**13 ITIL Mind Maps:**
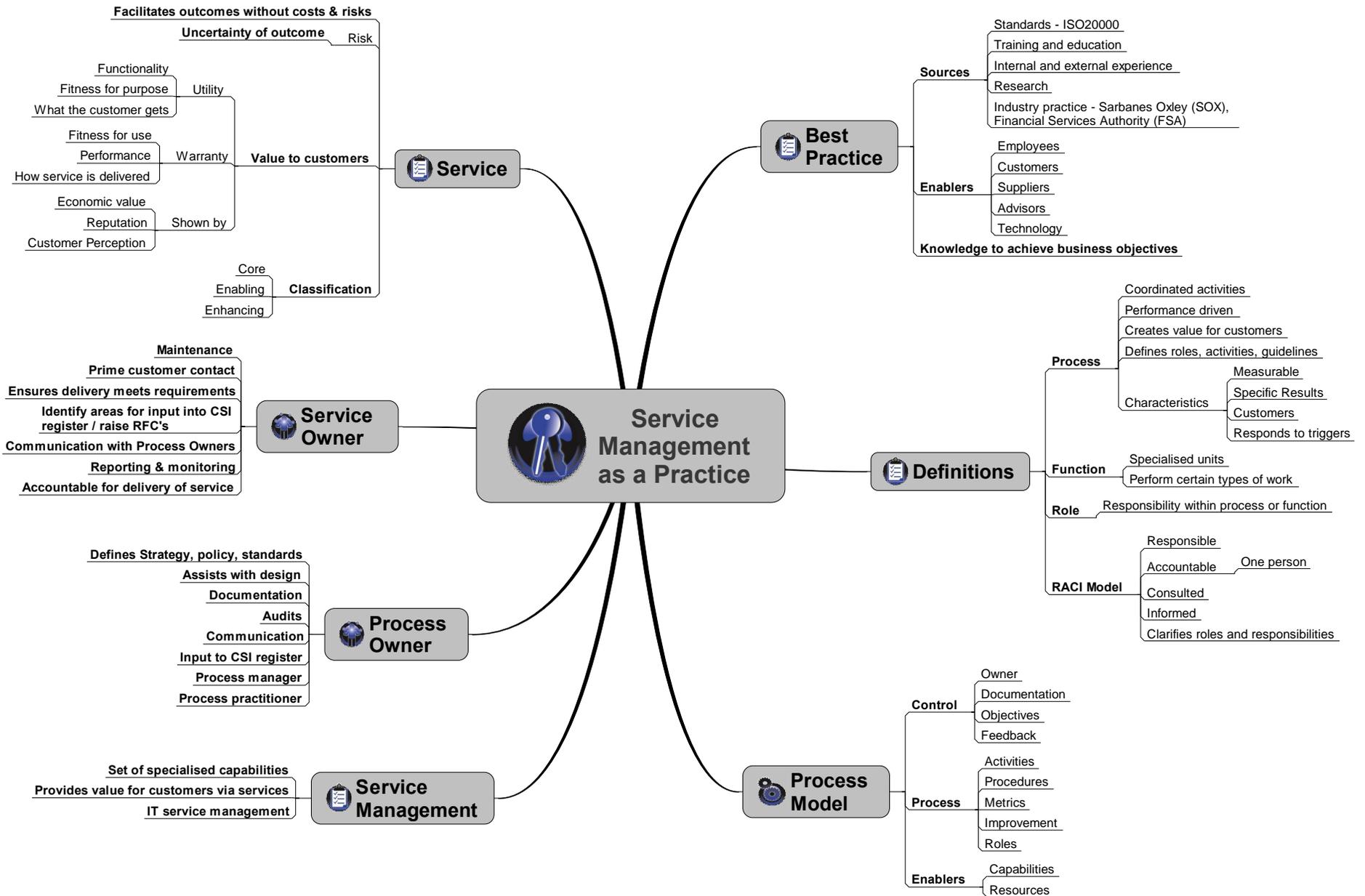
- **Service Management as a Practice**
- **ITIL Service Strategy**
- **ITIL Service Strategy Processes**
- **ITIL Service Design**
- **ITIL Service Design Processes**
- **ITIL Service Transition**
- **ITIL Service Transition (SACM)**
- **ITIL Service Transition (Change and Evaluation)**
- **ITIL Service Operation**
- **ITIL Service Operation Functions**
- **ITIL Service Operation Processes**
- **ITIL Continual Service Improvement**
- **ITIL CSI Improvement Processes**

# ITIL® 2011 Mind Maps

# ITIL - Service Management as a Practice

## Service

**Facilitates outcomes without costs & risks**

**Uncertainty of outcome** — Risk

- Functionality
- Fitness for purpose — Utility
- What the customer gets

- Fitness for use
- Performance — Warranty
- How service is delivered

**Value to customers**

- Economic value
- Reputation — Shown by
- Customer Perception

- Core
- Enabling — **Classification**
- Enhancing

## Best Practice

**Sources**
- Standards - ISO20000
- Training and education
- Internal and external experience
- Research
- Industry practice - Sarbanes Oxley (SOX), Financial Services Authority (FSA)

