

ITIL v3

Introduction

- ITIL (formerly Information Technology Infrastructure Library) is a set of detailed practices for IT service management (ITSM) that focuses on aligning IT services with the needs of business.
- The **ITIL** is a framework designed to standardize the selection, planning, delivery, maintenance, and overall lifecycle of IT (information technology) services within a business.
- The goal is to improve efficiency and achieve predictable service delivery.

ITIL framework

- set of well-defined guidelines that helps Software professionals to deliver the best IT services.
- ITIL guidelines are the best practices that are observed, gathered, and put together over time for delivering quality IT services.
- The full form of ITIL is Information Technology Infrastructure Library.

This Course

- Start learning about both **ITIL® v3** and **ITIL® 4**



- An IT service management (ITSM) framework
- So what is an IT service, and what is IT service management?

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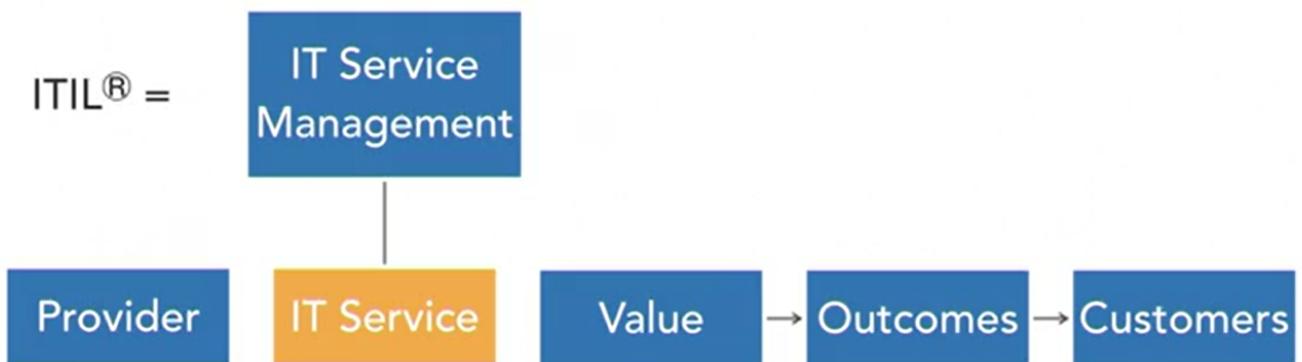
IT Service

- Enabled by **information technology**, in addition to people and processes
- Example: Office365
- *IT-enabled service*: may include goods, resources, actions

