mechanism to analyse the feedback on performance of IT service continually throughout its lifecycle
- Adopting the concepts of agility for continual and fast improvement in IT services, by processing the feedback quickly and timely.
- Visualizing and defining an end-to-end approach (i.e. entire service lifecycle, from ideation, through creation and delivery, to consumption of services)
- Integrating the product and service management practices
- Digitalizing the IT infrastructure by adopting the modern technology practices like cloud computing, microservices, containerization etc.
- Seeking opportunities (continually) to enable automation across the service delivery value chain.

These require enabling the organization for adoption of a product-based organizational structure, defining flexible architecture, adoption of latest technology practices like cloud computing, microservices, agile way of doing project management, financial management, adaptive risk management, human centred design etc.

The management practices can be defined as a set of organizational resources designed for performing work or accomplishing an objective. The management practices are segregated into three parts. They are;

- **General management practices (14)** which are applicable across the organization for the success of business and services provided by the organization.
- **Service management practices (17)** which are applicable for specific services being developed, deployed, delivered and supported in an organization environment.
- **Technical management practices (3)** have been adapted from technology management domains for service management purposes by expanding or shifting their focus from technology solutions to IT services.

General Management Practices(14)	Service Management Practices(17)	Technical Management Practices (
Architecture management	Availability management	Deployment management
Continual improvement	Business analysis	Infrastructure and platform Manage
Information security management	Capacity and performance management	Software development and Manager
Knowledge management	Change control	
Measurement and reporting	Incident management	
Organizational change management	IT asset management	
Portfolio management	Monitoring and event management	
Project management	Project management	
Relationship management	Release management	
Risk management	Service catalogue management	
Service financial management	Service configuration management	

General Management Practices(14)	Service Management Practices(17)	Technical Management Practices (
Strategy management	Service continuity management	
Supplier management	Service design	
Workforce and talent management	Service desk	
	Service level management	
	Service request management	
	Service validation and testing	

Color codes (legend)

The above colour code is used to represent the contribution of service value chain activities in each of the practices which will be discussed in subsequent sections, where “0” being the lowest and “3” being the highest.

8.1 General management practices (14)

The 14 general management practices are considered commonly across all services and are applicable for the organization as a whole. These provide the views which are to be practiced throughout, irrespective of the type of services or products the organization provides.

or example Information Security Management – Every organization that embraces modern technology needs to practice this and safeguard the organization’s information from unauthorized access. It is not just applicable to service; it has to be practiced in the entire organization

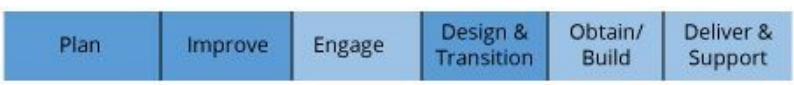
8.1.1 Architecture Management

Purpose	To provide an understanding and view of all the different elements of an organization as a whole and how e those elements interfaces or interrelate, to enable the organization to achieve its objectives, continuously. It to the applicable principles, tools, standards which enable an organization to be managed in a structured wa also enable agility.
Description	While we mention architecture management, it refers to all the domains. That is business architecture, serv architecture, information architecture, technology architecture, and environment architecture. These can be defined as an integrated architecture in less complex environment of an organization. The **business architecture** is defined for creating value to an organization and its customers, aligning to st of an organization. The **service architecture** is defined for each service provided by an organization and it has to be fit in and to the business architecture. It defines service models, structure, activities, flow of resources, their interacti templates required etc. The **information architecture** considers the logical & physical data assets of an organization and depicts h information; which is a valuable asset of an organization; is managed and measured to create value. It is als important to consider the importance of accuracy, completeness, and accessibility of information while defi the Information architecture. **Environmental architecture** considers the external factors that impact the organization which includes organizational, political, legal, regulatory, ecological, social, technological etc., These cannot be defined, but to be considered, while defining, developing and managing the organization, services, products etc.
SVC Activity's Contribution	The service value chain activities' contribution to architecture management are mainly plan, improve, desig transition activities. **Plan** focuses on developing and maintaining the current and target architectures. **Improve** focuses on identifying the improvement opportunities in all the architecture types **Engage** focuses on obtaining a better understanding of the current and target architectures **Design & Transition** focuses on designing, developing & transitioning the architecture aligned with investr service objectives **Obtain/build** focuses on identifying the architectural components **Deliver & support** focuses on operation management & maintenance

8.1.2 Continual improvement

Purpose	To ensure continuous alignment of service and practice of an organization, by identifying and improving them c continual basis. This requires Purpose consideration of changing business needs, consumer behaviour, changin market scenarios etc. The improvement opportunity has to be looked at by considering all the components of services, products, processes and service as a whole.

Description	The improvement of services is a continual affair, this cannot be ignored. It is essential to keep the demand for t services high and there should be an established continual improvement practice across the organization. It sho an induced ability in the organization, so that every service action (activities, processes, products, people) is alv subject to improvement. As part of continual improvement practices, an organization should ensure that there is a dedicated effort on continual basis to improve services through continuous measurement. Teams have to dedicate a certain amoun time for focusing on improvements. It is to be understood, “At any given point in time, there are opportunities f improvement” and keep identifying the improvement opportunities. Description Continual improvement is not a single team or individual’s job; it should be the way of providing services and responsibility of everyone. Continual improvement practice shall consider various techniques to identify, assess, analyze, recommend and implement the improvements at various levels. The techniques like SWOT (analyzing strength, weakness, Opportunities & Threats), proactive problem manage PDCA, Improvement Kata, Lean methods, concepts of DevOps etc.are the few techniques, which can be used for continual improvement. If the thought of continual improvement is induced into the staff members of the organization as a whole, by establishing that as the culture, the contribution towards continual improvement and alignment will become th of doing the services and conducting the business.
SVC Activity’s Distribution	The service value chain activities' contribution to continual improvement are all the activities. **Plan** focuses on the continual improvement of the planning techniques, methods, activities and ensures they ar relevant to the objectives and contexts of the organization **Improve** is the key activity of SVC, it emphasizes on continual improvement practice SVC **Engage** focuses on improving engagement approaches and practices Activity’s **Design & Transition** focuses on improving the approaches and practices involved in Contribution design, deve transitioning **Obtain/build** focuses on improving the approaches and practices of obtain /build **Deliver & support** focuses on improving the approaches and practices of operation, management & maintenan



8.1.3 Information security management

Purpose	To ensure the protection of the information of an organization throughout the information lifecycle. In a way en the confidentiality, integrity,Purpose and availability of information, so that the organization’s information is safeguarded from unauthorized access and misuse.
Description	The information security management has become the de-facto requirement of modern organizations (irrespec their business), with the advancement of technology & adoption of IT systems more and more. These technolog platforms and IT systems are used for processing data & information, in every transaction of the business.

	Whether it's a bank, an organization of civil construction business, entertainment houses like movie theatre, television, or a retail store, Irrespective of the type of business the organization is into, the adaption & adoption technology platforms and IT systems for conducting their business transaction has become common. With this modern outlook, organizations come across new challenges and to protect the interest of the business Informat security framework, policies, procedures have been established. These information security management pract consider & maintain the balance between Prevention, Detection and Correction. Information security management practices should consider all the aspects of an organization and its dynamics that it remains aligned with organization strategy & protects the interest of the organization. These should appl across the organization and should not be just limited to one or few aspects. In order to support information security enablement in the organization, there should be consideration for establishment of information security framework, policies, processes, risk management, identity and access management, event management, structured (controlled) review & reporting.
SVC Activity's Contribution	The service value chain activities contribution to information security management are all of the following activ **Plan** focuses on considering the information security across all the planning activities **Improve** focuses improvement of information security throughout the lifecycle of the information by continual improving the information security practices and platforms. **Engage** focuses on engaging all levels (i.e. strategic, tactical, operational,SVC transactional etc.) to enable the information security mindset and Activity's compliance. **Design & Transition** focuses on considering the need of information security while designing and transitioning activities. **Obtain/build** focuses on building information security in all components of an IT service, including the service supplied by suppliers **Deliver & support** focuses on detecting incidents related to information security and correcting them quickly t protect the information

8.1.4 Knowledge management

Purpose	To ensure the maintenance and improvement of information and knowledge effectively and efficiently for the convenient usage of the information and knowledge throughout the organization.
Description	Knowledge and information being the most important and valuable assets of an organization, it is very importa identify, capture, process, maintain and improve these aspects. An organization should consider adapting and adopting a structured approach and ensure defining, building, us reusing) and sharing. This involves data processed into information, leading to the creation of knowledge. Thes required for all the processes, practices, and services of various forms. Further with the advancement of technology & management practices, and organizations embracing more and solutions that are technology-driven & use complex systems, the knowledge of management practices have bec critical need. It is important to understand that knowledge is not just information. Knowledge is the application

	information in a specific context. This requires the understanding of the scenario of information processing and application of knowledge. **For example:** For a service desk, a number of incidents logged during the specific period is information (like during the week number of incidents logged are 100). Using this information, setting the context to reduce the number of incide and applying the actions for identifying the possibility of reducing the number of incidents and further applying reduce the incidents is possible only through knowledge. **Note:** Information provides the message, whereas knowledge is Know-how
SVC Activity's Contribution	The service value chain activities' contribution to Knowledge management is to improve and deliver & support activities. **Plan** focuses on considering the knowledge required for planning; like portfolio decisions **Improve** focuses setting a context for assessing achievement and planning for improvement. **Engage** focuses on relationships at all levels that are strategic to operations and to understand and communica context to stakeholders for right actions **Design & Transition** focuses on the knowledge required for effective design and transition. **Obtain/build** focuses on knowledge required for effective solutions and technologies used to obtain and build. **Deliver & support** focuses on identifying and using the knowledge required for delivery and support. Here the for information and knowledge is very dynamic, and requires continual evaluation of situations for applying knowledge accordingly.