**Enablers**
- Employees
- Customers
- Suppliers
- Advisors
- Technology

**Knowledge to achieve business objectives**

## Service Owner

- **Maintenance**
- **Prime customer contact**
- **Ensures delivery meets requirements**
- **Identify areas for input into CSI register / raise RFC's**
- **Communication with Process Owners**
- **Reporting & monitoring**
- **Accountable for delivery of service**

## Definitions

**Process**
- Coordinated activities
- Performance driven
- Creates value for customers
- Defines roles, activities, guidelines
- Characteristics
  - Measurable
  - Specific Results
  - Customers
  - Responds to triggers

**Function**
- Specialised units
- Perform certain types of work

**Role** — Responsibility within process or function

**RACI Model**
- Responsible
- Accountable — One person
- Consulted
- Informed
- Clarifies roles and responsibilities

## Process Owner

- **Defines Strategy, policy, standards**
- **Assists with design**
- **Documentation**
- **Audits**
- **Communication**
- **Input to CSI register**
- **Process manager**
- **Process practitioner**

## Service Management

- **Set of specialised capabilities**
- **Provides value for customers via services**
- **IT service management**

## Process Model

**Control**
- Owner
- Documentation
- Objectives
- Feedback

**Process**
- Activities
- Procedures
- Metrics
- Improvement
- Roles

**Enablers**
- Capabilities
- Resources

## Service Management as a Practice

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# ITIL Service Strategy

**Service Strategy**

## Implementation
- Current state assessment
- target state definition
- Gap analysis
- Project estimation
- Project consolidation
- Roadmap
- Designing the strategy
  - Definition of roles
  - Service portfolio, customer portfolio, customer agreement portfolio
  - Demand management procedures, techniques and tools
  - Interfaces between all service strategy processes and other processes

## Technology
- Automation can affect performance
- Simplify processes
- Understand flow of activities
- Minimise interactions

## Strategy principles
- Define the market and identify customers
- Understand the customer
- Quantify the outcomes
- Classify and visualise the service
- Understand the opportunities
- Define services based on outcomes
- Service models
- Define service units and packages
  - Core Services - deliver basic outcomes
  - Enabling services are needed in order for a core service to be delivered
  - Enhancing services are excitement factors
  - Deliver the basic outcomes desired by the customer
  - Represent the value the customer wants
  - Supporting Services
  - Either enable or enhance the value proposition
  - Packaging core and supporting services is an essential aspect of market strategy
  - Packaging will also have an impact on the design and operation of a service

## Governance
- Establish and maintain business relationships
- Ensure service provider can meet needs of the business
- Assists business in articulating value of service
- **Rules, policies, processes by which businesses are operated, regulated, controlled**
- Evaluates, directs, monitors the strategy, policies and plans
- **Activities**
  - Evaluate
  - Direct
  - Monitor
- **Framework**
  - Establish responsibilities
  - Strategy to set and meet objectives
  - Acquire for valid reasons
  - Ensure performance when required
  - Ensure conformance with rules
  - Ensure respect for human factors
- **Stages**
  - Service through collaboration
  - Service through coordination
  - Services through delegation
  - Services through direction
  - Services through network

## Assets
- Strategic Asset — Service Management
- Service Assets
  - Resources
    - Finances
    - Infrastructure
    - Applications
    - People
    - Information
  - Capabilities
    - Management
    - Organisation
    - Processes
    - Knowledge
    - People

## Marketing mind set
- What is our business?
- Who is our customer?
- What does the customer value?
- Who depends on our services?
- How do they use our services?
- Why are they valuable to them?

## Service provider
- Internal (Type I)
- Shared Service Unit (SSU) (Type II)
- External (Type III)
- Supplies service to one or more customers
- Outsourcing — **Disaggregation**
- Insourcing — **Aggregation**

## Opposing dynamics
- Future vs Present
- Operational effectiveness vs improvements in functionality
- Value capture

## 4 P's
- Perspective — Vision
- Positions — Business Portrayal
- Plans — How to achieve vision
- Patterns — Ongoing Actions

## Value
- Defined by customers
- Affordable mix of features
- Achievement of objectives
- Changes over time and circumstance
- Business outcome achieved
- Customer's preferences
- Customer's perception of what was delivered
- **Creating value**

## Benefits
- Cost effectiveness
- Value for customer
- Standardised processes
- Services create value
- Respond quickly to changes in business environment

## Kano model
- Basic Factors
- Excitement Factors
- Performance Factors

# ITIL Service Strategy Processes

**Service Strategy Processes**

## Strategy Management for IT Services

How a service provider will enable an organization to achieve its business outcomes

- **Process**
  - **Assessment**
    - Analyse internal and external factors
    - Define market spaces
    - Identify strategic industry factors
    - Establish objectives
  - **Generation**
    - Determine perspective
    - Form a position
    - Craft a plan
    - Adopt patterns of action
  - **Execution**
    - Align assets with outcomes
    - Optimise CSFs
    - Prioritise investments
  - **Measurement and evaluation**
    - CSI
    - Expansion and growth
- **Triggers**
  - Annual planning cycles
  - New business opportunity
  - Changes to internal and external environments
  - Mergers or acquisitions