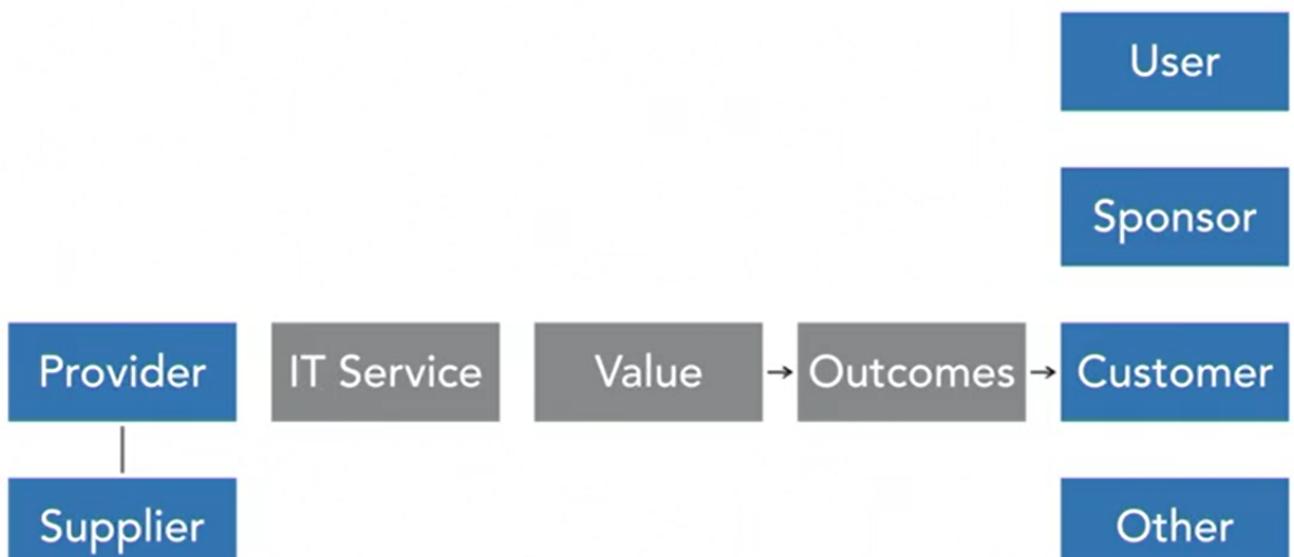
Popular IT services covered by ITIL

- Cloud services (AWS, Google, Azure)
 - Backup
 - Data processing and storage
 - IT consulting
 - Help desk support
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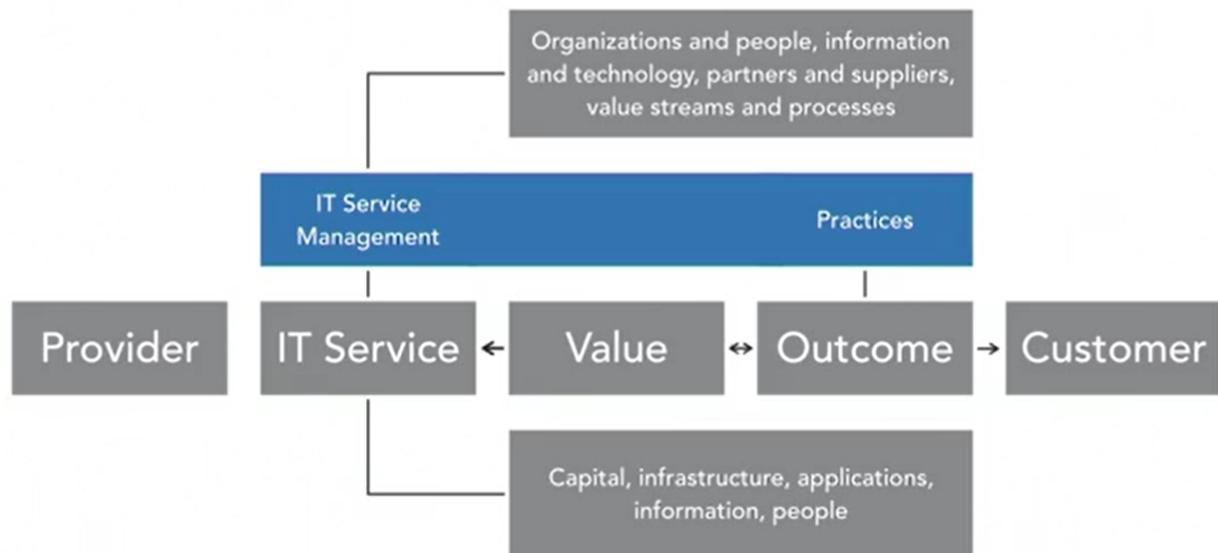
IT Services Provide Value through Outcomes to Customers



Who Are the Stakeholders of an IT Service?



What Is IT Service Management?



ITIL is the most widely used IT service management approach.



NEUTRAL

ITIL is vendor-neutral.



**BEST
PRACTICE**

ITIL is best practice.