8.1.5 Measurement and reporting

Purpose	To measure and report the performance of the business or services, which would help in making decisions and improving the services & business performance. Further, this will also reduce the level of uncertainty.
Description	According to Peter Drucker, an American Management consultant, "If you cannot measure it, you cannot impro This saying, emphasizes on the importance of measurement. Measurement is an essential need for all types of organizations irrespective of their size and complexities. The measurement should be represented or conveyed in a specific way which is readable (to make right interpreta by the intended personnel. The metrics considered to measure differs at various levels. This is because, the co at each level varies and accordingly the metrics has to be considered to make the right representation and interpretation. **For example:** While measuring a service as a whole, one would look at the availability of the services as one o metrics. Whereas, a number of incidents occurred, the time taken to resolve & restore the services will become metrics to measure the operational performance. These metrics measured at operational level have to comple

	the next levels. In the given example, the reduction in the number of incidents or reduction in time to restore services or both should be complemented by improving the availability of the services. Accordingly, the critical success factors and key performance indicator has to be identified and defined at all le Each of the metrics defined should have the right description to interpret. If the target metrics for measuring availability is 95%, then its impact on business has to be described, explained and justified. Only then the metr 95% makes sense.
SVC Activity's Contribution	The service value chain activities contribution to Measurement & Reporting are Plan. Improve, Design & Trans and obtain/build activities. **Plan** focuses on metrics which help to measure the performance of products that enable the decisions made fo strategy & Portfolio **Improve** focuses on measuring the metrics at all levels to identify and improve. Engage focuses on producing t reports as per the agreed frequency and templates and updating stakeholders from time to time. **Design & Transition** focuses on metrics which help in monitoring and managing the performance of service o products before going live and design contribution & transition activities as well. **Obtain/build** focuses on considering the metrics which ensures transparency of development and procureme activities **Deliver & support** focuses on metrics which are used to measure the performance of the product or services i live environment which would lead towards uniform customer experience and value realization.

8.1.6 Organizational change management

Purpose	To ensure managing the human aspects of an organization while introducing, managing, modifying a service or a product. This needs an effective change management (for required transformation) of organization to achieve th lasting benefits through smooth and successful implementation of changes.
Description	While the business environment is subjected to change and evolution, it is very important to understand these dynamics and ensure the organization will also evolve & align with the change. In addition to that, improving the services, service performance, performance of service assets, etc., are also important. This further emphasizes on transforming people in the organization in terms of behavior and culture for success People are at the core of organizational change management. So, Organizational change management should ens establishing, clear and relevant objectives, strong and committed leadership, willing and prepared participation sustained improvement. Moreover, organizational transformation is not an overnight accomplishment, it is a journey. For an effective organizational change management, there are many models that the organization adopts. One such model which adopted and organizations are successful in accomplishing the intended objective of transforming an organizatio steps model of John P Kotter. While initiating the organizational transformation, identification of the audience who are affected by this transformation, the individuals who can become the champions for the successful transformation, creation of vis

	and communication of the same effectively, creating quick wins and celebrating quick wins, and continuing to pr more wins has to be ensured by an organization.
SVC Activity's Contribution	The service value chain activities contribution to Organizational Change management mainly is to Improve, Plan Engage, Design & Transition. Further, there is a focus on obtain/build and deliver & support activities. **Plan** focuses on impact of changes at strategic and portfolio levels Improve focuses on ensuring the success of organizational change management movement, since it is an initiative of improvement on continual basis and ali with the organization's need of transformation. **Engage** focuses on engaging with all the stakeholders at all levels in organization. **Design & Transition** focuses on the change required for implementation of new services and changes to an exis design. **Obtain/build** focuses on engaging within and across the projects **Deliver & support** focuses on ensuring continued support to existing services which are operational with minin no impact.

8.1.7 Portfolio management

Purpose	To ensure that the organization has the right mix of programs, projects, products, and services to execute th organization's strategy within its funding and resource constraints.
Description	Portfolio management focuses on defining, analyzing, approving and and services introduced, monitored, managed and retired by an organization. These decisions are taken after, a thorough analysis of services or products, which are being considered for introduction, modification, improvement etc., if they make sense for the organization strateg in investment perspective and value. Else the service or products will be retired. The portfolio management can be defined as the coordinated collection of strategic decisions that together e the most effective balance of organizational change and business as usual. Portfolio management achieves th through: • Developing and applying a systematic framework • Clearly defining products and services and linking them to the achievement of agreed outcomes. • Evaluating and prioritizing incoming product, service, or project proposals and other change initiati • Implementing a strategic investment appraisal and decision-making process • Analysing and tracking investments based on the value of products,services, programmes, and proje the organization and its customers. • Monitoring the performance of the overall portfolio and proposing adjustments in response to any changes in organizational priorities.

	• Reviewing the portfolios in terms of progress, outcomes, costs, risk, benefits, and strategic contribut The different portfolio involved are producing/service portfolio, project portfolio, and customer portfolio
SVC Activity's Contribution	The service value chain activities contribution to Portfolio management mainly is Plan, then Improve, Engag Design & Transition and obtain/build. There is also focus on deliver & support activities. or product portfolio i.e. service in pipeline, s in operation & retired services **Improve** focuses on identifying the improvement opportunities for services. Engage focuses on engaging wi the stakeholders at all levels to decide upon the portfolio decisions **Design & Transition, Obtain/build, Deliver & support** focuses on ensuring products and services are clea defined and linked to the achievement of business outcomes, so that these value chain activities are aligned value.

8.1.8 Project management

Purpose	To ensure success of all the projects in the organization through adaption and adoption of formal project management approach and also ensure keeping the motivation of the people high.
Description	Projects are formally defined as a temporary organization formed to produce results & accomplish the outcome which are unique and create value. This requires the involvement of initiating, planning, delegating, executing, monitoring and controlling all the aspects of the project. The success of a project is determined by the accomplishment of the ultimate objective of the project which is d while triggering the project. Further a project has to ensure; • Maintaining the current operations of the business effectively and efficiently • Transforming/Changing the business operations to ensure sustained growth and ability to compete in market place • Improving the products and services, continually Basically, the project approaches are predictive (or waterfall) and adaptive (or agile). The organization can ada adopt the specific approach as per the need of the organization or project and its dynamics. What so ever the approach is, it is required to ensure the consideration for project constraints carefully. That is scope, schedule, quality, resources, and risk. Stakeholder engagement and communication also plays a very important role during the project management, requires continual identification, analyzing and defining the stakeholder engagement strategy and communicat management approaches.
SVC Activity's Contribution	The service value chain activities contribution to Project management mainly are design & transition, obtain/b along with plan, Improve, Engage. Further, the focus on deliver & support activities.