## Portfolio Management

- **Contents**
  - Service Design
  - Development — Service Pipeline
  - Operational Services — Service Catalogue
  - Retired Services
- **Purpose**
  - To ensure service provider has the right mix of services to balance the investment in IT with ability to meet business outcomes
  - Tracks investment through lifecycle and ensures appropriate returns are achieved
  - Ensures services clearly defined and linked to business outcomes
  - Clarify the answers to key strategic questions
    - Why should a customer buy these services?
    - Why should they buy these services from us?
    - What are our pricing and chargeback models?
    - What are our strengths, weaknesses, priorities and risks?
    - How should our resources and capabilities be allocated?
- **Process**
  - **Process initiation**
    - Strategy management
    - Business relationship management
    - CSI
    - Other service management processes
  - **Define**
    - Strategy
    - Request from business
    - Service improvement opportunities
    - Service suggestion
    - Existing services
    - Service, customer and business outcomes
    - Service models
    - Impact on service portfolio and service model
  - **Analyse**
    - Service portfolio review
    - Analyse investments, value and priorities
    - Articulate value proposition
  - **Approve**
    - Retain
    - Replace
    - Rationalise
    - Refactor
    - Renew
    - Retire
    - Change proposal
    - Change management authorisation
    - Change proposal authorised
  - **Charter**
    - Communicate with stakeholders
    - Service design and transition processes
    - Track progress and update portfolio
- **Portfolio Contents**
  - Opportunity
  - Value proposition
  - Business outcomes supported
  - Business cases
  - Priorities
  - Risks
  - Offerings & packages
  - Investments required
  - Cost & pricing

## Demand Management

- **Objective**
  - To identify and analyse the patterns of business activity that initiate demand for services
  - User Profiles
  - Analyse patterns of business activity
  - Work with capacity management
- **Value to business**
  - Achieve balance between cost and value of outcomes
  - Refines understanding of interactions
  - Enable executives to evaluate real investment

## Business Relationship Management

- **Objective**
  - Establish and maintain business relationships
  - Ensure service provider can meet needs of the business
  - Assists business in articulating value of service

## Financial management

- **Value to the business**
  - Enhanced decision making
  - Speed of change
  - SPM
  - Finance compliance and control
  - Operational control
  - Value capture and creation
- **Policy decisions**
  - Cost centre
  - Profit centre
  - Funding
    - External
    - Internal
  - Funding models
    - Rolling plan
    - Zero based
    - Trigger based
- **Outputs**
  - Service valuation
  - Service Investment Analysis
    - Assesses the value or return of a service over the total lifecycle
    - Based on the value received and the costs incurred
  - Compliance
  - Cost optimisation
  - Business Impact Assessment (BIA)
    - Seeks to translate outage severity into a financial value
    - Aid to decision making and prioritisation
    - Helps to identify
      - Cost of service outage
      - Relative value of services
  - Planning confidence
- **Scope**
  - **Budgeting**
    - Analysis of previous budget
    - Assessment of plans
    - Specification of changes to funding and spending
    - Cost and income estimation
    - Budget(s)
  - **Accounting**
    - Cost model
    - Cost centres and cost units
    - Cost types and elements
    - Cost classification
    - Chart of accounts
    - Analysis and reporting
    - Action plans
  - **Charging**
    - Policies
      - Cost recovery or break even
      - Recovery with margin
      - Cross subsidisation
      - Notional charging
    - Decide on chargeable items
    - Pricing
    - Billing

## Risks

- Service provider
- Contract
- Design
- Operational
- Market

# ITIL Service Design

## Supplier Management

Statement of requirements (SOR)
Invitation to tender (ITT)
Business case
**Identify business need**

Award contract
Negotiate
Select supplier
**Evaluation and procurement of new contracts and suppliers**

**Supplier and contract categorisation**

**Maintains supplier and contract management information system (SCMIS)**

Value for money
**Manage supplier and contract performance**

**Ensure contracts are aligned to business**

## Design coordination

Define and maintain policies and methods
Plan design resources and capabilities
Coordinate design activities
Manage design risks and issues
Improve service design
Plan, coordinate and monitor individual designs
Review designs and ensure handover of SDPs

## Inputs

Corporate visions, strategies, etc
Service management visions, strategies, policies, objectives and plans
Constraints and requirements for compliance with standards and regulations
IT strategies, policies and plans
Business requirements
Service portfolio
ITSM processes, risks and issues registers
Revisions to IT strategies, policies, designs, plans, architectures, processes
Service level package

## Benefits

Reduced total cost of ownership (TCO)
Improved quality of service
Consistency of service
Easier implementation of new services
Better service alignment
Improve service performance
Improve IT governance
Improved service alignment
More effective service management
Better IT processes
Improved information and decision making

## Objectives

Coordinate all design activities
Plan and coordinate the resources and capabilities required to design new or changed services
Produce associated service design packages
Ensure service designs and/or SDPs are produced and handed over to service transition
Manage the quality criteria, requirements and handover between design, strategy and transition
Ensure all service models and service solution designs conform to strategic, architectural, governance and other corporate requirements
Improve the effectiveness and efficiency of service design activities and processes
Ensure that all parties adopt a common framework of standard, reusable design practices
Monitor and improve the performance of the service design lifecycle stage

## Service Design

Design IT services, together with the governing IT practices, processes and policies, to realize the service provider's strategy and to facilitate the introduction of these services into supported environments ensuring quality service delivery, customer satisfaction and cost-effective service provision.