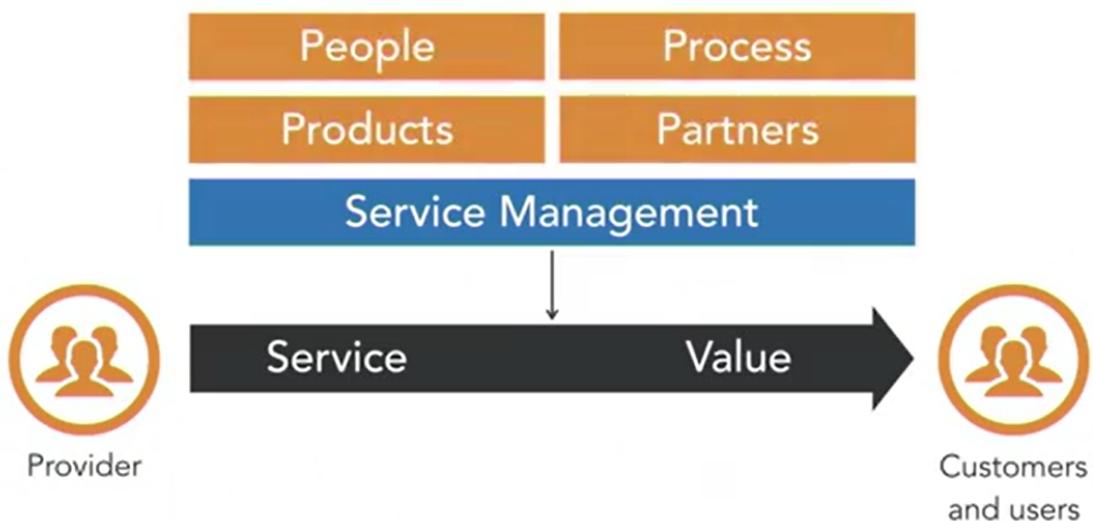
How Does ITIL® V3 Compare to ITIL® 4?

	ITIL® V3/2011 Edition	ITIL® 4
Date introduced	2007	2019
Typical target environment	Traditional IT (physical, some virtual, on-premises)	Hybrid of traditional IT and cloud/mobile
How outcomes are achieved	Through 26 processes, 4 functions arranged in a service lifecycle	Through 34 practices (including DevOps, agile, and lean practices) in a service value chain

What ITIL® Means for Your Organization

- Alignment – Better match IT capability and costs to business needs
- Efficiency – Extend existing resources
- Reliability – Ensure consistent performance
- Agility – Respond to business and technology-driven change

ITIL® V3 Basic Concept #1: Service, Service Management, the Four Ps



- To ensure that the IT services we are providing to an organization are fit for purpose and fit for use, it is imperative that we consider all the People, Products, Processes and Partners involved
 - Failure to have the four P's in mind will lead to services that fail to appropriately meet the needs of the business, IT and users of the service. To gain the greatest benefit from the use of the four P's, organizations should determine the roles of processes and people, and then implement the tools to automate the processes, facilitating people's roles and tasks.
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- We've seen it all before: a spectacular launch of a new product or an overdue upgrade. And then the complaints start coming in – key features not working, personal data compromised, or support limited in nature.
 - Before long, the help desk is unable to keep track of the avalanche of tweets, and developers are struggling to get fixes in as the bosses are on their necks, demanding answers, while regulators prepare warnings and fines.
 - And the scenario keeps replaying, and it usually boils down to whether all bases were covered when the product was being designed.
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- When it comes to designing of IT services, it is crucial that everyone involved understands that we are not just looking at the solution itself but also everything else that will manage the quality of the service in a way that meets the needs of the business funding the service, IT staff developing and managing the service, as well as users of the service.
 - A holistic approach is required to ensure that not only is functionality considered, but also the warranty aspects tied to service levels agreed with the customers of the service. When following best practices such as ITIL, the objective becomes designing these services so effectively that minimal improvement during their lifecycle will be required.

What this means is that functionality together with management and operational requirements have to be considered at the very start during service design. A holistic approach to designing an IT service will consider five main aspects:

- Service solutions for new or changed services
- Management information systems and tools
- Technology architectures and management architectures
- The processes required
- Measurement methods and metrics

And that is where the four P's comes into the picture.

People are central to the successful development, deployment and operation of any IT service. A good relationship between a service provider and its customers relies on the customer receiving an affordable service that meets their needs and which performs at an acceptable level. Without understanding customer outcomes or the value they want to achieve from the service, there is a huge chance that the designed service will fail to satisfy their needs, resulting in wasted resources and opportunities for the organization involved. The IT staff involved in design and delivery of the service have to be properly trained and equipped to ensure that the requirements from the customers are actualized.