	Plan focuses on strategic and tactical planning **Improve** focuses on improvement initiatives of project throughout its lifecycle **Engage** focuses on effective stakeholders' engagement, which is important for success of the project. **Design & Transition** focuses on designing the practices, products or services that need to be delivered through project. **Obtain/build** focuses on acquiring the required resources which are required for the project. **Deliver & support** focuses on ensuring products and services are monitored and managed after the delivery o project. It has to ensure the readiness to take over while the project is being managed

8.1.9 Relationship management

Purpose	To ensure engaging and establishing the relationship with all the stakeholders at all levels, right from strategic tactical levels. This includes the customer, supplier, partner, and functions within the organization.
Description	A stakeholder is any entity or individual existing internally and externally, who is impacted or impact and influ or influence at all levels, because of the action organization takes while doing business, services, or projects. The relationship with the stakeholders has to be established & maintained, for successful management. This in identifying, analyzing, monitoring and improving relationships throughout. Relationship management is requi all types of business organizations, for achieving success. The relationship management practice has to ensure that all the stakeholder needs, drivers & triggers are well understood. The satisfaction Description and involvement of stakeholders are very crucial and there should be constructive relationship established between them. This should lead to achieving the desired outcomes of the business effectively and efficiently. An organization should always focus on creating high stakeholder value. That is, • by facilitating value creation for service consumers, • prioritizing the products and services as per the needs of the stakeholders, • mediating the conflicting stakeholder requirements, • effective handling of any stakeholder complaints and escalations
SVC Activity's Contribution	The service value chain activities contribution to Relationship management mainly are Plan, Improve, Engage, & transition, along with obtain/build, deliver & support activities. **Plan** focuses on the requirement for relationship management, which would be assisting in strategic assessme prioritization across portfolio. **Improve** focuses on improvement of relationships through organizing and synergizing various relationships a organization.

	Engage focuses on establishing & engaging with the stakeholders existing both internally and externally. **Design & Transition** focuses on relationship required for coordinating the contribution internally and externa effective design and transition **Obtain/build** focus on relationship management which helps to select the products, services or service compo to be obtained or built. **Deliver & support** focuses on the relationship between the organization and the service provider, so that serv providers can ensure the value realization of services by service consumers leading to high customer satisfacti

8.1.10 Risk management

Purpose	To ensure the efficient and effective handling of risks of an organization throughout the service value chain and t entire lifecycle of the services/products and business.
Description	The term, "risk" refers to the uncertainty of outcomes which are both positive and negative. The positive risks ar called opportunities and negative risks are called as threats. The interesting part is that generally the negative risks are mostly considered by organizations ignoring the exis of positive risks. Missing or ignoring to consider the positive risks as risks may result in bigger risks as organizat may fail to take advantage of the positive effects of opportunities. The organization should give high importance for managing risks, so that it can ensure the ongoing sustainabilit continuously create value to customers. It should be an integral part of every action (or activities) that the organ performs at all levels. Risk is a part of business, it should be consistent across all levels of an organization, and a has to be built in an organization supporting risk management. For effective risk management, the organization should adapt and adopt a practice, supporting the achievement objectives of organization. Risks are to be identified, assessed and treated throughout the service value system. I central to service value system defined in ITIL®4. For every risk identified, there involves a cause that has to be found through risk assessment and appropriate ris action has to be defined. The assignment of risk owner and risk actionee, ensures the demonstration of accounta towards effective risk management.
SVC Activity's Contribution	The service value chain activities contribution to Risk management mainly are Plan, Improve, Engage, design & transition, obtain/build, deliver & support activities. **Plan** focuses on providing the required inputs to strategy & planning, so that, the risks that can affect the outcom identified and treated. **Improve** focuses on the improvement of risk management practices and also improving services through effecti management. **Engage** focuses on engaging with stakeholders throughout the lifecycle of risk management so that risk appetite risk profiles can be understood. Activity's **Design & Transition** focuses on considering the risk factor of products or contribution

	service components or processes etc., while designing and transitioning. Obtain/build focus on considering the decisions regarding obtaining or building products, services & service components. **Deliver & support** focuses on ensuring the consideration of risks at the operation level which would impact the service and service performance and has to be treated appropriately**.**

8.1.11 Service financial management

Purpose	To ensure that all the financial investments and resources are effectively used and support the strategy and plan organization.
Description	The service financial management mainly focuses on Budgeting, Accounting and Charging for the service of prod which are newly conceptualized, designed, transitioned, delivered and supported throughout the service value s All the investments made on services should be justified. **Budgeting** refers to the approved financial resources for the service & products & their management throughou lifecycles. The approximation of the financial resources and analysis will be done before allocating and approvin budget. **Accounting** refers to the activity which focuses on monitoring, managing and controlling the financial resources comparing the actual transaction with budgeted. It would involve accounting of systems, ledgers, journals, chart accounts etc. **Charging** refers to the charges claimed from the consumer for the services and products which would involve invoicing. This can be an optional practice, as the services always are not provided to external customers only. Further financial management should be managed effectively and efficiently and financial objectives have to be accomplished. Modern technology environment has impacted the practice by broadening the perspective & applicability. A modern organization uses the latest technologies like cloud, big data, analytics, and artificial intelligence (AI), l chain technologies etc. All these technologies have made the practice more advanced. Consideration of these technologies and practices has become crucial and advantageous for organizations.
SVC Activity's Contribution	The service value chain activities contribution to Service financial management mainly is Plan & further focus is Improve, Engage, design & transition, obtain/build, deliver & support activities. **Plan** focuses on funding requirements at all levels based on the financial information, which requires for allocati budget of services. It also focuses on forecasting the financial requirements and producing financial reports. **Improve** focuses on improvements which are essential to justify return on investment. **Engage** focuses on engaging with stakeholders relating to the financial aspects. **Design & Transition** focuses on financial management which helps keep activity cost-effective and provides the means for financial planning and controlling. **Obtain/build** focuses on acquiring the resources for which budgeting is done and accounting for them. **Deliver & support** focuses on financial transactions (i.e. operational cost) required during delivering and suppo the services & products.

8.1.12 Strategy management

Purpose	To ensure the establishment of the strategy and directions for organizations and define goals and objectives, the course of actions to accomplish those goals.
Description	For an effective strategy management, one has to define & understand the contexts of the organization and defin strategies which are essential to achieve the objectives and goals of the organization, by creating value to the cor of products and services. The strategy should also establish the criteria and mechanisms that would support the organization for prioritiz resources, capabilities and do the necessary investments to produce the required outcomes. The strategy manag practice would focus on achieving & managing these. The strategy management has to consider and analyze the organization and its environment, the constraints, understanding of the vision & principles established in organization which set the direction. Further, understanc the perspectives and directions and setting up the strategy, so that, it can be translated to tactical and operationa plans. In modern fast-changing dynamics of the business environment, the strategies defined traditionally may not mal significant contributions. It requires thorough research, careful deliberation which would help in bringing the flu and alignment to the required dynamics. This is so that the organization can respond to the changed scenario qu at all times and remain aligned to the objectives always. The value, should be the prime focus and the strategy should enable this on continual basis. The consideration fo continual innovation and improvement to the service value, should be both for service provider and consumer o services through innovative products and services. A high performing service strategy is the need of modern bus environments to ensure uniqueness and to continuously outperform the alternatives.
SVC Activity's Contribution	The service value chain activities contribution to strategy management mainly are Plan & further focus is on Imp Engage, design & transition, obtain/build, deliver & support activities. **Plan** focuses on ensuring the translation of organization strategy into plans (operational and tactical), which sup delivering the strategy. **Improve** focuses on providing a strategy to identify and evaluating improvement opportunities. **Engage** focuses on engaging with stakeholders at a strategic level, so that strategic decisions are aligned to organizational objectives. **Design & Transition, Obtain/build, Deliver & support** focuses on ensuring the strategic objectives are achiev realized through the actions performed while designing, transitioning, developing, delivering and supporting th services and products.

Plan | Improve | Engage | Design & Transition | Obtain/ Build | Deliver & Support

8.1.13 Supplier management

Purpose	To ensure the management of supplier and their performance to support the seamless provisioning of quality pr and services.
Description	Supplier management practice being one of the key service management practices focuses on supplier lifecycle management which includes identification, evaluation, establishing a contract or agreement, reviewing the performance of the supplier, the products & services provided by supplier, periodically and finally renewing or terminating the contract of the supplier. This involves Supplier Planning, evaluation and of supplier contracts, su categorization, contract management, performance management, contract renewal or termination. This helps in establishing the single point of control for supplier management by defining and maintaining the strategy, policy supplier management. Various different type of supplier's relationship exist based on the supplier strategy. That is, • Insourcing – refers to the supply of the services which are developed and provisioned internally within t organization. • Outsourcing – refers to the supply of the services which are developed and provisioned external to the organization • Single source of partnership – refers to the procurement of services or products from the single supplier partner • Multi-sourcing – refers to the procurement of services or products from more than one supplier or partn Further, Service integration has to be performed by orchestrating all the suppliers involved in developing and delivering the products and services. It has to focus on provisioning the services end to end and ensure the contr all the interface and integration points which facilitate the required collaboration among all the services and sup of the services
SVC Activity's Contribution	The service value chain activities contribution to supplier management mainly are Plan, Engage, design & transit obtain/build, deliver & support activities & further focus on Improve activity. **Plan** focuses on providing the strategy for sourcing. **Improve** focuses on improving the performance of the supplier and the product or services provided by the sup **Engage** focuses on engaging with all the suppliers throughout the supplier lifecycle. That is right from identificat evaluation, negotiation & establishment of contracts or agreements, and ongoing management of suppliers. **Design & Transition** focuses on defining requirements for establishing contracts and agreement with suppliers **Obtain/build** focuses on procuring the products or services, service assets or components from suppliers which needed for building or developing the services. **Deliver & support** focuses on monitoring and managing the performance of the suppliers, while services or pro are received from supplier, which should be in line with the agreement established with the supplier.