## Key Principles

4 P's
People
Products
Partners
Processes

5 major aspects

### Service solutions

### Systems and tools

Service portfolio

Why should a customer buy these services?
Why should they buy these services from us?
What are the pricing or chargeback models?
What are our strengths and weaknesses, priorities and risks?
How should our resources and capabilities be allocated?

Contents
Opportunity
Value proposition
Business outcomes supported
Business cases
Priorities
Risks
Offerings and packages
Investments required
Ongoing costs and pricing

Service catalogue
Services
Supported levels of performance
Policies
Minimum requirements
Ordering and request
Support terms and conditions
Dependencies
Points of contact
Pricing and charging

### Technology and management architectures

Business / organisation
Enterprise
Service
Application
Data / Information
Environment
IT Infrastructure
Design top down, build bottom up

### Processes required

### Measurement methods and metrics

Progress
Compliance
Effectiveness
Efficiency

Balanced design
Functionality
Resources
Schedule

## Other Service Design Processes

See "Service Design Processes" Map

ITSC
Availability
Capacity
Service Level
Service Catalogue

# ITIL Service Design Processes

## Service Design processes

### Information Security Management
- Align IT security with business security
- Effectively manage information security
- Management of risks
- Training & awareness
- Security strategy and plan
- Management of suppliers and contracts regarding access to systems and services
- Management of all security breaches and incidents associated with all systems and services
- Proactive improvement of security controls, and security risk management and the reduction of security risks
- Integration of security aspects within all other IT service management processes
- Manage information security management system
- **Security Framework**
  - Control
  - Plan
  - Implement
  - Evaluate
  - Maintain
- **Measures**
  - Preventive
  - Reductive
  - Detective
  - Repressive
  - Corrective

### Service Catalogue Management
- Manage information contained in service catalogue
- Ensure service catalogue is available and accurate
- Ensure service catalogue supports evolving needs of service management processes
- Live services
- Business service catalogue
- Technical service catalogue

### Service Level Management
- Agreed level of IT Service
- Achievable targets
- Proactive measures
- Improvements to service
- **Process**
  - Define
    - Produce and agree service level requirements (SLRs)
  - Document
    - Operational level agreement (OLA) — Negotiate between internal service providers
    - Service level agreement (SLA) — Negotiate between IT and customer
      - **Service**
      - **Multi Level**
      - **Customer**
    - Contracts — External contractors
  - Agree
  - Measure
  - Monitor
  - Report
    - Regular
    - Ad-Hoc
    - Red, amber, green (RAG) / Service level agreement monitor (SLAM) charts
  - Review

### Capacity Management
- Cost justifiable capacity available in time
- Capacity matched to evolving agreed needs of customer
- Supply vs demand
- Cost vs resource
- **Activities**
  - Capacity plan
  - Proactive activities
  - Assistance with Capacity incident resolution
- **Techniques**
  - Modelling and trending
  - Application sizing
  - Monitoring
  - Tuning — Iterative
  - Analysis
  - Demand management
  - Threshold management and control
- **Business capacity management**
  - Future business needs
  - Requires financial plans and business strategy
- **Service capacity management**
  - Live service capacity
  - Incident / problems
- **Component capacity management**
  - Performance, capacity, utilisation

### Availability Management
- Delivered service matches or exceeds needs of customer
- **Availability**
  - Perform as agreed
  - Service availability
  - Component availability
  - Design for availability and recovery
- **Reliability**
  - Perform as its agreed function
- **Maintainability**
  - Speed to restore to normal working
- **Serviceability**
  - Ability of 3rd party to meet terms of contract
- **Proactive Activities**
  - Identifying vital business functions (VBFs)
  - Designing in availability
  - Component failure impact analysis (CFIA)
  - Single point of failure (SPOF)
  - Fault tree analysis (FTA)
  - Modelling
  - Risk assessment
  - Planned maintenance
  - Projected service outage document (PSO) document
- **Reactive Activities**
  - Monitor, measure, analyse, report
  - Unavailability analysis
    - Expanded incident lifecycle
    - Service failure analysis (SFA)
    - Component failure impact analysis (CFIA)

### IT Service Continuity Management (ITSC)
- Required services resumed within required and agreed timescales
- Support business continuity management (BCM)
- Agreed and required timescales
- **Process**
  - **Initiation**
    - Policy setting
    - Terms of reference and scope
    - Resource allocation
    - Project organisational and control structure
    - Agree project and quality plans
  - **Requirements & strategy**
    - Business impact analysis (BIA)
    - Risk analysis
    - ITSC strategy
      - Manual
      - Reciprocal
      - Gradual
      - Intermediate
      - Fast
      - Immediate
  - **Implementation**
    - Develop plans / procedures
    - Testing
  - **Ongoing operations**
    - Education, awareness, training
    - Review & audit
    - Testing
    - Change management
  - **Invocation**