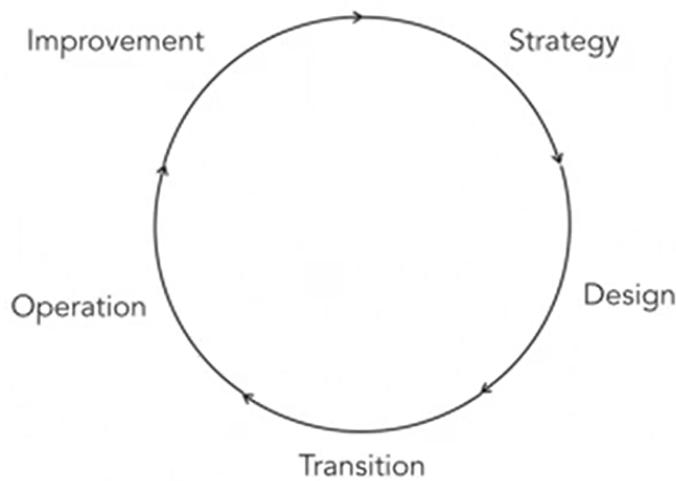
Products here refer to the service itself and the underlying technology. In pursuit of the balance between functionality, performance and cost, choosing the right technology cannot be overstated. While the main driver will be the features that come from the customers' requirements, it has to be underpinned by the appropriate environment, infrastructure, applications, interfaces and data sources that will make the service work. And how these are put together like a jigsaw will depend on the choice of architecture that will drive the technology design activities.

Processes take one or more inputs and turn them into defined outputs. They include all of the roles, responsibilities, tools and management controls required to reliably deliver the outputs. A mature process is one where appropriate controls and enablers have been provided to enable the process activities to run effectively and efficiently. Whether automated or manual, it is vital that appropriate processes be developed to support the new services during design to ensure that once the services go live, the right process activities and roles are put in place—whether access or request fulfilment, change or deployment, inventory or billing.

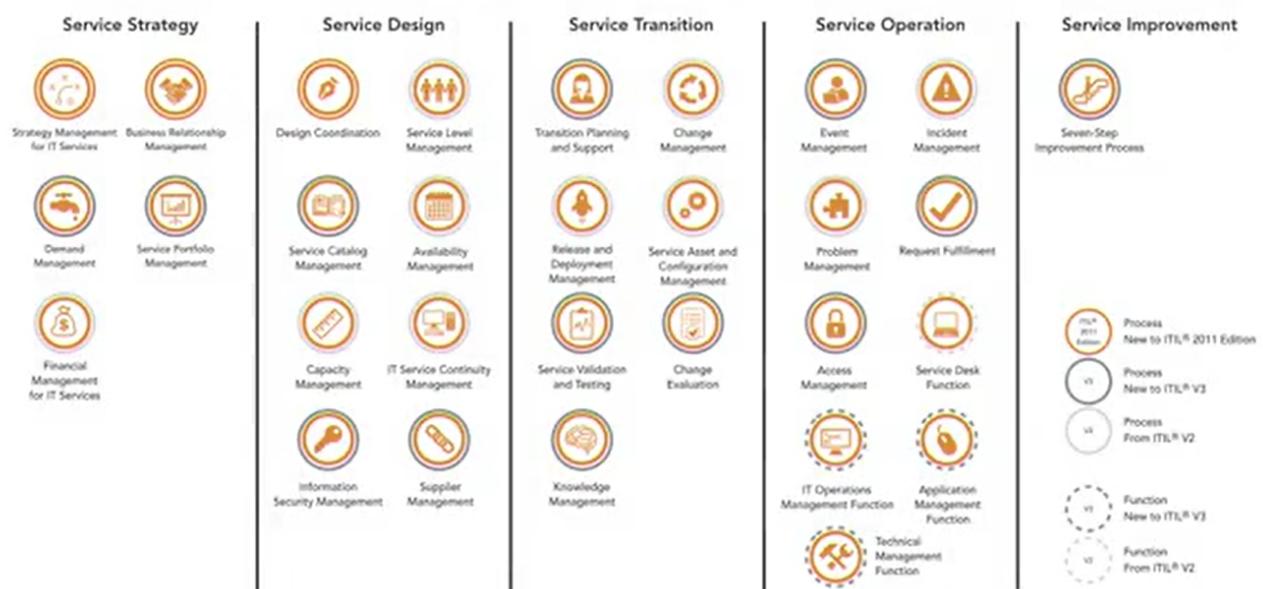
Partners have become essential to today's IT service delivery particularly in this age of outsourcing, managed services and cloud computing. Any service provider will usually procure service components from an approved supplier, and the underpinning contract will usually specify terms, conditions and targets that will support the service levels agreed with the customer. Whether a strategic, tactical, operational or commodity supplier, it is essential that a good working relationship is established as the IT service provider will never meet the needs of the business without the help of a partner who is in tune with the organization's needs.