8.1.14 Workforce and talent management

Purpose	**To ensure that the organization has the right set of people with appropriate skills, capabilities and know that support the business objectives.**
Description	The workforce and talent management practices involve the activities which focuses on engagement of people a employees of the organization, enabling them to perform with continued motivation and knowledge, and ensuri availability of the right set of capabilities in the organization. This includes thorough planning, recruiting, onboarding, training, performance monitoring and management etc skills and capability of people resources are key to the success of the organization, which helps in establishing th required velocity (The speed, effectiveness, and efficiency with which an organization operates. Organizational v influences time to market, quality, safety, costs, and risks). The workforce and talent management include the activities mentioned in the below picture. That is, • **Workforce management –** refers to the translating strategies of organization to desired capabilities of organization. • **Recruitment** – refers to identification and selection of right set of people resources with right set of skil capabilities. • **Performance measurement –** refers to continual monitoring and measurement of the performance, b on the skills, competencies required to assigned role. • **Personal development –** refers to continual development of individual skills and capabilities suitable f assigned job role. • **Learning and development –** refers to the methods and approaches adopted by an organization to ena employees of organizationwith specific area of expertise and specialization. • **Mentoring & succession planning –** refers to the plan and activities applied for formal mentoring, enga and enhancing the ability of leadership capabilities.
SVC Activity's Contribution	The service value chain activities contribution to work and talent management mainly are Plan and improve acti Further focus is on Engage, design & transition, obtain/build, deliver & support activities **Plan** focuses on evaluating the current organizational capabilities and complementing the service portfolio. **Improve** focuses on improving the skills and capabilities of the people resources and their motivation. **Engage** focuses on engaging with all practices such as service desk, service request management etc., to identify and enable the required capabilities for the service management practices. **Design & Transition** focuses on skills and capabilities required for designing and transitioning **Obtain/build** focuses on specific knowledge, skill and capabilities related to collaboration, quality, speed, cost, customer focus etc. **Deliver & support** focuses on skills and capabilities required for delivering the services and support.

8.2 Service management practices (17)

The 17 service management practices are considered for all the services and applicable for the service in specific. These provide the views which are to be practiced throughout, while managing the services & products.

For example: Monitoring and event Management – The practices focus on monitoring the events of a specific service, perform the event correlation and trigger appropriate action as configured in the services.

8.2.1 Availability management

Purpose	To ensure service availability meets the needs of the business i.e. customer and users
Description	Availability of the services, as needed by business, is the outcome of the availability of the service assets (compo serviceability of the supplier, reliability of the service, effectiveness and efficiency of the service practices and de Availability means, "available when needed". **For example,** the availability requirement of a bank's (over the counter) services is from 9:00am to 3:00pm. Du this service window, the availability of the services should be 100%. It is only possible, if the application, compu systems, bank premise, people, electric power etc., are available without any disruption or degradation. So, the organization should understand the availability requirement of the services (firstly), and accordingly services ha be defined, designed & deployed. It involves; • Discussing, negotiating, establishing and agreeing the availability of targets, which are achievable • Defining and designing IT infrastructure and software applications which can deliver the required availa levels • Identification and collection of data which are required for measuring availability i.e., number of incider occurred, time taken to restore services etc. • Enabling the continuous monitoring which helps in continual assessment, analysis of availability of ser and service Components • Continual measurement & reporting • Identifying & improving the service availability continually
SVC Activity's contribution	The service value chain activities contribution to availability management mainly is Plan activity. Further focus Engage, design & transition, obtain/build, deliver & support activities and improve. **Plan** focuses on considering service portfolio decisions, setting goals and direction for services and practices. **Improve** focuses on improving the availability of the services **Engage** focuses on identifying and engaging with stakeholders understanding for availability requirements **Design & Transition** focuses on defining, designing and transitioning the services as per the availability require of the services **Obtain/build** focuses on acquiring and building the components supporting the service availability **Deliver & support** focuses on monitoring and managing the services and ensure that the services are available the requiremen

8.2.2 Business analysis

Purpose	To ensure analyzing the business & business elements and ensure the recommendation of solutions which will a and solve the business
Description	Further the value is enabled in alignment with the objectives of the business and organization. Business analysis, should consider the overall perspective (holistically), which includes people, process, policies, technology, organization, information etc. Business analysis practices have to ensure considering the overall contribution to the business rather than one a at one level. **For example:** restricting the business analysis to the product development will not result in the sol which is not complete in all aspects of the business alignment and value creation. This involves; • Analyzing services, service architecture, systems, process which contributes to business considering the various different contexts of the business. • Considering all the SVS components for analysis that needs treatment to improve, identifying opportunit innovate etc. • Continually monitor, measure, report, and document, to ensure the performances are in line with the bus requirement • Continually recommending the solution through thorough analysis i.e. by validating the achievement wit respective stakeholders
SVC Activity's contribution	The service value chain activities contribution to Business analysis mainly are Plan, Engage, design & transition, obtain/build activities. Further focus is on improve, deliver & support activities. **Plan** focuses on enabling the strategic decision for what needs to be done and how it has to be done. **Improve** focuses on evaluating the entire system for improving at all levels, mainly strategic and tactical levels. **Engage** focuses on engaging throughout the SVC activities to gather requirements **Design & Transition** focuses on defining and designing the appropriate contribution solution by gathering, prioritizing and analyzing the requirements **Obtain/build** focuses on identifying, obtaining, building the skills required for performing the business analysis activities **Deliver & support** focuses on gathering the data of the ongoing delivery, and analyzing it continually for understanding the performance & enabling continual improvement.

Plan | Improve | Engage | Design & Transition | Obtain/ Build | Deliver & Support

8.2.3 Capacity and performance management

Purpose	To ensure that sufficient capacity is available to the services and that service performs at the level expected and achieves the objectives demanded by the services in a cost-effective way.
Description	Service Capacity and Performance management practices consider the performance related to a number of servi actions performed within the given timeline-- the time required or taken to complete the service actions at the lo (various levels of demand). **For example:** how long it took for a webpage to appear after entering the url, which depends on the capacity of s hosting webpage, application, internet bandwidth, storage, systems used to connect and browse the webpage etc Service capacity is the result of the various different capacities at different levels. That is, capacity of the various components configured to create a service (as indicated in the example above). Each of these components Descri perform at a certain level based on the utilization and availability of the capacity in these service components. The capacity and performance management practice include the activities that are required for; • Checking the performance of the service and analysing the capacity monitoring and managing the service performance by ensuring sufficient capacity required for service performa • Researching, analysing and forecasting the requirement of capacity on continual basis by modelling performance • Planning and implementing the capacity • Identifying and improving the capacity
SVC Activity's contribution	The service value chain activities' contribution to Capacity and performance management mainly are improve activities. Further focus is on Plan, Engage, design & transition, obtain/build, deliver & support activities. **Plan** focuses on planning capacity at tactical and operation level, to ensure sufficient capacity, by analyzing the s performance (capacity), based on the demand and current utilization of the capacity. **Improve** focuses on identifying and improvement capacity to improve the service performance. **Engage** focuses on engaging with the stakeholders like customers & users and manage their expectations. **Design & Transition** focuses on designing and transitioning the service that has sufficient capacity and is also sc **Obtain/build** focuses on acquiring and building the service components that has sufficient capacity for services perform. **Deliver & support** focuses on monitoring, measuring and managing the service and service component capacity are required for performance of the services at required level.