# ITIL Service Transition

**Service Transition**

## Difficulties
- Speed vs accuracy
- Safety critical services
- Restricted resources
- Working with difficult customers

## Managing People
- Stakeholder change
- Communications
- Stakeholder map
- Stakeholder commitment analysis
- Emotional cycle of change
- **Organisational change**
  - Leadership
  - Organisational adoption
  - Governance process
  - Organisational capabilities
  - Business and service performance measures
  - Strong communication process
- Kotter's 8 steps

## Transition Planning and Support
- Release policy
- Provide clear comprehensive plans
- Assure quality
- **Activities**
  - Produce transition strategy
  - Prepare for transition
  - Plan and coordinate transition
  - Provide transition process support

## Other Service Transition Processes
- **Change** — See "Change and Change evaluation Map"
- **Evaluation** — See "Change and Change evaluation Map"
- **Service Asset and Configuration** — See "Knowledge, Service Asset and Configuration Map"
- **Knowledge** — See "Knowledge, Service Asset and Configuration Map"

## Release and Deployment Management
- **Release options**
  - Big bang / phased
  - Push / pull
  - Automated / manual
- **Release unit**
  - Full
  - Delta
  - Package
- **Activities**
  - Planning
  - Preparation
  - Build and test
  - Service testing and pilot
  - Planning and preparing for deployment
  - Performing transfer, deployment and retirement
  - Early life support
  - Review and closure of deployment and Service Transition
- **Role should be separate to test manager**

## Objectives
- Plan and manage service changes efficiently and effectively
- Manage risks relating to new, changed or retired services
- Successfully deploy service releases into supported environments
- Set correct expectations on the performance and use of new or changed services
- Ensure that service changes create the expected business value
- Provide good-quality knowledge and information about services and service assets.

## Service Validation and Testing
- **Benefits**
  - Confidence that a new or changed service will deliver the value and outcomes required of it
  - Understanding of risk
  - Provides a measured degree of confidence.
- **V Model**
  - **Design**
    - Define customer requirements
    - Define service requirements
    - Design service solution
    - Design service release
  - **Test**
    - Validate service packages
    - Service acceptance
    - Service operational readiness
    - Service release package
    - Component and assembly
- **Process**
  - Plan and design tests
    - Library of tests
    - Test environment
    - Levels of testing
  - Verify test plan and designs
  - Prepare test environment
  - Perform tests
  - Evaluate exit criteria
  - Report
  - Test and clean up
- **Should be separate to release and deployment manager**

## Benefits
- Enable projects to estimate the cost, timing, resource requirement and risks associated with the service transition stage more accurately
- Result in higher volumes of successful change
- Be easier for people to adopt and follow
- Enable service transition assets to be shared and re-used across projects and services
- Reduce delays from unexpected clashes and dependencies
- Enable projects to estimate the cost, timing, resource requirement and risks associated with the service transition stage more accurately
- Result in higher volumes of successful change
- Be easier for people to adopt and follow
- Enable service transition assets to be shared and re-used across projects and services
- Reduce delays from unexpected clashes and dependencies

To assist organisations seeking to plan and manage service changes and deploy service releases into the production environment successfully

# ITIL Service Transition - SACM

IT staff to understand the configuration and relationships of services and the configuration items
Better forecasting and planning of changes
Successful assessment, planning and delivery of changes and releases
Resolution of incidents and problems within the service level targets
Delivery of service levels and warranties
Better adherence to standards, legal and regulatory obligations
More business opportunities as the service provider is able to demonstrate control of assets and services
Traceability of changes from requirements
Ability to identify the costs of a service
Reduced cost and time to discover configuration information when it is needed
Proper stewardship of fixed assets that are under the control of the service provider

**SACM Benefits**

**Planning & management**
- Policies
- Objectives, scope, resources
- CSFs
- Involve change/release
- Start small
- Regulatory compliance

**Configuration item (CI) identification**

Define
- An asset, service component or other item which is or will be, under the control of configuration management
- Types
- Naming convention
- Attributes
- Relationships

Categories
- Service lifecycle
  - Business case
  - Service management plans
- External / internal
  - Hardware
  - People
  - Accommodation
  - Software
  - Documentation
- Organisation
  - Internal policies
  - Business strategy
- Service
  - Service capability assets
  - Service resource assets

**SACM Activities**

**Configuration control**
- Authorised CIs
- CIs under change control

**Status accounting**
- Define each status

**Verification and audit**
- Before /after major change
- After IT service continuity invoked
- Planned, regularly, random
- Automate

**SACM Roles**

**Configuration manager** — Design, manage & maintain configuration management system (CMS)
**Configuration librarian** — Control receipt, identification, storage of CI's
**Configuration analyst** — Create process & procedures & training
**CMS tools administrator** — Regular housekeeping / Amend database to suit business requirements
**Service asset manager** — Design & maintain asset management systems / Asset management system processes & procedures / Agrees naming convention