In conclusion, the design of any IT service must consider all the elements required for the service to be delivered and managed in the way that the customer envisages and will result in value for the money spent. Any IT service provider worth their salt has to be cognisant of the four P's while using an integrated approach to deliver the desired business outcomes and planned results in a quality and cost-effective manner. So whether it's an app, a cloud service or connectivity, a holistic approach that covers all bases is the only way to design right.

ITIL® V3 Basic Concept #2: The Service Lifecycle



ITIL® V3: 26 Processes and 4 Functions



Service Strategy

ITIL® V3 Service Strategy Process #1: Strategy Management for IT Services



What is ITIL Service Strategy?

- Helps organizations understand the merits of using a market-driven approach.
 - The process helps organizations deliver and support services and products that their customers need by encouraging a practice of service management for managing IT services.
 - No organization acts in a vacuum.
 - Customers always have alternatives. Even government and nonprofits where social services compete for tax dollars and contributions.
 - Competitive forces demand that an IT organization do its job better than the alternatives. What service strategy is about is positioning your organization as non-optional.
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- **Strategy Management for IT Services** - Assess the service provider's offerings, capabilities, competitors as well as current and potential market spaces to develop a strategy to serve customers.
 - **Service Portfolio Management** - Ensures that the service provider has the right mix of services to meet the required business outcomes at an appropriate level of investment.
 - **Financial Management for IT Services** - Manage the service provider's budgeting, accounting, and charging requirements.
 - **Demand Management** - Understand, anticipate and influence customer demand for services to ensure that the service provider has sufficient capacity to meet the required demand.
 - **Business Relationship Management** - Identifies the needs of existing and potential customers and ensures that appropriate services are developed to meet those needs.

Service Portfolio Management

- Service portfolio management (SPM) is a means by which you can dynamically and transparently govern resource investment.
- The goal of SPM is to maximize value to the business while managing risks and costs.
- The purpose of Service Portfolio Management is to create, manage and improve a service portfolio containing a detailed design package for each IT service
- In cooperation with the change management process it evaluates proposed services. As well as major changes to existing services.

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- Every service planned and operated by the provider is documented.

- Every new service runs through a set of standardized activities and procedures to ensure that essential management-relevant information, for service delivery and support, are documented and provided to the relevant management processes.
- Every service and their design packages are reviewed at regular intervals.
- Every service is reviewed within the Continual Service Improvement Process
- Through the service portfolio, an information base for a service catalog is provided.

Financial management for IT service

- Financial management for IT services ensures we track and associate IT investment and spending with the services provided.
- Why do we need to do this?
- We want to deliver the best quality service at the lowest possible cost.
- We want to create business value and increase the opportunity to take on extra projects that result in even greater value to the business.

The three major activities which take place within financial management for IT services are:

- Accounting
- Budgeting
- Charging

(The “ABCs” of financial management).

- Accounting involves applying cost accounting principles to IT spending.
- We do this to answer the question, “What does it cost to provide each service?”
- Budgeting to show the funding required to support the defined services at a given level of business activity.
- The budget assures that IT Service Management will have adequate funding to deliver promised services.
- Charging is the process of assuring that IT Service Management will “capture” value.
- That is, that the consumers of services are aware of the cost of providing services to them.