8.2.4 Change control

Purpose	To ensure maximizing the success rate of the changes, being executed in a service environment through the prop assessment, analysis and authorization of all the changes.
Description	Change refers to the add, move, modify, improve, remove etc., the features, functionalities of a services & service components. This includes hardware, software, process, products, documents etc.which are used to form a servic the changes implemented have to have the formal authorization before they are implemented. This is essential to ensure the integrity of the systems, so that all the changes are controlled and done through involvement of right stakeholders. Change control should aim at success of the changes being executed. This requires raising change requests, revie analyzing and approving these changes before they are implemented. All the changes implemented should result accomplishing the intended objectives of the change. It should be justifiable, beneficial and successful. No change should result in failures of the services or service components which are attributable to change. Changes are of th types. They are Standard Change, Normal change and Emergency Change. Standard Changes are the changes that are pre-approved, pre-authorized, low impact and low risk. **For example:** resetting a password of a user system. The standard changes are executed through request manageme practice. Normal Changes are the changes that have significant impact to business and needs analysis and authorization fr the authorized. These changes are executed after raising the formal change request, their analysis and authorizat
SVC Activity's contribution	Emergency changes are the changes that are raised during the emergency scenarios like incidents resolution, rea problem management etc.These types of changes are also to be approved by change authority like normal chang they are stakeholder specific for the emergency change raised. The service value chain activities' contribution to work and talent management mainly are Plan, improve activ Further focus is on Engage,design & transition, obtain/build, deliver & support activities. **Plan** focuses on modeling the change control for changes to process, products, service portfolio etc. at all levels. **Improve** focuses on improvement of change control practices, i.e., the way change is being handled. **Engage** focuses on engaging with the stakeholders required for execution, informing, consulting etc.while doing change. **Design & Transition** focuses on defining & transitioning the change **Obtain/build** focuses on acquiring & building the service components required for proposed change **Deliver & support** focuses on informing, coordinating, communicating, monitoring the changes & its impacts, be and after the execution of change.

8.2.5 Incident management

Purpose	To ensure restoration of services to normal working conditions by resolving and restoring the services during th incidents, and minimizing the impact to business, which occurs due to the incidents, as per the business need.

Description	The term, “Incident”, refers to the interruption to the IT services or degradation of the service performance. The interruption or degradation of the service & service performance would result in negative impact to business. Fo example: Users are unable to access their email. Incident management practices should aim at restoring the services quickly, and ensure services are available to business (users), as defined. The occurrence of the incidents may result in impact to a user or many. These may r in influencing the value perception of the customer. It is essential to ensure the availability of the services to cust as defined and agreed. Incident management practices should ensure, all the incidents are logged, categorized, prioritized and resolved. time taken to respond during (& resolving) an incident, should be analyzed based on the scenario. Usually it is ba Impact and urgency. These needs to be defined and agreed for every service, according to, what make sense to business. Incident management practice should also provide the appropriate management and allocation of different resou for different types of incidents. Impact of incidents may vary from low to very high. Requirement of resources to resolve the incidents depends on the complexity involved in resolving them. Accordingly, resources are utilized o the incident resolution. Major incidents which will have major impact to the business would require separate pro or procedure. Similarly, to manage the incidents related to information security, information related to incidents be stored, recorded, and reviewed regularly to ensure the incident reduction, reducing resolution time etc. Appro like improving first level call resolution and establishing known error database would bring in signification contribution.
SVC Activity’s contribution	The service value chain activities contribution to Incident management mainly are Engage, Deliver & support act Further focus is on improve, design & transition, obtain/build activities. **Improve** focuses on improvement by reducing the incident resolution time, improving the user experience etc. **Engage** focuses on engaging, coordination and communication with the users and subject matter expertise while resolving incidents. **Design & Transition** focuses on resolving the incident which would occur during the design and transition **Obtain/build** focuses on resolving the incident which would occur in the development environment **Deliver & support** focuses on identifying and resolving the incidents.

8.2.6 IT asset management

Purpose	To plan and manage the entire life-cycle of all the IT Assets, and ensuring maximizing the value, control costs, manage risks, enable decisions related to procurement, utilization & retirement of assets, and meet contractua regulatory requirements.
Description	IT Asset refers to any valuable services component which contributes to the delivery of the service or an IT Pro This includes hardware, software, services provided by suppliers etc. IT assets involves cost and value that comprehend the cost and value of service or product. It will be an underpinning factor based on which service provider can make decisions.

	IT Asset Management focuses on capturing the details of all the IT Assets in a register and same is updated reg This involves entire life-cycle of the asset right from acquiring, utilizing (implementing and operation), and dis the asset. This contributes to the visibility of assets and their value. The IT Asset Management is a sub-practice of Asset management, which is aimed at IT related assets, whereas management is applicable for all types of assets in the organization. Further, IT Asset Management involves su practices within, like software asset management. The integrity of an IT Asset has to be maintained. All the hardware assets should be tagged with unique identif number, protecting software asset for unlawful copying, grouping assets using the category etc. This will help better management of IT assets through-out its lifecycle. It should also provide the details of the IT Assets like current and historical data, reports, and support to other practices about IT assets, which is a key element to successful service management as well as being useful to other practices.
SVC Activity's contribution	The service value chain activities contribution to IT Asset Management mainly are design & transition, obtain/ activities. Further focus is on Plan, deliver & support activities. **Plan** focuses on considering & planning the IT Asset Management based on the policies defined in service finan management practice, information security management etc., which helps in strategic management costs, risks value associated with IT Assets. **Improve** focuses on considering impact of IT Asset and improvement **Engage** focuses on handling the relationship of users using the IT Asset etc. **Design & Transition** focuses on driving most of the value chain activities of the IT Asset Management **Obtain/build** focuses on procurement of IT Assets and tracing throughout the life-cycle **Deliver & support** focuses on locating the IT Assets, monitoring their usage, status of the IT Asset in the organization

8.2.7 Monitoring and event management

Purpose	To ensure the services and service components are observed systematically, detect & report the change of state w has significance to service, service performance and contribution to business.
Description	The monitoring and event management practice manages the events throughout the life-cycle to ensure preventi elimination of negative impact to the business. "Event", refers to the change of state that will have significant impact to the management of an IT service or servi component. Events are of three types. That is informational, warning and exceptional. Information events are those which will not have any serious impact to the services, but service personnel shoul communicated upon occurrences of such events. For example: back-up completed etc. Warning events are those, which if not treated now, may lead to failure of an IT Service. For example: if the utiliz of a storage reached 80%, it has to be checked, so that appropriate action can be initiated to reduce the impact be of increased utilization beyond 80%.

	Exceptional events refer to the scenarios of failure of an IT service or service component, resulting in impact to business, which needs to be resolved and restored. Monitoring and event management practices detects these changes of state, makes sense out of them and trigger control actions required to address the scenarios. Control actions depends on the type of events and the actions configured for these event types. **Note:** All the incidents are events, but not all the events are incidents. Similarly, all the alerts are triggered by eve but not all events generate alerts.
SVC Activity's contribution	The service value chain activities contribution to monitoring and event management mainly are deliver & suppor activities. Further focus is on Engage, design & transition, obtain/build activities. **Improve** focuses on observing the environment and evaluating proactively to improve the performance of servic service component. **Engage** focuses on engaging with the other practices required for a control action based on the event type. **Design & Transition** focuses on obtaining that information for design contribution consideration and status of t transition **Obtain/build** focuses on supporting development environment, by ensuring the transparency and manageabilit **Deliver & support** focuses on managing the identified events, by triggering the appropriate practice

8.2.8 Problem management

Purpose	To identify the potential & actual causes of incidents and reduce the probability of the impacts of incidents by providing the solutions and workarounds, including the creation of known errors.
Description	Problem refers to an underlying cause or potential cause of one or more incidents. Problem management practic focuses on identifying these causes, so that, those can be analyzed to resolve the incidents, by providing the workaround or permanent fix. The practice involves three distinct activities. That is problem identification, prob control and error control. Problem identification involves identifying & logging problems, performing the trend analysis of the incidents, detection of duplicate or recurring incidents, identifying the risks involved in major incident scenarios, analyzing information provided by suppliers, developers, partners, etc. Problem control involves, analyzing the problem, identification of workarounds or permanent fix to the identifie problem. It may or may not provide solutions to known errors that have been identified. Description Problem control should consider all the risk, relationship between the various incidents, performance of the serv assumption to understand the potential causes which would result in impacting to the services. Error control focuses on assessing and analyzing all the errors which are identified regularly; so that overall imp be understood and worked upon by identifying a permanent fix and workaround.