**Service Transition:**
**- Knowledge Management**
**- Service Asset and Configuration Management**

**Service knowledge management system (SKMS)**

Data, information & tools layer
- Configuration management databases (CMDB's)
- Definitive media libraries (DML's) information
- Known error databases (KEDB)
- Availability management information system (AMIS)
- Capacity management information system (CMIS)

Information integration layer — Data mining
Knowledge processing layer — Modelling
Presentation layer — Reports

**Knowledge Management**

Data, Information, Knowledge, Wisdom (DIKW)
Improve the quality of management
Enable the service provider to be more efficient and improve quality of service, increase satisfaction and reduce the cost of service by reducing the need to rediscover knowledge
Ensure that staff have a clear and common understanding of the value of their services
Maintain a service knowledge management system (SKMS) that provides controlled access to knowledge, information and data that is appropriate for each audience
Gather, analyse, store, share, use and maintain knowledge, information and data throughout the service provider organization.

**SACM CMS**

Data, information & tools layer
- Configuration management databases (CMDB's)
- Definitive media libraries (DML's)
- Known error databases (KEDB)
- Availability management information system (AMIS)
- Capacity management information system (CMIS)

Physical storage information
- Definitive spares
- Definitive media library

# Change and Evaluation

**7 R's**
- Raised by
- Reason
- Return
- Risks
- Resource
- Responsible
- Relationship

**Impact**

**Cost**

**(ChM) Change assessment**

**(ChM) Change process**
- Recorded
- Assessed/evaluated
- Authorised
- Prioritised
- Planned
- Tested
- Implemented
- Reviewed

**(ChM) Change advisory board (CAB)**
- Regular
- Assess, plan, schedule changes
- Review previous changes
- Flexible membership
- Change schedule (CS)
- Projected service outage (PSO)

**(ChM) Emergency change advisory board (ECAB)**
- Control using change model
- Consider remediation / back out plans
- Test as much as possible
- Retrospective RFC

**Service Transiti on**
- **Change M anagement (ChM)**
- **Change Evaluation (ChE)**

**(ChM) Request for Change**
- Strategic
- Tactical
- Operational activity
  - Password reset
  - User access request
  - Reboot
- Project change proposal
- Standard change
  - Preauthorised, accepted procedure
  - Interface with request fulfilment
- Emergency change
- Normal change

**(ChE) Change evaluation**
- Set stakeholder expectations correctly
- Provide effective and accurate information to change management
- Evaluate the intended and unintended effects of a service change
- Provide good-quality outputs so that change management can expedite an effective decision about whether or not a service change is to be authorized.
- Evaluation required before each of authorization by the suitable authority to provide advice and guidance
- Change evaluation is concerned with value.
- Establish the use made of resources in terms of delivered benefit

**(ChM) Change risks**
- Lack of commitment to the process by the business, management or IT staff
- Bypassing the process
- Change assessment being reduced to box ticking
- Overly-bureaucratic process
- Insufficient time

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# ITIL Service Operation

Undertake activities & processes that manage and deliver services at agreed levels to business users and customers. To manage the technology used to deliver the services and to collect information on performance & Service metrics

Reduced labour / costs

Reduced duration / frequency of service outages

Meet goals of ISM policy

Increased effectiveness and efficiency

**Value to business**

Services

Service management processes

Technology

People

**Scope**

Maintain business satisfaction

Minimise impact of service outages

Ensure access to service for authorised users

**Objectives**

Internal (technology) vs external (services)

Stability vs responsiveness

Cost vs quality

Reactive vs proactive

**Balance**

Incident management

Event management

Problem management

Access management

Request fulfilment

**See "Service Operation Processes" map**

**Processes**

**Service Operation**

Manage operational costs

Maintain live services to defined service standards

Identify incidents & problems

Protect live services

Proactive activities

**Benefits**

Deliver services at agreed levels to the business

Manage day to day activities and processes

Monitor ongoing performance

Manage the service technology

Harvest data & report against agreed metrics

**Objectives**

Technical management

IT Operations management

Common service operation activities

Service desk

Application management

**See "Service Operation Functions" map**

**Functions**

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# ITIL Service Operation Functions

**Service Operation Functions**

## Service Desk

- Single point of contact
- Manage service requests
- Incident management
- Request fulfilment
- Record changes
- Supplier liaison
- Provide information
- Complaints
- Improve customer service
- Improve communication
- **Types**
  - Virtual and follow the sun
  - Central
  - Local
  - Specialised
- **Staffing depends on organisational requirements**
  - **Skill set**
    - Business
    - Technical
    - Interpersonal
  - Outsourcing
  - Super users
  - Retention

## Application Management

- Manage knowledge and expertise
- Ensure applications appropriately designed
- Assist in resolution of failures
- Design and deployment of applications
- Provide resource throughout lifecycle
- Research and development
- Training programmes
- Application portfolio

## IT Operations Management

- Manage and maintain IT infrastructure
- Provide stable environment
- Diagnose & resolve IT failures
- **Operations Control**
  - Console management
  - Job scheduling
  - Back ups
  - Restores
  - Print & output management
  - Ongoing maintenance
- **Facilities Management**
  - Physical environment
  - Recovery sites
  - Datacentres
- **Documentation**
  - Standard operating procedures (SOP)
  - Operations logs
  - Shift schedules and reports