Business Relationship Management

- works closely with service portfolio management and strategy management.
- It helps IT services to inform and implement the strategy and service selection.

Participants in this process seek to form a relationship with customers to understand their needs for service. This involves:

- ensuring that services provided are delivering the value expected by the customer
- understanding the customer’s environment well enough to identify opportunities for new services or new applications of existing services
- being aware of changes in the customer’s business environment which may impact service needs

The most important key performance indicator (KPI) for business relationship management is customer satisfaction.

Strategy management for IT services

- ITIL strategy management for IT services seeks to enable IT Service Management to become a strategic asset to the organization.
- It’s not enough to align IT with the business; IT should also *integrate* with the business.
- Any service provider, to be successful, must have a thorough understanding of the market space in which they operate.
- They must know what their strengths and weaknesses as a provider are, as well as what opportunities are available.

Strategy management for IT services seeks to answer questions such as the following:

- Who are our customers ?
- What business outcomes do they need ?
- How do the services we provide support those outcomes ?

- How can we position ourselves to be the only logical provider of these services ?
- What market spaces do we operate in ?
- Are there ways to expand our current service offerings into new markets ?
- Are there unmet needs in our current market spaces for which we can develop services ?

Demand Management

- ITIL demand management helps a business understand and predict customer demand for services.
 - Every business is subject to cyclical behavior.
 - According to ITIL, the purpose of demand management is to understand, anticipate, and influence customer demand for services.
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- This means that demand for services can grow or shrink with the business cycle. In deciding whether to provide a service, IT Service Management must understand the patterns of business activity (PBAs) related to the service.
 - While it is important to avoid having inadequate capacity, excess capacity is also a business risk, involving expense which typically cannot be recovered, since customers cannot be expected to pay for capacity they are not using.
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- PBAs are typically thought of in terms of transaction volumes.
 - ITIL suggests other factors be considered as well, such as the source of the demand, special needs such as enhanced security and tolerance for delay.
 - The job of demand management is to identify appropriate PBAs and to associate them with user profiles (UPs).
 - This becomes important input to the capacity management process in the Service Design lifecycle phase.
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- As a process, it is part of the ITIL service strategy stage of the ITIL lifecycle.
 - Service strategy determines which services to offer to prospective customers or markets.
 - The decisions that are made in the service strategy stage affect the service catalog, the business processes, the service desk, the required capacity, and the financial requirements of the service provider.
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- As part of the service strategy stage, demand management rationalizes and optimizes the use of IT resources.
 - It ensures that the amount of technical and human resources that has been budgeted matches the expected demand for the service.
 - If the prediction is too low, the agreed-upon service levels may not be delivered.
 - If the predictions are too high, resources will have been allocated to a service that will not be used (or paid for).
 - Demand management bridges the gap between service design, capacity management, and business relationship management to ensure that the predictions are accurate.
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- Demand management is a process within ITIL that is more supportive of other processes than a self-contained process.
 - Unlike incident management, for example, the activities inside demand management are not visible to the customer. When service demand is not properly balanced, it affects nearly every part of the ITIL lifecycle.

Demand Management Roles

- Like every process within the ITIL framework, demand management has a chain of responsibility and ownership.
- Here, the owners are called **business relationship managers**. Business relationship management creates and grows the connection between the customer and the service provider.

Demand management objectives and activities

The purpose of demand management is to **detect and influence the demand that customers have on IT services**. This process involves three main actions:

- Analyzing current customer usage of IT services: The easiest way to do this is to analyze service desk data regarding incidents, requests, and problems.
 - Network usage and uptime can be measured via a service dashboard, such as the kind used in a network operations center (NOC) environment.
- Anticipating future customer demands for IT services: Here, the business relationship manager comes into play. He or she may speak with the customer directly about forecasted needs, will analyze trends in usage or tickets, and will make educated projections about future usage based on similar customers trends.