	Problem management practice contributes to other practices also, by providing the visibility towards the underly causes. For example, incident management practices can reduce the impact of incidents by elimination of causes through the fix provided by problem management. Similarly, problem management support continual improvem practice etc.
SVC Activity's contribution	The service value chain activities' contribution to problem management mainly are improve, deliver & support activities. Further focus is on Engage, design & transition, obtain/build activities. **Improve** focuses on identifying the probable causes for potential incidents and improve the availability of the se **Engage** focuses on involving the required stakeholders for problem prioritization and resolution. **Design & Transition** focuses on providing the information that will help in improved testing and knowledge transferring **Obtain/build** focuses on managing the product defects identified by problem management **Deliver & support** focuses on preventing recurrence of incidents and supporting timely incident resolution

8.2.9 Release management

Purpose	To ensure that the new or changed services and their features are available to use.
Description	The term "Release", refers to the specific version of a service or a configuration item or collection of configuratio items which are made available to use. A release would comprise of various different infrastructure and application components which should work tog to deliver a services or service functionality. This may include processes, tools, documents, training including the developed internally and supplied by the supplier or partner. The release management practices work closely with deployment management practice. This depends on the approaches required in the given environment for releasing and deploying a services or service component to se environment. Release management typically involves activities like, release planning, release packaging, release scheduling etc that the objectives, features, functionalities of the release are well understood by the users. The release approach may include big bang or phased, manual or automated, push or pull depending on the size complexity, speed etc., needed in release and deployment. In scenario of DevOps, CI/CD tool chain is considered.
SVC Activity's contribution	The service value chain activities contribution to Release management mainly are design & transition activities. Further focus on plan, improve, engage, obtain/build, deliver & support activities. **Plan** focuses on policies, guidelines, & timelines for releases which are driven by strategy of organization and ser portfolio, where the scope, size and content of release are planned and managed **Improve** focuses on the releases considered for improvement and improving the release management practice **Engage** focuses on involving the customers and users who are benefited by the specific release **Design & Transition** focuses on ensuring that the new or changed services are available to customers in a contr way

	Obtain/build focuses on components that are required for a specific release and ensuring they are available to customer in a controlled way **Deliver & support** focuses on impact of release on delivery and support Releases may have an impact on deliver support, which involve user guides, documentation, training, release notes known errors, scripts etc., that are re to practice and facilitate service resolution and restoration

8.2.10 Service catalogue management

Purpose	To provide the single source of information for all the services and service offerings, consistently and ensure tha available to the authorized. The service catalogue captures the details of services, which are operational and is the single source of informati all the services and services offerings.
Description	Service catalogue management practices should ensure the updating, modifying and maintaining the description services and service offerings regularly. So that, the information captured in the service catalogue about the serv are latest, updated and up to date. The services catalogue is created to fulfill the specific needs of the specific kind of service consumers. For examp while visiting the website of a mobile service provider, one can find the various plans and descriptions of mobile services which are applicable to retail customers. Whereas same is not referred if there is an engagement with a corporate organization. Here the discussion and details differ compared to retain list. This means, that the service catalogue should provide different views and different levels of detail to different stakeholders. Examples of views include: • The user views which provide the information of service offerings that can be requested by user, and the details of provisioning. • The customer views which would provide the details of service level, financial, and the detail of service performance, which would help customer to choose the specific service offering • The technical or IT to IT customer views which provides the technical, security, and process information use in service delivery.
SVC Activity's contribution	The service value chain activities contribution to service catalogue management mainly are Plan, improve activit Further focus on Engage, design & transition, obtain/build, deliver & support activities. **Plan** focuses on enabling the strategy and decisions for decisions made for investments, by providing the necess details required about the service and service offering **Improve** focuses on constant evaluation and monitoring which would support continual improvement, alignmer value creation. **Engage** focuses on enabling the relationships strategically, tactically and at operation level contribution **Design & Transition** focuses on ensuring that the utility and warranty aspects are considered

	Obtain/build focuses on supporting value chain activities by providing the view required for procurement of se components **Deliver & support** focuses on delivering the services based on the agreements and performance.

8.2.11 Service configuration management

Purpose	To ensure the availability of the information related to service configuration and the configuration items (CI) wh used to form service, when needed, including the relationship between CIs, i.e. the way they are configured.
Description	Service configuration management identifies, captures and establishes the configuration database which stores information about all the configuration items and their relationships. Configuration item, refers to all the softwar hardware, people, documents, building etc.which are used to form a service. It is essential to ensure that the integrity of all the CI's and their configurations are safeguarded, and at the same the details captured in configuration management database are accurate, up to date, relevant and updated. It sho provide the details, which is as per the actual implementation, always. The Service configuration management should establish the snapshot of configuration and relationship with configuration items and help get the visibility into, how each of the service components (& CIs) are connected an contribute to the service and service performance. Configuration Management database has to be updated regularly i.e. while implementing a change for resolving incidents, updating or modifying the services and service attributes etc.
SVC Activity's contribution	The service value chain activities contribution to Service configuration management mainly are Plan, improve activities. Further focus is on Engage, design & transition, obtain/build, deliver & support activities. **Plan** focuses on planning new or changed services. **Improve** focuses on improving the performance of services through improving configuration and performance o **Engage** focuses on engaging with the stakeholders required to manage CIs. Design & Transition focuses on desig the services considering the configuration and configuration items required for the services **Obtain/build** focuses on configuring the CI and creating configuration records and create code or artifacts that i being built. **Deliver & support** focuses on monitoring and managing CIs to ensure early restoration of services by resolving incidents due to CI failures.

8.2.12 Service continuity management

Purpose	To ensure the availability of minimum services at a sufficient level for business to sustain in the event of disaster

Description	The service continuity management practices aim at providing the framework, which helps in building the resilie required, with the capability of producing the responses, that safeguards the reputation of organization & its bra interests of stakeholders, and support activities which create values. The service continuity management practice should support the overall business continuity and consider the ris associated with the business. This practice is triggered in the scenarios where the disruption has occurred at the where its severity is beyond the ability of the organization to fix with normal response procedures. Service continuity management should focus on those events that would have the significant impact to the busin business cannot continue its operation, during those scenarios that include flood, hurricane, earthquake, etc. Dur these scenarios, business has to ensure availability of services which are at least required to reduce the impact o events, with (minimum) or without impact to the business and its sustenance. To understand this, the organization has to conduct Business impact analysis (BIA) and Risk analysis, and make themselves ready by establishing disaster recovery plans. It should define the required recovery time objective (and recovery point objective (RPO). Recovery Time Objective (RTO), refers to the time period (maximum) that can elapse after occurrences of the dis event before it impacts the business seriously due to lack of business functionalities. Recovery point objective (RPO) refers to the point to which information utilized by an activity has to be restored resumption of the activity.
SVC Activity's contribution	The service value chain activities' contribution to service continuity management mainly are Plan, improve, des transition, obtain/build, deliver & support activities. Further, the focus is on Engage activities. **Plan** focuses on considering the organization's appetite, policies, strategies, investment which will have impact d disastrous events & plan accordingly. **Improve** focuses on improving the continuity plans and readiness of organization, time to time continual monit and improvements. **Engage** focuses on engaging to provide assurance to stakeholders about the readiness of the organization to han disaster scenarios. **Design & Transition** focuses on products & services designed and tested to ensure they support organization's continuity requirements. **Obtain/build** focuses on building the service continuity in organization's services and components. **Deliver & support** focuses on performing ongoing activities required for service continuity.

8.2.13 Service design

Purpose	To ensure designing the services and products that has utility (fit for purpose) and warranty (fit for use), which facilitate the customer to achieve the outcome required.
Description	Service design practice focuses on designing the products & services considering the people, practices, products, suppliers, partners, information & communication, processes required to fulfill the requirement of the customer, that customer can get the value required. Designing solution architecture, service architecture, technology archit

	management information systems, tools, processes, measurement methods, metrics (CSF & KPI required to meas the services) etc., are essential. The services designed should address the need of both customer and service provider, in a cost-effective way. Se should be designed to have the resilience, security, availability, capacity, continuity required to fulfill the need of business. Further, it is essential to holistically visualize the service through end to end value streams (i.e. Demand to value that all the dynamics of the services & service environment are correctly understood and considered while desig the service. It is very important to understand and focus on the experience of customer & users. So, service design should support the services and products that support business and service orientation, is cost effective, user friendly, adaptable & adoptable, secure enough, manages risks, is scalable, and flexible so that char can be done quickly etc.
SVC Activity's contribution	The service value chain activities contribution to design management mainly are Plan, improve activities. Furthe on Engage, design & transition, obtain/build, deliver & support activities. **Plan** focuses on planning & organizing for an effective design of service or products **Improve** focuses on designing the services for improving the services performance by modifying the service attr **Engage** focuses on engaging to incorporate the better experience to customer & users **Design & Transition** focuses on designing the products or services that has contribution the service utility & warranty, is easy to use, manageable etc. **Obtain/build** focuses on identification and building the service components, services and products that are requ to create a service, deliver, monitor and manage services Deliver & support focuses on managing the user's full jo through operation, restoration, and maintenance of the service

8.2.14 Service desk

Purpose	To ensure there is a single point of contact for users of the services to contact during service interruption, servic queries etc.
Description	Service desk practice provides the required channel for users to contact for reporting issues, requests, queries. F service desk will acknowledge & log, classify, prioritize and action to resolve & fulfill (incidents & requests respectively), as applicable. With the advancement of technology and every business being a technology enabled organization, it has become important to consider the impact that is made to the business and organization, and service desk should focus on providing the support to business and people to enable them to be successful. The focus should be beyond the ac limited to the resolution of technical issues alone. It is essential to establish a culture of collaboration, so that service desk staff and the other executives with differ capabilities can work together to add value to business and provide good user experiences. Service desk uses telephone, emails, chatbots, ticketing tools etc., which support them while providing the services.