## Technical management

- Manage technical knowledge
- Help in planning, implementation and maintenance of infrastructure
- Guidance to Service Operations for live environment
- Guidance to Service Design in development
- Training programmes
- Definition of standards
- Research and development
- Problem management
- Provide resource throughout lifecycle

## Common Service Operation Activities

- Directory service
- IT Operations
- Middleware
- Internet/Intranet
- Network
- Server
- Mainframe
- Database
- Storage / Archive
- Desktop and mobile support
- Facilities / Datacentre management
- Improvement of operations activities
- **Monitoring**
  - Active / Passive
  - Reactive / Proactive
  - Continuous / Exception
  - **Control loops**
    - Open
    - Closed
  - Internal / External
- **Reporting**

## Organisational Structures

- Technical specialisation
- Activity
- Process
- Geography
- Hybrid
- Combined

# ITIL Service Operation Processes

**Service Operation Processes** (center)

## Incident Management

**Purpose**
- Restore normal service operation as quickly as possible

**Benefits**
- Identify training requirements
- Align business with IT activity
- Identify potential improvements
- Increased availability and customer satisfaction
- Restore service asap

**Incident**
- Incident is an unplanned interruption to an IT Service
- Reduction in the quality of an IT Service
- Failure of a CI that has not yet impacted an IT service

**Input**
- Event Management
- Web interface
- Telephone
- eMail

**Process**
- Identification
- Logging
- Categorisation
- Prioritisation
  - Urgency
  - Business Impact
- Investigation and Diagnosis
- Escalation
  - Technical
  - Hierarchical
- Resolution and Recovery
- Closure

**Incident Model**
- Specific incidents
- Standardised method
- Pre defined steps
- Major Incident

## Access Management
- Follow policies from Information security management
- Verify identity of users
- User's rights / privileges
- Restricting non users access
- Logging and tracking access

**Triggers**
- RFC
- Service request
- Request from HR or manager

## Event Management
- Detect, analyse, take appropriate control action
- Early detection of events
- Automated operations
- Assign support before outage occurs
- Detectable or discernable occurrence

**Types of event**
- Informational
- Warning
- Exception

**Scope**
- Constant state CIs
- Software licence
- Security
- Normal activity

**Event**
- Any change of state that has significance for the management of a CI

**Monitoring**
- Active
- Passive
- Reactive
- Proactive

## Problem Management

**Objective**
- Eliminate recurring incidents
- Minimise impact of incidents that cannot be prevented
- Prevent problems and resulting incidents from happening

**Problem**
- Underlying cause of one or more incidents
- Reactive
- Proactive

**Workaround**
- Temporary way of overcoming difficulties
- Predefined

**Known Error (KE)**
- Problem diagnosis complete and workaround identified

**Process**
- Detection
- Logging
- Categorisation
- Prioritisation
- Investigation and diagnosis
- Create KE
- Raise RFC
- Resolution
- Closure
  - Possible major problem review

**Input**
- Event management
- Incident management
- Service desk
- Proactive problem management
- Supplier or contractor

**Output**
- Updated records
- Resolved problems
- RFCs
- Workarounds
- Known errors
- Problem management reports

**Techniques**
- Kepner & Tregoe
- Ishikawa
- Brainstorming
- Chronological
- Pain value
- Pareto
- Affinity mapping
- 5 Whys
- Hypothesis testing
- Lotus blossom
- Technical observation

## Request Fulfilment

**Request model**
- Predefined method to handle repeat requests

**Service Request**
- Day to day demands from users
- Small changes
- Low risk and cost
- Frequently performed
- Pre approved by change authority

**Self service and self select tools**

**Standard change**
- Managed as service request
- Pre-approved change

**Channel for:**
- Standard service request
- Information on availability of services
- General information
- Comments and complaints

# ITIL Continual Service Improvement

To align IT services to the changing business needs by identifying and implementing improvements to IT services that support business processes.

**Continual Service Improvement**

## Value

- Lead to a gradual and continual improvement in service quality
- Ensure that IT services remain continuously aligned to business requirements
- Gradual improvements in cost effectiveness through a reduction in costs and or the capability to handle more work at the same cost
- Identify opportunities for improvement in all lifecycle stages and processes through monitoring and reporting
- Identify opportunities for improvements in organizational structures, resourcing capabilities, partners, technology, staff skills, training and communications

## Enterprise Governance

- Provides an environment within which CSI can operate and thrive
- Business governance
  - Responsibility of board of directors and executive management.
- IT governance
  - Ensures IT sustains and extends the organisation's strategies and objectives
    - Leadership
    - Processes
    - Organisational structure

## Objectives

- Ensure applicable quality management methods are used to support continual improvement activities
- Ensure that processes have clearly defined objectives and measurements that lead to actionable improvements
- Understand what to measure, why it is being measured and what the successful outcome should be

## Methods and Techniques

### Steps
- Define success
- Build framework
- Choose measures
- Define procedures & policies

- Assessment
- Gap analysis
- Benchmarking
- Comparison with industry norms
- Process maturity comparison
- Total cost of ownership (TCO)
- Return on investment (ROI)