Measures

The pattern of business activity measures the following aspects of customer service usage:

- **Frequency**
 - **Volume**
 - **Duration**
 - **Location**
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- The **duration of usage** is how long the pattern of business usage lasts. Does peak database usage occur only during business hours, for example, or only during certain months? How long ago did the increase or decrease in usage begin?
 - The **volume of usage** is the amount of activity. For example, this could be the number of transactions processed or a service desk ticket number. Volume can increase or decrease.
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- The **frequency of usage** is how often the volume of usage occurs.
 - The **location of usage** is where the business usage occurred. Is it in the service desk or the sales department, for example?
- The PBA also includes a **user profile**, which is a pattern of service usage that is tied to a type of user. For example, developers may have a higher database usage pattern than business users.

The ITIL demand management Communication Flow

- Unlike other processes within the ITIL lifecycle, demand management relies on communication between different processes rather than on a self-contained set of procedures.
 - Unlike some other processes, demand management interfaces with the other **service strategy** lifecycle processes.
 - On one side, demand management receives customer feedback from the business relationship manager and the PBA.
 - On the other side, demand management informs many other processes based on the information obtained and the conclusions drawn.
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- Demand management is seen in service strategy when the pattern of business activity is used alongside service portfolio management to invest in new services and increased capacity.
 - It is seen in **service transition** when the data collected is used to validate that the new service catalog meets the projected needs of the pattern of business activity.
 - It is used in **service operation** as the end point for feedback from the service desk.
 - The service desk detects trends in service usage and sends that information to demand management, which alerts capacity management to increase or decrease resources as needed.
 - Finally, demand management is seen in **continual service improvement (CSI)** when the data from demand management and the PBA is used to proactively improve services based on usage forecasts.

Why is ITIL demand management so important?

- It is impossible to adequately plan for and meet service demands based on gut check alone. - Predicting how much service will increase based on what you think you remember about current demand versus the demand of other similar customers results in inaccurate data at best and expensive overstaffing at worst.
- Accurate planning requires analyzing the data gathered and client feedback, as seen in the **demand prognosis** process.

What is ITIL Incident Management?

- An IT Service Desk acts as a single point of contact between the IT team and end-users.
- Businesses adopt ITIL to improve service efficiency and productivity.
- ITIL service operation covers Incident management techniques whose primary objective is to ensure smooth business operations with minimal or no downtime.
- Competent Incident management process bridges the communication gap between end-users and IT agents.
- ITIL Incident Management process follows a set of best practices for effective incident handling and incident resolution. Let us look at some of the basics of Incident management.

What is an Incident?

- An incident is an unexpected disruption to a service. It disturbs the normal operation thus affecting end user's productivity.
- An Incident may be caused due to an asset that is not functioning properly or network failure.
- Examples of Incidents include printer issue, wifi connectivity issue, application lock issue, email service issue, laptop crash, AD authentication error, file sharing issue etc.

Incident vs service request

- A Service request is 'a formal request from a user for something to be provided – for example, a request for information or advice'.
- The main difference between Incident and service request is that often pre-approved standard changes are classified as service requests which end users request for.
- For example, UX designer requests for Adobe photoshop software and increase in RAM space. Having an intuitive service catalog to capture this request is recommended.

Incident vs problem

- A Problem is a series of incidents with an unknown root cause, whereas incident arises as soon as something breaks or stops working disrupting normal service.
- Incident handling is usually a reactive process whereas problem management is more proactive.
- Incident management system aims at restoring services quickly whereas problem management aims at finding a permanent fix.

Incident Management Process Flow

1. Logging
2. Classification
3. Prioritization
4. Investigation and Diagnosis
5. Incident Resolution and Closure

Incident Logging

- The first step in Incident management is to report the identified incident.
- This can be done by the end users themselves or agents can do it on their behalf.
- The IT team needs to capture complete information about the incident using a form template to speed up recovery process.
- They also need to set up relevant channels for end users to report an issue easily.

Incident Classification

- Segment the incidents with appropriate category/sub-category in order to easily identify the right group and agent.
- Customize incident form with the right fields and set up automated rules for ticket classification, prioritization and assignment and save valuable time in the process.
- Correct classification of Incidents will help in generating reports faster.

Incident Prioritization

- Assigning the right priority to ticket has a direct impact on deciding SLA policy and addressing business critical issues on time.
- Thus, set up a realistic SLA definition to meet customer commitments.