	Service desk should have a clear understanding of the wider organization, the business process and user base wh the services and need support from service desk. Further to improve the service desk practice performance, serv desk has to consider monitoring and measuring its performance capturing and producing the records, achieveme identifying the opportunities for improvements. The service desk types are many, and some of those are local service desk, centralized service desk, virtual servic desk, follow the sun service desk, and specialized service desk.
SVC Activity's contribution	The service value chain activities contribution to service desk practice mainly are Plan, improve activities. Furthe focus is on Engage, design & transition, obtain/build, deliver & support activities. **Improve** focuses on constantly monitoring and evaluating for continual improvement of service desk practice. **Engage** focuses on engaging with users and address their requests, queries and resolve incidents. **Design & Transition** focuses on the involvement of the service desk to communicate the new or changed serv users **Obtain/build** focuses on acquiring the service components required for fulfilling service requests and resolving incidents **Deliver & support** focuses on coordinating for receiving, logging, resolving the incidents and queries of the user

8.2.15 Service level management

Purpose	To define, set and agree clear targets for services, so that services performance can be monitored and managed throughout the life-cycle of the service, against these targets.
Description	The service level management practice defines, documents and manages the service levels of all the services and products. Service level management should provide the end to end visibility of all the organizational services. Se level management has to establish and provide the service views with service level target ensure meeting define service levels by collecting, analyzing, storing and reporting all the defined target metrics of the services regularl (periodically) perform the service reviews and ensure the services meet the organization's needs continuously ic capture, review & report the issues related to services, its performance against the defined service targets. The success of service level management will be based on the effectiveness of the interfaces established with oth practices like relationship management, business analysis, supplier management etc. Further, service level management should focus and put efforts to engage and understand the requirements and concerns correctly. Th would provide better insight towards the actual requirements & concerns of the customers and stakeholders. Service level agreements have to be established by understanding the nature of the business, business dynamics, technology environment, what makes the business successful, insights obtained while engaging with the custome their feedback through survey etc. This should help in establishing the measurement metrics i.e. business metric service metrics, and process metrics etc., which can be measured in the perspective of business performance, ser performance and process performance (operational performance) respectively. Each of these metrics should complement and align towards a common objective

SVC Activity's contribution	The service value chain activities contribution to service level management mainly are Plan & engage activities. F focus on improve, design & transition, obtain/build, deliver & support activities. **Plan** focuses on planning the service levels required for services, products, service portfolio, service offerings an measuring actual performance of the services. **Improve** focuses on measuring the SLA continually & understanding the service experience by obtaining the feed for improving the services. **Engage** focuses on ongoing engagement with users and customers, to understand their view & experience with s performance.\ **Design & Transition** focuses on designing and transitioning the services to meet service level targets. **Obtain/build** focuses on building the services & service components to meet service performance **Deliver & support** focuses on monitoring and managing the services performance and report the achievements against the target SLA.

8.2.16 Service request management

Purpose	To support the agreed quality of the service by handling the pre-defined user requests, which are initiated by use professional and friendly manner.
Description	A service request can be defined as "A request from a user or a user's authorized representative that initiates a se action which has been agreed as a normal part of service delivery". For example: requesting for an information, c asset like laptop, printer cartridge etc. Standard changes are also fulfilled by service request management. Generally, all the requests handled by service request management are pre-authorized, which are essential needs of regular operation of the business. This nee approval for all the request logged is not required repeatedly as they are standard and more repetitive in nature, pre-approved. To fulfill a service request (simple or complex), the established steps need to be proven and agreed upon, so that fulfillment of the requests is smoother and further they can be standardized and automated as needed by the organization. Every type of service request should have the timelines established and agreed with customers, so that it can be fulfilled within the given time lines. For example: due to information security reason, if organization has the polic block all the USB ports of employee's laptops by default, and in the scenario of a roaming user, who needs the US to be opened while travelling, the employee should know the way the request has to be placed and the duration i to fulfill the request. This helps the employee to follow and avail the services accordingly. Further, request fulfilm practices should have the consideration emergency cases as well.
SVC Activity's contribution	The service value chain activities contribution to work and talent management mainly are Plan, improve activitie Further focus on Engage, design & transition, obtain/build, deliver & support activities. **Improve** focuses on improving the customer experiences while fulfilling the service requests.

	Engage focuses on engaging with the customer & users while identifying the user-specific requirements and whi fulfilling the requests raised by users. **Design & Transition** focuses on defining the standard changes, processes contribution for service requests **Obtain/build** focuses on acquiring the services components required for fulfillment of service requests. **Deliver & support** focuses on fulfillment of the service requests placed by users.

8.2.17 Service validation and testing

Purpose	To ensure the new or changed services and products are validated, so that they meet the defined & agreed requirements
Description	Service validation focuses on establishing the acceptance criteria defined in release management that is required successful deployment (i.e. the conditions which has to be met for readiness for the production). These are verifi through testing at multiple levels. The acceptance criteria will be focused on utility & warranty which are defined through understanding customer, regulatory, business, risk management, and security requirements. The consideration of the environment, platform, individual or set of services has to be made while defining the t strategy & further it has to consider overall approach. Testing has to be done for all the systems at all levels & it includes both developed in-house and supplied by external suppliers. Testing consideration while testing the utility (functional test) of the services can be unit test, system test, integr test, regression test. Whereas the consideration while testing warranty (non-functional test) of the services can b performance & capacity test, security test, compliance test, operational test, warranty requirement test, user acceptance test
SVC Activity's contribution	The service value chain activities contribution to service validation and testing mainly are Plan, improve activitie Further focus on Engage, design & transition, obtain/build, deliver & support activities. **Improve** focuses on improving the metrics defined for service validation and testing. **Engage** focuses on engaging with stakeholders in service validation and testing and improve visibility of service performance and adoption of service. **Design & Transition** focuses on designing service, knowledge management, release management, deployment management, performance management **Obtain/build** focuses on building the services by testing and validating the service & service components which acquired both internally and externally **Deliver & support** focuses on the known errors shared by testing and validation to resolve the service incidents which the time required for resolving the incidents can be improved/reduced.

8.3 Technical management practices (3)

The 3 Technical management practices are considered for all the services and applicable for the service in specific. These provide the views which are to be practiced throughout, while managing the services & products.

8.3.1 Deployment management

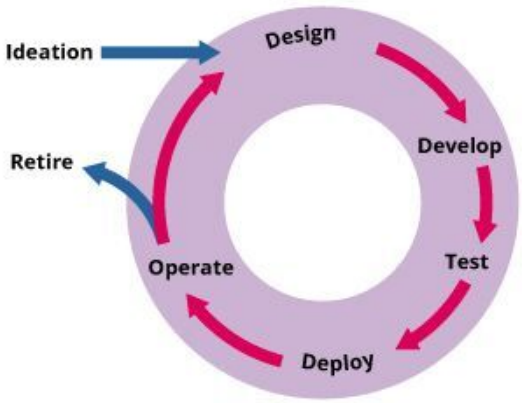
Purpose	To ensure moving new or changed processes, software, hardware, documentation and any service components t product (live) environment.
Description	To ensure moving new or changed processes, software, hardware, documentation and any service components t product (live) environment. The practices deployment management, release management and change control have a close interface while introducing a change to an environment. The deployment management practice deploys the components in the schedule proposed in a change request and approved by a change authority. Deployment can be done in many approaches. It may be big bang vs phased, push vs pull, and manual vs automa deployment approaches. • Big bang approach refers to the deployment of all the components together. • Phased approach refers to the deployment of components one after the other in different schedules (pha • Push approach refers to the deployment of components to the target systems, by pushing it from the cen system • Pull approach refers to the deployment of components to the target systems, by target systems pulling it the central system • Manual approach refers to the deployment approach which involves manual efforts while deploying • Automated deployment refers to the deployment done in an automated way upon reaching certain condi like time (schedule) etc. Besides, modern scenarios of the organization are pushing organizations for becoming more responsive, due t which approaches like continuous delivery & continuous deployment are becoming popular. Communication aro deployments is a part of release management. Individual deployments are not generally of interest to users and customers until they are released.
SVC Activity's contribution	The service value chain activities contribution to deployment management mainly are design & transition, obtain activities. Further focus on improve activities. **Improve** focuses on deployment requirement of service components for the improvement of performance of ser & service components **Design & Transition** focuses on designing and transition of new or changed contribution services to the live environment **Obtain/build** focuses on deployment of the service components as defined and agreed in the agreed schedule.