### Service measurement
- Availability reporting
- Predict and report service performance against targets

### Metrics
- Technology
  - Performance
  - Availability
- Process
  - CSF
  - KPI
- Service
  - End to end service
- Tension
  - Balancing elements
    - Resources
    - Functionality
    - Schedule

### Balanced Scorecard
- Financial
- Customer
- Innovation
- Internal

### SWOT
- Strengths
- Weaknesses
- Opportunities
- Threats

### Baselines
- Used to establish an initial data point to determine if a service or process needs to be improved
- Must be documented, recognized and accepted throughout the organization
- Must be established at each level:
  - Strategic goals and objectives
  - Tactical process maturity
  - Operational metrics and KPIs

### Measure value
- To validate
- To direct
- To justify
- To intervene

### CSI register
- Contains important information for the overall service provider
- Introduces a structure and visibility to CSI ensuring all initiatives are captured and recorded, and benefits realized
- Improvement opportunities should be categorized into initiatives that can be achieved quickly, or in the medium or longer term
- Each improvement initiative should show the benefits that will be achieved by its implementation
- Should be held and regarded as part of the service knowledge management system (SKMS)
- Provides a coordinated, consistent view of the potentially many improvement activities

## Critical Roles

### CSI manager
- Ownership is fundamental to any improvement strategy
- Accountable for ensuring best practice is adopted and sustained throughout the organization
- Chief advocate and owns all CSI issues
- Accountable for the success of CSI in the organization
- Ensures adequate resources to support and enable CSI
- Not accountable for improvements to specific services which are the responsibility of the appropriate service owner working within the CSI framework
- Accountable and responsible for the production and maintenance of the CSI register

### Service Owner
- Accountable for the delivery of a specific IT service
- Responsible to the customer for the initiation, transition and ongoing maintenance and support of a particular service
- Accountable to the IT director or service management director for the delivery of the service

### Reporting analyst
- Reviews and analyses data from components, systems and sub systems in order to obtain a true and end-to-end service achievement

### Service level manager

## CSI processes and Integration with other processes

see "CSI Integration" Map
- CSI approach
- 7 Step improvement
- Deming cycle

# ITIL CSI Processes and Interaction

**Continual Service Improvement processes and *interaction* with other processes**

## CSI Approach
- What is the vision?
- Where are we now?
- Where do we want to be?
- How will we get there?
- How do we know we have arrived?
- How do we keep the momentum going?

## CSI 7 Step Process
- Identify strategy for improvement
- Define what will you measure
- Gather the data
- Process the data
- Analyse the information and data
- Present and use the information
- Implement improvement

## CSI Deming Cycle
- Plan
- Do
- Check
- Act
- To align business needs with IT service delivery

## Service level
- Involving the business to determine its service level requirements (SLRs)
- Identifying internal relationships in IT organizations, negotiating terms and responsibilities and codifying them with operational level agreements (OLAs)
- Working with the supplier manager to Identify existing contractual relationships with external vendors and verifying that the underpinning contracts (UCs) meet the revised business requirements
- Using the service catalogue as the baseline to negotiate service level agreements (SLAs) with the business
- Reviewing service achievement and identifying where improvements are required, feeding them into CSI

## Security
- Defining security monitoring and data collection requirements
- Monitoring, verifying and tracking the levels of security according to the organizational security policies and guidelines
- Assisting in determining effects of security measures on the data monitoring and collection from the confidentiality, integrity and availability perspectives
- Processing response and resolution data on security incidents
- Creating trend analyses on security breaches
- Validating success of risk mitigation strategies
- Utilizing the agreed upon reporting format
- Analysing processed data for accuracy

## Availability
- Component failure impact analysis
- Fault tree analysis
- Service fault analysis
- Technical observation
- Extended incident lifecycle
- SIPs and reports

## Financial
- Monitoring and collecting data associated with the actual expenditures versus budget
- Provides input on questions such as whether costing or revenue targets are on track
- Monitors the ongoing cost per service etc
- Provides the necessary templates to assist CSI to create the budget and expenditure reports for the various improvement initiatives
- Provides the means to compute the ROI of the improvements

## Capacity
- Business
- Service
- Component
- Iterative activities
- Application sizing
- Demand management
- Modelling
- SIPs and reports

## Problem
- SIP
- Root cause Analysis
- Identify improvements / trends
- Preventative action
- Reporting

## Change & Release
- Manage RFCs from SIPs
- Implementing improvement
- Post Implementation review
- CAB
- Kotter's 8 steps

## Service Desk and Incident Management
- Documenting and reviewing incident trends on incidents, service requests and telephony statistics over a period of time to identify any consistent patterns
- Comparing results with prior months, quarters or annual reports
- Comparing results with agreed-to levels of service
- Identifying improvement opportunities
- Analysing processed data for accuracy
- Input into SIPs

## ITSC
- Identify risk
- Identify changes that affect ITSC
- Regulatory impact

## Knowledge
- SKMS
- CMS
- CMDB
- Data, information, knowledge, wisdom
- Shared knowledge
- Inclusion in CSI register
- Building SIPs

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