Investigation and Diagnosis

- When an incident is raised, the IT team performs an initial analysis of the same and sends a resolution to the end user.
- In the event the resolution is not available immediately, they, escalate the incident to tier II & tier III teams for detailed investigation.
- Components required to identify, analyze, and contain an incident are reviewed. The incident is also associated with the relevant CI (Configuration Item) for faster diagnosis.

Incident Resolution and Closure

- One of the primary goals of any IT team is to resolve any incident, coming their way, as soon as possible.
- Efficient communication about the resolution and closure of the resolved tickets is very important.
- The team can even automate the process of closing the resolved tickets or the user can do it themselves through the self-service portal.

Incident management best practices

- Easy accessibility
- Effective communication strategy
- Automate as much as possible
- Motivate your agents

Easy accessibility

- Ensure that you promote your service desk heavily to end users and offer multiple channels such as email, web, mobile app to report an incident.
- Incident logging becomes more efficient with easily accessible multi-channel IT service desk.

Effective communication strategy

- Communicate first response and resolution to end users by sending relevant email notifications.
- Follow an effective strategy to trigger alerts for ticket updates, replies and status updates.

Automate as much as possible

- Identify tasks that can be automated in order to reduce manual work and improve efficiency.
- Automate email notifications so that agents and end users stay informed.

Motivate your agents

- Set clear goals for your team and communicate KPIs that are aligned with business goals.
- Agents' morale play a huge role in providing quality service and improving end user satisfaction. Therefore, gamify your IT service desk by creating quests and arcade.

Incident manager roles & responsibilities

An Incident manager is someone who devises and manages the enterprise Incident management process for the organization and adopts the best practices of [ITIL](#) within the process. Incident manager is responsible for following tasks

- Set up process in accordance with business requirements
- Process adherence and meeting SLAs
- Manage Incident teams of different levels (L1,L2, L3)
- Generate periodical reports and maintains Key Performance Indicators (KPIs)
- Act as an escalation point to resolve any major incident
- Coordinate with other teams like Problem, change and configuration management.

Top 5 benefits of Incident management

Incident management system delivers following business benefits

- Smooth business operations
- Improved productivity
- Satisfied end users
- Maintaining consistent service levels
- Proactive identification and prevention of major incidents

Service Design

Process

ITIL® V3 Service Design Process #1: Design Coordination



Service Transition

ITIL® V3 Service Transition Process #1: Transition Planning and Support



Why ITIL is required?

ITIL helps business managers and IT managers to deliver services to the customers in an effective manner and hence gaining the customer's confidence and satisfaction. The areas where ITIL plays an effective role are as given below:

- IT and business strategic planning
 - Integrating and aligning IT and business goals
 - Implementing continuous improvement
 - Acquiring and retaining the right resources and skill sets
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- Reducing costs and the Total Cost of Ownership
 - Demonstrating the business value to IT
 - Achieving and demonstrating Value for Money and Return on Investment.
 - Measuring IT organization effectiveness and efficiency
 - Developing business and IT partnerships and relationships
 - Improving project delivery success
 - Managing constant business and IT change

Important Terminologies and Definitions used in ITIL

- **Roles:** are defined as collections of particular responsibilities and privileges. It may be held by an individual or team.
 - **Service Owner:** The entity which is accountable for the overall design, performance, integration, and improvement of a single service.
 - **Process Owner:** Responsible for the overall design, performance, integration, improvement, and management of a single process.
 - **Product Manager:** Accountable for development, performance, and quality check and the improvement of a group of related services.
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- **Service Manager:** Responsible for the development, performance, and improvement of all services in the environment.
 - **Services:** A means of delivering value to customers without the need to specify costs and risks.
 - **Access :** The level and scope of the functionality of a service or data that the user is allowed to use.
 - **Capabilities:** It is specialized skills of an organization apply to resources in order to create value.
 - **Functions:** Self-contained subsets of an organization which is intended to accomplish specific tasks.
 - **Processes:** Structured group of activities designed to achieve a specific objective.

- **Resources:** They are raw materials that contribute to a service, such as money, equipment, time, and staff.