8.3.2 Infrastructure and platform management

Purpose	To ensure overseeing the infrastructure & platforms of an organization, so that it enables the monitoring and ma the technology solutions used by the organization.
Description	The IT Infrastructure which involves server, network, storage, middleware, operating systems, that are required delivering the IT services and the configuration items used by customer to access the services, has to be monitor managed through out to ensure their performance at higher level, so that service can continue to deliver value to customers. The IT Infrastructure also involves those that are managed by external suppliers. Modern IT environment comprises of many suppliers supplied services and components like cloud services ex. platform as a service, software as a service, infrastructure as a service etc. Further this would also involve techn such as artificial intelligence, machine learning, chatbots, enterprise mobility, mobile device management etc., wh stress on managing those for the success of services The infrastructure and platform management practice include the provision of technology needed to support act that create value for the organization and its stakeholders. The infrastructure and platform management interfaces with other management practices like financial manage supplier management, capacity and performance management, change control, incident management, deployme management etc.
SVC Activity's contribution	The service value chain activities contribution to infrastructure and platform management mainly are design & transition, obtain/build activities. Further focus on plan, improve, deliver & support activities. **Plan** focuses on providing the information about the infrastructure and platform which is required for planning, strategic and tactical Improve focuses on information required for improvement through the opportunities offer technology, improving constraints etc. **Design & Transition** focuses on information provided by product and services improvement opportunities **Obtain/build** focuses on obtaining and building the resources required for service and service management **Deliver & support** focuses on monitoring, ongoing maintenance of the services, service infrastructure & platfor

8.3.3 Software development and management

Purpose	To ensure meeting stakeholder needs (both internal and external) by providing the required functionalities, whi reliable, maintainable, compliant and auditable.
Description	The software deployment and management focus on ensure the software application are fit for purpose and fit fo that the customer can get the value. This involves the entire lifecycle, right from ideation till retirement as depic picture "The software lifecycle".



The software lifecycle includes ideation, design, develop, test, deploy operate and retire, which continually facilit creation for services and products delivered to customers. This also involves improvement of the services and se performances continually until it is retired.

SVC Activity's contribution	The service value chain activities contribution to software development and management mainly are obtain/buil activities. Further focus on plan, improve, design & transition, deliver & support activities. **Plan** focuses on providing the information about the software applications which is required for planning, both s and tactical **Improve** focuses on information required for improvement through the opportunities offered by software applic **Design & Transition** focuses on information provided by product and services improvement opportunities for d application holistically **Obtain/build** focuses on obtaining and building the software resources required for service and service manage **Deliver & support** focuses on monitoring, ongoing maintenance of the software application for co-creation of va

Summary:

To summarize, in this module we looked at all the 34 management practices, their purpose, description and service value change activities related to the practices. The 34 practices are grouped into three. Those are:

General Management Practices (14)

Service Management Practices (17)

Technical Management practices(3)

ITIL Continous Improvement Model

The purpose of continual improvement is to ensure the service and product remains aligned to the business continuously. This requires visibility into the service environment in entirety, as the overall improvement is the result of improvement carried out at all levels. That is people, processes, suppliers, IT Infrastructure, software application etc., are to perform at required level and facilitate co-creation of value.

9.1 Steps of the continual improvement model

The continual improvement uses the continual improvement model depicted below, which provides the required approach for continual improvement, which applies to SVS in entirety.

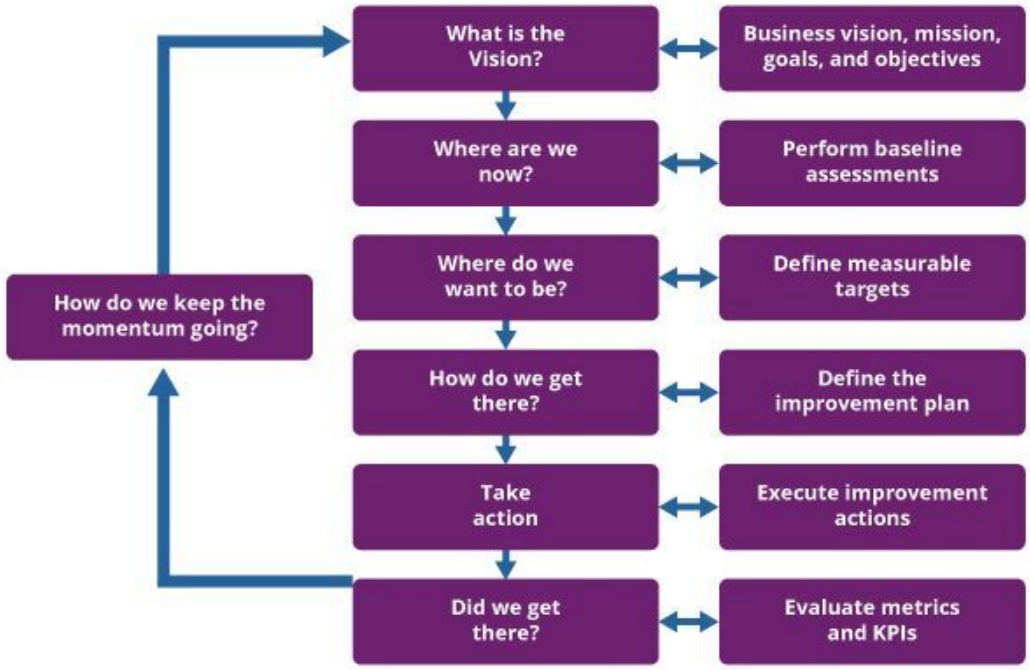


Figure 34: Continual improvement model (Ref: ITIL4® Manual from AXELOS)

What is the vision:

The vision of the organization has to be understood i.e. high-level direction, organization context, role of stakeholders, expected value etc.

For example, organization has the vision to achieve 95% minimum customer satisfaction.

Where are we now:

This step focuses on conducting the assessment to understand the current performance and achievement of services.

For example, for assessing and understanding the customer satisfaction score, let us assume the current satisfaction level is 80%

Where do we want to be?

This step focuses on the analyzing the findings from previous step “where are we now” and sets the target for improvement in immediate next succession.

For example, the immediate next target for improving the customer satisfaction level is 85%

How do we get there?

This step focuses on defining the required action to be taken to improve the target set by “where do we want to be” step

For example: defining the approach / plan for achieving the 85% for customer satisfaction by considering all the factors which are required to achieve 85%

Take action:

This step focuses on executing the proposed plan from step “how do we get there” and implementing all those actions planned.

For example, implementing the plan defined to achieve 85% customer satisfaction

Did we get there:

This step focuses on checking if the action taken resulted in achievement of the target set by, “where do we wanted to be”

For example: check if the customer satisfaction is increased to 85%

How to keep the momentum going:

This activity stresses on continuing the actions required for continual improvement irrespective of the achievement found in “did we get there” step. i.e. If it achieved the target, continue doing to improve further, if it did not improve, keep putting efforts to improve.

For example, if 85% target is achieved move forward and set the next target, if not check on required action to reach 85%

9.2 Continual improvement and the guiding principles

The continual improvement of a service & service performance should focus on ensuring significant benefits to business, by applying the guiding principles defined in ITIL® effectively. All the steps defined in continual

improvement model are significantly important and they should consider all seven principles, in every initiative of improvements.

The seven principles defined in ITIL®4 are followed while performing every step of the continual improvement model so that there are increased chances of becoming successful, for overall improvement of the services.

The table below outlines the steps of continual improvement model & each of the guiding principles is particularly relevant to them. However, all principles are applicable to all steps at some level, it highlights the most important (primarily) principles considered in the continual improvement model.

Note: “Y” in the above table refers to “Yes – Applicable”

	Focus on value	**Start Where you are**	**Progress iteratively with feedback**	**Collaborate And Promote Visibility**	**Think and work holistically**	**Keep it simple and practice**	**Optim and autom**
What is the vision	Y			Y	Y		
Where are we now		Y		Y			
Where do we want to be			Y		Y	Y	Y
How do we get there			Y	Y			
Take action	Y		Y	Y			
Did we get There	Y			Y	Y		
How to keep the	Y			Y	Y		Y

	Focus on value	Start Where you are	Progress iteratively with feedback	Collaborate And Promote Visibility	Think and work holistically	Keep it simple and practice	Optim and autom
momentum Going							

Summary:

To summarize, in this module we looked at the continual service improvement model & its steps, and alignment of continual improvement model steps with the guiding principles.